Usenet Newsgroup Archive: rec.radio.amateur.homebrew

1996-08 - 1996-12

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Date span: 1996-08-01 through 1996-12-31

Source text: rec.radio.amateur.homebrew.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 4,555

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4tqesp$cie@newsgate.sps.mot.com>
Source record: 103584

ptracy@aol.com (PTracy) wrote:
>"I" before "E", except after "C", or when sounding like "A" in neighbor or
>weigh. That how I remember it. Takes too many brain cells I guess.
>
>KE1C

No, no, it's "I before E when reactance is C...."

Jim N6OTQ

2. VHF Strip Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: Christer.Jogenborn@era.ericsson.se
Message-ID: <4tqdiv$jg8@erinews.ericsson.se>
Source record: 103585

I need a pointer to some info on how to
do a VHF stripline design for parallel
ceramic tubes.
Have not found much info on this subject on
the net nor in my collection of hambooks.
73 Chris SM0NCL

3. Re: ARRL Radio Designer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <4tqh8q$o6k@mrnews.mro.dec.com>
Source record: 103586

In article <4tk4k4$hlf@opal.southwind.net>, zclobes@southwind.net (Zack Clobes) writes...
>Hi, I'm looking at purchasing the ARD to help in designing a homebrew 20M rig
>among other things. Any comments as to how acurrate, how difficult to use, how

I haven't used ARD, so I can't comment. I just thought this would be a good thread to throw in a plug for the programs that come with Wes Hayward's book, "Intro to Radio Frequency Design".

I've been fooling around with these for a few weeks, in support of a receiver project that I'm working on. No spiffy windows interfaces or anything here... they were written for DOS so that they'd work on a maximum number of PCs. There's programs for just about everything you need to do when designing a radio, and several of them let you very easily play with the various trade-offs and see how they affect your design.

There is no electrical simulation program in the package, so you need to more or less know how your circuits work. There are a couple of transistor amplifier bias/gain calculators to help you. "FBA" uses the hybrid-pi bipolar transistor model to give a reasonably good approximation of what you'll get out of your circuit.

Other goodies I've used: "GPLA", a ladder-circuit analysis tool, very handy for designing filters, diplexers, etc. "CASCADE" lets you build a simple gain/noise/IMD model of your radio, and then tweek it. It will do sweeps, for instance, sweep the gain of your preamp from 0 to 20 dB and report results. Very handy for optimizing gain distribution. "SPURTUNE" helps in finding spurious responses and birdies.

You need to do some interpretation of results yourself with these. They won't really help if you don't know what gain/noise/IMD are, but they do a lot of the grunt work for you if you do. Worth the price of the book, which is very good, too!

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
==========

4. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9607018389.AA838917157@mail.creo.bc.ca>
Source record: 103587

In article <4tk4pb$hlf@opal.southwind.net> zclobes@southwind.net (Zack Clobes) writes:

> I'm building a 20M tranceiver with SSB/CW receiver. I'm looking at a
> dual conversion but am unsure of which IF's to use. I found a
> digital VFO to use with it which will tune from 0-10MHz with no
> problems and is capable ot tuning up to 20MHz. Considering
> availability of filters and ease of contruction, what factors should
> be considered when selecting the IF?

Other than filter availability - check the surplus stores for big bags of microprocessor clock crystals (not to mention colour burst crystals and the like), as well as available prepackaged filters - other issues for choosing an IF are related to feedthrough and spurious responses.

As an example, an IF of 7200 kHz would be one to avoid, due to 41 meter shortwave broadcasters getting into the IF. An IF that is harmonically related to other oscillators in the radio is one to approach cautiously. What's on the image frequency? Can you filter it? Check for spurious responses in the IF, like 3rd and 5th harmonics of the VFO mixing with things.

Tune around with a general coverage receiver. Check the frequency allocation tables. Above all, have fun and keep us posted!

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

5. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <WA+hrGAWZMAyEwTK@ifwtech.demon.co.uk>
Source record: 103588

Robert Everitt Heiss wrote:
>In article <Ks8aDKAi2v$xEw2m@ifwtech.demon.co.uk>,
>Ian White, G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
>>
>>The "classic" design which does invert sidebands is a VFO in the 9.0-
>>9.5MHz region with a home-made 5MHz filter using surplus FT243 crystals
>>in cascaded half- or full lattices. These xtals were available in the
>>5MHz region, but not as high as 9MHz.
>
>Yes, but your "classic" rig doesn't tune backward on 75m. Gary's does.
>And you might want to move your IF up a couple hundred kc ...

OK, we're getting there slowly. What Gary said was:

>(note tuning is backwards on 75m and sidebands invert, this is the
>historical reason why 75m uses LSB and 20m uses USB).

- but as KO6KA pointed out, the sidebands from a 9MHz SSB generator actually don't invert between 75m and 20m, they have to be deliberately switched. So we can agree on: "tuning is backwards on 75m, and IF the sidebands are also inverted, the rig tunes the same way on both bands".

Well and good... but that can't be the whole answer, because the USB/LSB split actually pre-dates the 9MHz SSB exciters.

As Wes, N7WS pointed out, the original 9MHz phasing exciters came *after* the earlier filter rigs which generated SSB at 455kHz or lower. 9MHz phasing became popular as a result of influential articles in 1950 and 1956, and 9MHz filters didn't appear until about 1960.

Note also that these were transmitters only. Receivers were separate at that time, and they tuned the same way on all bands. Therefore they had to be tuned in *opposite* directions to resolve LSB on 75m and USB on 20m.

A 1950 QST article by W1DX on 'How To Tune In a Single-Sideband Signal' gives an LSB example at 75m. This and other QST reprints in the 1962 edition of ARRL's 'Single Sideband for the Radio Amateur' clearly show that the USB/LSB split was in place well before 1960 (which is also where my personal memories of SSB begin).

The real answer probably lies in pre-1950 QSTs - possibly the original articles reporting the "opening" of first 75m and then 20m by Villard, W6QYT at the Stanford club station W6YX in 1947.

That's as far as I can take it. My late father-in-law's 1950 ARRL handbook gives a list of the earlier QST references, so does anybody

want to look them up?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

6. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <4tqirt$o6k@mrnews.mro.dec.com>
Source record: 103589

In article <4tk4pb$hlf@opal.southwind.net>, zclobes@southwind.net (Zack Clobes) writes...
>I'm building a 20M tranceiver with SSB/CW receiver. I'm looking at a dual
>conversion but am unsure of which IF's to use. I found a digital VFO to use
>with it which will tune from 0-10MHz with no problems and is capable ot tuning
>up to 20MHz. Considering availbility of filters and ease of contruction, what
>factors should be considered when selecting the IF?

Well, if you're gonna go with commercial IF filters, I think you're pretty much
stuck with 10.7 or 9 MHz, and/or 455 KHz. A little pricey (say $50-$100), but
they'll do exactly what you want with very little fuss.

If you aren't shaken by the thought of building your own crystal filters, you
can use the pretty good selection of microprocessor crystals that are
available, or get some custom ground on any freq you want. It's not *too*
difficult to build one, but it takes some work and some test equipment.

Either way, you have to play with the numbers for image rejection, IF
feedthrough, and spurious responses with your selected IF freq. The farther
away from 14 MHz your 1st IF is, the better the image rejection and IF
feedthrough will be, depending on how tight your front-end filtering is.
That's why many modern multi-band HF receivers have 1st IFs up in the VHF
range. Spurious responses are harder to give a quickie rule of thumb for...
you just have to play with the numbers and see what happens. The 2nd IF is
considerably less critical, 'cuz a lot of tight filtering has already occured
and stripped off most of the possible problems. Do the spurious response check
for it.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
==========

7. Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: lweide@rastro.Colorado.EDU
Message-ID: <lweide.838926970@rastro.Colorado.EDU>
Source record: 103590

Hi folks,

Would someone out here have some information/plans on a simple antenna tuner for an end fed 60'-70' line for the AM broadcast band?

I'll be using it primarly for testing and playing antique radio "stuff" in my shop. Sometimes I'll use it for crystal sets and comm receivers.

Thanks, Larry

8. Re: Mod of the TRC-208 11M to 10M Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <4tqrja$i70@mksrv1.dseg.ti.com>
Source record: 103591

In article <4tlf3i$1hic@sol.caps.maine.edu>, baack@midcoast.com says...
>
>Hello all, I happen to stumble upon some of these OLD CB HT's for CB.
>(Radio Shack TRC-208 /4 channels, hi/low power BIG telescoping antenna...)
>Understanding that these units are transmitting in AM, how difficult would
>it be to convert to 10M am.?

Should be easy. You'll have to order custom-cut crystals from JAN or
some other crystal maker, then re-align the units. That should be all.
Larger CB shops might even have a Sams Photofacts manual on the HTs.
Check into that before you start. If there isn't one, or you can't
get ahold of it, go to Radio Shack and purchase the service manual.
It will be handy to have, especially the alignment procedures.

73 de KC5NG

9. Re: Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: John P Smith <ki4ro@mnsinc.com>
Message-ID: <320163A1.7B73@mnsinc.com>
Source record: 103592

Larry Weide wrote:
>
> Hi folks,
>
> Would someone out here have some information/plans on a simple antenna
> tuner for an end fed 60'-70' line for the AM broadcast band?
>
> I'll be using it primarly for testing and playing antique radio "stuff"
> in my shop. Sometimes I'll use it for crystal sets and comm receivers.
>
> Thanks, LarryI wouldn't worry about it myself, I don't think you'll need a tuner.

73
JOhn

10. AEA RL-1: Anyone re-written software for this remote control?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: frohro@wwc.edu
Message-ID: <frohro-0108961707500001@hrf.wwc.edu>
Source record: 103593
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.digital.misc

Back in 1993 I purchased an AEA RL-1 controller. It was frought with many bugs, so many in fact that after expending around $500 and many many hours, I gave up on it with the idea that someday I would either dis-assemble their code and try and stomp the bugs or re-write the whole program. I still haven't gotten around to it. Back then I had some correspondence with several others who had similar experiences and ideas. I am wondering if anyone has proceeded any further than I have.

I did chat with AEA today, and as far as we could tell they haven't addressed any of the problems I had in their updates.

Please send me a note if you are interested or if you know anyone who might be or anyone who has worked on this.

Thanks,

Rob KL7NA/W7

--
Rob Frohne
E.F. Cross School of Engineering
Walla Walla College
204 S. College Ave.
College Place, WA 99324

frohro@wwc.edu
http://www.wwc.edu/~frohro

11. Re: Schematic for S-meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: rboggs@pcc-uky.campus.mci.net
Message-ID: <3201406e.77250564@news.campus.mci.net>
Source record: 103594

On 29 Jul 1996 17:04:51 GMT, alandp@flash.net (Alan) wrote:

>Can anyone point me to a source for an S-meter
>schematic? I'm building my first QRP kit and
>I would eventually like to try adding an
>S-meter to it if I can.
>
>73 -- Alan KJ5ZD
>
Hi Alan,

I am a fellow QRP-er and the only s-meter I have seen is one in
Demaw's "QRP Notebook" on page 57. It is audio derived and cannot be
used if ur rig has AGC. Afraid I am not much help on implementing it,
but u can read abt it there. Good luck.

Best 73, Roy KE4KDT

12. Data sheet for OKI klystron???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug1.125506.591@main03>
Source record: 103595
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Anyone have a data sheet for an OKI 55V10 Klystron? Based on the WR15 flange
it looks like its output is somewhere in the 50-75ghz range.

73!
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

13. Revised Homepage URL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <3200E776.41C6@pactitle.com>
Source record: 103596
Cross-posted to: rec.ham-radio.packet,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Sorry for not having the url in there....
http://www.geocities.com/Hollywood/5860

Enjoy!!!!!

dave booth kc6wfs
booth@pactitle.com
kc6wfs@aol.com

14. Re: Need cheap source for MPF644 transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4tqeah$ck1@newsgate.sps.mot.com>
Source record: 103597

Do you mean MRF 644?
^

If RF Parts can't handle it, try Richardson Electronics.
800-RF-POWER (or 800-737-6937)
http://www.rell.com

They're a distributor, and will probably not be interested
in quantity 1 orders.

Jim N6OTQ

15. Telonic VSWR kit model TRK-2 for sale or trade

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4tqmgf$7un@ka4ybr.netmha.com>
Source record: 103598
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

TRK-2
consists of
TRB-2 detector 0.5W 5MHz to 2.5gHz.
TRM-1-1.10F,1.20F,1.40F,1.50F,1.60F,2.00F, and 2 x 1.00F terminators.
Wooden box.
$475.00 plus shipping.

Also have a General radio 20cm constant impedence 'trombone line'
plus 3 each 20cm extenders.
$50.00 plus shipping

Last but not least.
2 each HP PIN modulators.
.8 to 2.4gHz.
make offer

Will also swap for HF receiving stuff.

-bob

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

16. Help needed with small broadcast type plastic variable caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: rboggs@pcc-uky.campus.mci.net
Message-ID: <3201418d.77537761@news.campus.mci.net>
Source record: 103599

Hi all,

Could someone tell me how to sort out the little plastic variable caps? It is the usual type that has 3 commons, 4 trimmers, and a total of 6 leads from the edges. I want to build a tiny T-match tuner similar to the 'QRP Delight' from 73 magazine and don't know what goes to what with these caps. I can measure capacitance with an Autek RF analyst, but I just can't figure out the sections. The leads are not marked O C A for oscillator, capacitor, and antenna,

Thanks in advance and 73,

Roy KE4KDT

17. Re: homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: Ken Bessler <kg0wx@southwind.net>
Message-ID: <32004078.7905@southwind.net>
Source record: 103600
Cross-posted to: rec.ham-radio.swap,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Dave Booth wrote:
>
> I just revised my homepage if you want to check it out.
> new stuff!
> --
> Dave Booth
> kc6wfs

I am always ready to surf....However I do need a URL....:-)

18. Triad TY84 inverter transformers with docs for sale.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4tqm6l$7s4@ka4ybr.netmha.com>
Source record: 103601
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

I have about a dozen of these left after offer to
boatanchors group.

They were designed for inverters for mobile tube type gear and
are in excellent condition woth application notes.

DC input 12.6 volts
DC output 600volts at 200ma
Average switching frequency 2500Hz

Ap note uses a pair of PNP transistors some caps and some resistors.

Transformer has CT primary for 12.6volt
Dual primary that can be wired CT or bucked with primary for
switching bases.
Dual secondary that can be wired CT or parallel depending on needs.

$10//each plus shipping.

US Priority mail $3 for one $6 for two $8 for 3 $10 for 4.

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

19. Re: RF design problem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: n2ucn@wa2soc.ampr.ORG
Message-ID: <915@wa2soc.ampr.org>
Source record: 103602

> From: workshop@pcm.co.za (Workshop)
> Subject: rf design problem?
>
> Hi there
> Is there anyone who can help me figure out a problem concerning a design that I have
> seen in a book.You will need to have the book to help me.
> The book is RF CIRCUIT DESIGN by CHRIS BOWICK.
> On page 159 there is a diagram and design of a 15W 100MHz amplifier.
> I understand the input and output matching that he has done,but where did he get
> the 310 ohm resistor and the 1uH coil that are connected to the collector of the
transistor
> from.These are also in parallel with the output of the transistor and I would assume
affect
> the matching network.These don't seem to have been taken into account.
> Any help appreciated
> Cheers
> Robin
> email : workshop@pcm.co.za

Robin,

The 310 ohm resistor is used as a coil form for the 1 uH coil
(see the circuit and description for L5 on page 152 as an
example of this). Keep in mind that carbon resistors are not
resistors at 100 Mhz. The idea is to use the parasitic capacitance
of the "resistor" and the parallel, 1 uH, inductance as a resonanant
tank at 100 Mhz. The "resistor" doubles as a coil form. When
resonated this way, the high impedance of the tank is transparent
to the matching network and effectively decouples the power supply
from the amplifier output. In addition, at lower frequencies where
the transistor has higher gain, the now non-resonant tank has a
low impedance. This helps to prevent parasitic oscillations at
undesired frequencies, that can otherwise occur, by loading the output.

This is not mentioned in the example anywhere, so I see why
you may be perplexed.

73 de Chuck

********** Vote Harry Browne, Libertarian for President *******
amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

20. Re: homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: "Bernie McClenny, WR3E" <bernie.mcclenny@mail.wdn.com>
Message-ID: <3200FE03.3A4D@mail.wdn.com>
Source record: 103603
Cross-posted to: rec.ham-radio.swap,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Ken Bessler wrote:
>
> Dave Booth wrote:
> >
> > I just revised my homepage if you want to check it out.
> > new stuff!
> > --
> > Dave Booth
> > kc6wfs
>
> I am always ready to surf....However I do need a URL....:-)

This is my first reply to a news group. What does this have to do with DX. I have been reading the rec.radio.amateur.dx stuff for about a week now and notice little DX info is reported here. Is this intended to be a source for DX? If not let me know so I can stop wasting my time. de Bernie, WR3E.

21. Re: 2M amp. Schematics???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4tq597$2i80@info4.rus.uni-stuttgart.de>
Source record: 103604

>Does anyone have some suggestions or full schematics for a 40-100W 2M
>amplifier for use as a mobile unit driven by a 5W HT?? I would
>greatly appreciate any help. Steve KF4CXB

Combining a HT and a 100 Watt brick for mobile operation is about the worst
setup concievable. Neither the quality of the RX nor of the TX will
be adequate for the range available at 100W out.

You may find a simple mobile rig *designed* to put out 50W
much better.

Anyway, if you want to try, you can look up the Motorola home page,
they have designs in their data books.

73, Moritz DL5UH

22. Need cheap source for MPF644 transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: recurry@insighttec.com
Message-ID: <4tpctc$19b@masters0.news.internex.net>
Source record: 103681

Anyone know of a cheap source for these?

Thx,
Ron Curry
ke6wed

Ron Curry
KE6WED
recurry@insighttec.com
ke6wed@ke6wed.ampr.org
recurry@inside.intel.com

23. Ham Radio Online web site has moved

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4tp8nv$jgs@news.accessone.com>
Source record: 103682
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

On July 5th, we moved to our own domain name at www.hamradio-online.com.
Unfortunately, the company we rented server space from announced on July 13th
they are leaving the web hosting business. Thanks to California Wireless, Inc.,
we have moved Ham Radio Online to their server which you can access for now
using this IP address:

http://206.13.40.11/

We are working to get the www.hamradio-online.com domain name redirected to the
new web site. In the interim, please use the IP address shown above. The new
web server is located in California's Silicon Valley so west coast readers
should see relatively good performance.

We also have begun adding August articles.

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

24. VHF Strip Line Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-01 00:00:00 UTC
From: Christer.Jogenborn@era.ericsson.se
Message-ID: <4tqdpj$jg8@erinews.ericsson.se>
Source record: 103683

Looking for a pointer to some info on how to
design VHF strip lines, in general, for my
ceramic, parallel coupled, 4cx tubes.
Have not found much info on the net nor in
my collection of ham.books.

73 Chris SM0NCL

25. w1fb univ RX + TX?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4trt3h$9n7@dfw-ixnews8.ix.netcom.com>
Source record: 103605

Hi gang,

Question:

My universal RX from the w1fb qrp notebook is working swell on 20m, I have also built a 2 watt TX using a crystal, any reason why I cant take the VFO signal from the RX buffer it, and drive the TX with it? I know the VFO on the RX is not super stable but it's not bad, just seems to me like everything is there so why build another VFO just for the TX.

With a DC RX is the VFO running at the exact RX freq or shifted by some amount?

Thanks,

Tim ka8ddz/QRP
NorCal #1216

26. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: ggherb@ccmail.monsanto.com
Message-ID: <NEWTNews.839002347.1477.Postmaster@GGHERB.MONSANTO.COM>
Source record: 103606

> I like CW... so do many others that weren't to lazy to learn it,
> too many people want something for nothing. MAY IT LAST FOREVER!
> The NO CODE ticket proved that if you give it away for the most part you
> will receive sub standard people. There are many GOOD no code hams but
> there are many more who should not be hams and have no respect for the
> hobby and nothing to give. Those that learned the code for the most part
> are good amateur radio operators, there are a few that are not. Again
> they were forced to learn if they wanted something (a ham ticket).When
> you give it away that's what you do GIVE IT AWAY!

This is a bunch of cr*p. The "NO CODE" Tech has allowed the HAM numbers
to grow. With growth comes more representation and business. What
would happen if HAM numbers start to decline as they were in the
past? There is safety in numbers regardless of how one obtains a
HAM license. If you do not believe this just look at the recent
FCC Bands on the selling block.

I'm always amazed at this self-serving attitude. Regardless of anyones
opinion the truth of the matter is that a "NO CODE" Tech exists
today and was backed by a majority. How about coming down off the
pedestal and joining the rest of us "Sub Standard People"!

Gary-

27. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: Bill Levey <bro@bro.net>
Message-ID: <32021D36.20C8@bro.net>
Source record: 103607
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Christina Craft wrote:
>
> I've been looking endlessly for some cool amateur radio broadcasts
> (preferably live stuff) on the net.

Each week's 'Amateur Radio Newsline' is available in TrueSpeech audio-streaming format on the Web Explorer home page.

--> http://scott.net/~wa4fat

Enjoy!

28. QRP Schematic Archives

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: hrsil@flinet.com
Message-ID: <4tt1se$edc@news.flinet.com>
Source record: 103608

I was just wondering if there were any sites ftp or www related to QRP
design and building that any one would recomend?
thanks!
--
Henry Silvia hrsil@flinet.com
{KE4WBW} WPB. FLA

29. Re: w1fb univ RX + TX?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4ttd99$gle@blixen.aquilagroup.com>
Source record: 103609

timhynde@ix.netcom.com (Tim Hynde) wrote:

>My universal RX from the w1fb qrp notebook is working swell on 20m, I
>have also built a 2 watt TX using a crystal, any reason why I cant take
>the VFO signal from the RX buffer it, and drive the TX with it? I know
>the VFO on the RX is not super stable but it's not bad, just seems to me
>like everything is there so why build another VFO just for the TX.

>With a DC RX is the VFO running at the exact RX freq or shifted by some
>amount?

Buffer it well, and take particular care that VFO is well shielded
from TX signal.

You need to shift the VFO a bit (700 Hz, or whatever pitch you prefer
to listen to CW at) for tx. Up or down both work OK, just depends
on wether you want to always have to tune above or below other guy.

One nice way is by switching in a variactor for recieve...the
variactor voltage can then be varied as an RIT control.

Best not to have a variactor in circuit for TX if you can avoide it,
as they tend to be temp. unstable.

Case for seperate VFOs:

Nice to be able to work DX split.

You can exactly zero beat the other ham's freq. I have a 250Hz CW
filter on my TS-520, and it is very common for stations answering my
CQ's to be too far off to hear. ('520 transmits through this filter,
so don't tell me I have an offset problem)

You can use TX vfo as a "memory", tune the band with the RX, and come
back to TX freq. later.

With DC reciever, it is nice to have option of tuning either side of
RX signal, as one way will normally have worse QRM than the other.

Harder to verify TX is working, if sharing one VFO.

You can use the two VFOs to check each others calibration.

-73, ko0b

30. Re: Distance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <32026E4E.6570@tir.com>
Source record: 103610
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

A Guy named Moe wrote:
>
> I am wondering what is the main factor in deturmaning the distance that
> a signal my be sent quickly and with clear reception?
>
> thanks

The *main* factor is the receiver.

Bill KU8H

31. Re: Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <32027FE0.6C83@tir.com>
Source record: 103611

Hi Larry,

Get your hands on an ARRL antenna handbook (or *the* Handbook) and take a look at L network for matching to an end fed wire antenna. You will ned arrangements for changing the configuration of the L network to cover all that you want, but that could be a simple as changing some alligator clips for casual receive use. The length of wire you want to use is shorter than a half wave on some bands (BC particularly) and longer on others... thus the requirement to change the network. I hope that is easy enough.

Bill KU8H

32. Obsolete Zilog Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: jaywward@gate.net
Message-ID: <4ttl0f$1j8s@navajo.gate.net>
Source record: 103612

I'm in desperate need for a source of Zilog Z84C1310VEC processors.
Zilog stopped production in Oct. '95.

Any qty. appreciated.

Jay
KE4ZOG

33. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <32027DB0.566D@tir.com>
Source record: 103613
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi,

If you mean you are looking to replace an antenna and receiver to listen to the ham bands there are probably legal restrictions blocking the way. While it may not always be illegal, it usually would be illegal and most of us won't be connecting our radios directly to the net.

Bill KU8H

34. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <320272D5.69CA@tir.com>
Source record: 103614

Children. children!!

This is approaching the combustion point!! The original post was nitpicking about "reciever" being mis-spelled. I wonder if anybody would really be confused by "reciever" and wonder if instead of a detection device it referred to a special dipole antenna or a bar of soap!!

There is already a "code endorsement" on some ham licenses. The general code endorsement is 13 wpm as is the advanced. The extra is endosed at 20 wpm and some of the other license classes have specific endorsements of 5 wpm.

Lighten up a bit. If you're going to use CW prosigns on *TTY* try to use them correctly before you complain about spelling.

73,

Bill KU8H

35. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <32019BC6.569E@flinet.com>
Source record: 103615

BOB ROACH wrote:
>
> >-OK. There is no longer ANY commercial or military usage of CW. There
> >-will soon be too few amateurs left who can copy it for it to be of any
> >-use in an emergency. Why shove it down everyone's throat when only a
>
> They'll be around as long as they want HF privileges.
>
> 73 de KE4QOK
> Bob
>
> * SLMR 2.1a * 666bps - communication rate of the beast
>
> ---
> This message originated from: ---------- Selective Source BBS
> ------- Virginia Beach, Virginia
> ----- (804) 471 6776
I like CW... so do many others that weren't to lazy to learn it,
too many people want something for nothing. MAY IT LAST FOREVER!
The NO CODE ticket proved that if you give it away for the most part you
will receive sub standard people. There are many GOOD no code hams but
there are many more who should not be hams and have no respect for the
hobby and nothing to give. Those that learned the code for the most part
are good amateur radio operators, there are a few that are not. Again
they were forced to learn if they wanted something (a ham ticket).When
you give it away that's what you do GIVE IT AWAY!

36. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: Ken Bessler <kg0wx@southwind.net>
Message-ID: <32029B8E.7EB8@southwind.net>
Source record: 103616
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Bill C. wrote:
>
> Hi,
>
> If you mean you are looking to replace an antenna and receiver to listen
> to the ham bands there are probably legal restrictions blocking the way.
> While it may not always be illegal, it usually would be illegal and most
> of us won't be connecting our radios directly to the net.
>
> Bill KU8H

Get I-phone 4.0.... There are lots of repeaters online!

http://www.vocaltec.com/

37. Re: homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DvIGw8.4EH@pe1chl.ampr.org>
Source record: 103617
Cross-posted to: rec.ham-radio.swap,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

In <3200FE03.3A4D@mail.wdn.com> "Bernie McClenny, WR3E" <bernie.mcclenny@mail.wdn.com> writes:

>Ken Bessler wrote:
>>
>> Dave Booth wrote:
>> >
>> > I just revised my homepage if you want to check it out.
>> > new stuff!
>> > --
>> > Dave Booth
>> > kc6wfs
>>
>> I am always ready to surf....However I do need a URL....:-)

>This is my first reply to a news group. What does this have to do with
>DX. I have been reading the rec.radio.amateur.dx stuff for about a week
>now and notice little DX info is reported here. Is this intended to be a
>source for DX? If not let me know so I can stop wasting my time. de
>Bernie, WR3E.

You have noticed a common usenet problem... some 20.000 newsgroups
were created for discussion about many different topics, yet some
people cannot be bothered to check if their posting matches the topic
of the newsgroup before posting.
The result is often called "noise", and the "signal/noise ratio" of a
newsgroup can be varying, much like the s/n ratio when receiving a DX
station.

Then there are those loud mouth postings, like Dave's. Those guys want
to let the world know they have something *very important* to tell, and
post it in as many newsgroups they can think of. Those postings are
allmost certainly off-topic.

I'm afraid it is difficult to overcome. You will just have to live
with it, and select news software that allows you to quickly skim
articles to see if they are in the "signal" or in the "noise" category.
Some news software will also allow you to automatically skip articles
that are posted to many newsgroups. That will help you to avoid some
of the utter garbage (like "visit my page!" or "make money fast!").

73,
Rob
--
+-----------------------------------+---------------------------------------+
| Rob Janssen pe1chl@amsat.org | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+---------------------------------------+

38. Re: homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: Vesa.Tervo@nmp.nokia.com
Message-ID: <4ts7n5$iqc@nmp02.nmp.nokia.com>
Source record: 103618
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.ham-radio.packet,rec.ham-radio.swap

In article <31FFFC41.3F54@pactitle.com>, booth@pactitle.com says...
>
>I just revised my homepage if you want to check it out.
>new stuff!

This might also be of some interest:

http://www.geocities.com/CapeCanaveral/3491/

73 de Wes :)

39. Re: Triad TY84 inverter transformers with docs for sale.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: lbrty4us@aol.com
Message-ID: <4ts1vp$mod@newsbf02.news.aol.com>
Source record: 103619

In article <4tqm6l$7s4@ka4ybr.netmha.com>, rmd@ka4ybr.netmha.com (Bob Duckworth) writes:

>I have about a dozen of these left after offer to
>boatanchors group.
>
>They were designed for inverters for mobile tube type gear and
>are in excellent condition woth application notes.
>
>DC input 12.6 volts
>DC output 600volts at 200ma
>Average switching frequency 2500Hz
>
>Ap note uses a pair of PNP transistors some caps and some resistors.
>
>Transformer has CT primary for 12.6volt
>Dual primary that can be wired CT or bucked with primary for
>switching bases.
>Dual secondary that can be wired CT or parallel depending on needs.
>
>$10//each plus shipping.
>
>US Priority mail $3 for one $6 for two $8 for 3 $10 for 4.

Bob, I would like two, please. How are you to be paid?

RSVP/RGDS,
Frank Adams
RR#1 - Box 234
Bridgton, ME - 04009

40. Re: Moe's trolling

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <320273C3.6636@tir.com>
Source record: 103620

The formula for building antenna? Sorry I missed that one!!

To build an antenna you go outside and string lots of wire in the trees. You hank on a feedline to the radio from some where on the wires (pick any handy spot). Then you cut off all the parts that don't work (called pruning).

This approach has worked well for me but sometimes, after cutting off all the parts that don't work, all I have left is the feedline and half of a tree!! Whenever that occurs... start over.

<evil grin>

73,

Bill KU8H

41. Roanoke Doppler DF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: thb@thegle.demon.co.uk
Message-ID: <839016976.20025.0@thegle.demon.co.uk>
Source record: 103621

Has anyone out there built the Roanoke Doppler DF unit described in "Transmitter Hunting ..etc." by J Moell and T Curlee ? If so, can they confirm that there are no errors in the schematic diagram (Fig 9-5) , please.

I am having trouble with what should be the easy bit, the audio amp/ low pass filter. With the component values shown I am not getting the signal levels quoted in the text. DC voltages are close to spec. The digital bit works fine, so far.

Whilst I check my wiring (again!) I would appreciate some reassurance from any successful constructors.

Thanks.

Tom

42. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <3202CB13.6800@flinet.com>
Source record: 103622

ggherb@ccmail.monsanto.com wrote:
>
> > I like CW... so do many others that weren't to lazy to learn it,
> > too many people want something for nothing. MAY IT LAST FOREVER!
> > The NO CODE ticket proved that if you give it away for the most part you
> > will receive sub standard people. There are many GOOD no code hams but
> > there are many more who should not be hams and have no respect for the
> > hobby and nothing to give. Those that learned the code for the most part
> > are good amateur radio operators, there are a few that are not. Again
> > they were forced to learn if they wanted something (a ham ticket).When
> > you give it away that's what you do GIVE IT AWAY!
>
> This is a bunch of cr*p. The "NO CODE" Tech has allowed the HAM numbers
> to grow. With growth comes more representation and business. What
> would happen if HAM numbers start to decline as they were in the
> past? There is safety in numbers regardless of how one obtains a
> HAM license. If you do not believe this just look at the recent
> FCC Bands on the selling block.
>
> I'm always amazed at this self-serving attitude. Regardless of anyones
> opinion the truth of the matter is that a "NO CODE" Tech exists
> today and was backed by a majority. How about coming down off the
> pedestal and joining the rest of us "Sub Standard People"!
>
> Gary-
well Gary as I said there are some good no code hams. By the way I
supported the no code ticket, only now to wish I had not ! I also do
testing for Amateur radio (VE) so there !! What I do, is give the
lessons for the ones wishing to take the test and instruct them about
proper radio manners, most people however do not get this extra
attention and I have seen a large number of the new NO CODE Hams
SCREWING UP AND ACTING LIKE THIS IS A CB and 90% never upgrade! This has
become so bad that many older hams have petition the FCC to change the
NO CODE TECH. ticket to be a 2 year ticket requiring an upgrade to keep
the ticket active. Numbers are not everything, if the ham band is to
become a SUPER CHARGED
C.B. band then sell it all! Oh by the way before you start making
assumptions I was once on the CB band and left because of no respect for
fellow operators or the rules and regulation and yes there were rules
just no one followed them much like what I'm seeing now. Did you know
that the 11 meter band (CB) was once a ham band ! So I suppose you are
either a no code ham or someone who just wishes to be heard but really
has no idea as to what he is talking about. Have you listen to the local
2 meter repeaters in your area, jamming, cursing, call for hey good

buddy, I didn't hear all this before the No Code Ticket came along. Now to change all this we as Amateurs need to in-force the rules and stop the foolishness going on before we all lose, CW operators and NO CODE alike. All I want to see is order on the bands I don't care if you or anyone else ever upgrades as long as you conduct yourself as a ham operator not some jerk off of channel 19, 10-4 good buddy ? If you do not fall into this category then you have nothing to be upset about code or no code. If it weren't for people like myself who try to keep this hobby alive there would be no NO CODE Ticket but I do feel that a NO CODE ham should learn more and not stop just because he has received a ham ticket! they should have restricted the NO CODE to say 6 meters and an upgrade test to other parts of the VHF spectrum this would have kept them learning instead of giving them the entire VHF spectrum.

43. Specs/pinout for Datel DPMs???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-02 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug2.224042.602@main03>
Source record: 103623

Does anyone have the pinouts/spec sheet for Datel digital panel meters?
The type numbers are DM-2115 d2, and DM-4300 B6.

Thanks,
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

44. HBR-16 Polytec High

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: Rick Darwicki <rickyd@deltanet.com>
Message-ID: <Pine.SCO.3.91.960803141426.25431A-100000@delta1.deltanet.com>
Source record: 103534

If you went to Poly in 1960's and bought a HBR-16 from George Schlosser
I'd like to hear from you... we have found Al Ross also

```
\\\\\\\\\\\\\\\ /XXXXXXXXXXXX\
Rick Darwicki \\\\\\\\\\\\\\\ ///XXXXXXXXXXX\\
Professional Engineer\\\\\\\\\\\\ /////XXXXXXXXX\\\\
Registered Enviromental Assessor ///////XXXXXXX\\\\\\
State of California\\\\\\\\\\\\\\ /////////XXXXX\\\\\\\\
Yorba Linda \\\\\\\\\\\\\\\ ///////////XXX\\\\\\\\\\
\\\\\\\\\\\\\X///////////X\\\\\\\\\\\\
Ex. WA6JZZ \\\\\\\\\\\XXX////////// \\\\\\\\\\\\\
__ __ \\\\\\\\\XXXXX///////// \\\\\\\\\\\\\
/ `-' / ,,, \\\\\\\XXXXXXX/////// E-mail:rickyd@deltanet.com
| |[====||||||||||||[:::} \\\\\XXXXXXXX///// \\\\\\\\\\\\\
\__.-.__\ ``` \\\XXXXXXXXXX/// N6PE 160 thru 2 Meters
Classical to Willie \XXXXXXXXXXXX/ \\\\\\\\\\\\\
```

45. Re: PCB resources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <3203D23E.2ADA@millcomm.com>
Source record: 103535

Richard Christensen wrote:
>

> One project I want to do will require a lot of drilling, so I
> really don't want to do this board myself at home.
>

--

If you like to build stuff, you might want to seriously consider making yourself a CNC rig. (Computer Numerical Control, usually of machine tools).

With a CNC, you can easily automate PCB drilling, making slick cabinets and panels (cuts odd shapes like D-sub holes easily).

The company I work for offers low cost CNC control software, and you can use surplus stepper motors, make your own L/R drivers, and buy or make some kind of XYZ mechanism. A dremel tool or laminate trimmer completes the rig.

For serious metal working, a drill press and one of those $100 X-Y tables can get you started, although a $995 mill/drill is vastly more useful, accurate, and powerful.

Please call Ah-ha! direct if you want their free catalog. I don't do the paperwork stuff. CNC is an incredibly powerful addition to a small shop.

Good Luck!

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

46. Re: Distance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug3.094145.4587@ke4zv.atl.ga.us>
Source record: 103536
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

In article <32026E4E.6570@tir.com> "Bill C." <wrc@tir.com> writes:
>A Guy named Moe wrote:
>> I am wondering what is the main factor in deturmaning the distance that
>> a signal my be sent quickly and with clear reception?
>
>The *main* factor is the receiver.

Beyond line of sight, the main factor is *propagation*. Antennas can be important, and the receiver certainly is (but Marconi used a glass tube full of iron filings to span the Atlantic). The modulation used makes a difference, and transmitter power is the catchall factor. The frequency chosen is also an important factor since it influences all the other factors. The whole thing has to work as a system.

Signalling speed (baud) for terrestrial beyond line of sight paths is determined primarily by multipath. Operating near the MUF (for ionospheric paths) will reduce multipath, and coherent M-ary modulation with proper coding can resist it. At VHF+, antenna directionality and siting are the largest factors in controlling multipath. Good modulation choices (such as SS) can resist its degradations.

For free space paths, SNR (and available bandwidth) dominate as the factors controlling signalling speed. Coherent modulations again help in resisting degradation by low SNR (incoherent OOK is a poor choice, incoherent analog modulations a worse one). A stronger transmitted signal directly affects channel SNR. A good receiver can avoid excessively degrading channel SNR (both through using low noise devices to avoid contributing to channel noise and by using matched filtering to avoid passing out of channel noise), but it can't improve channel SNR. A directional antenna can effectively improve channel SNR over isotropic by restricting the noise coming from other directions on channel from reaching the receiver.

Assuming adequate techniques are used for each link in the chain, for a given frequency, the order of importance probably goes like this;

1) Propagation
2) Antennas
3) Modulation
4) Receiver
5) Transmitter

Propagation dominates, and is the largest loss factor and the
largest factor contributing to multipath. Antennas couple to the
propagation path and thus are key elements. The modulation chosen
determines how well the signal can resist the various impairments
caused by propagation. The receiver must avoid degrading channel
SNR as much as possible. And finally, enough transmitter power
must be used to overcome all the loss mechanisms. The amount of
transmitter power *necessary* is often surprisingly small, however.
With the correct choices of other factors, a few milliwatts can
easily span the globe.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

47. HW-8 Assembly Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: ttrent@oregon.uoregon.edu
Message-ID: <4tuje6$m2t@pith.uoregon.edu>
Source record: 103624

Does anyone out there have an assembly manual for an HW-8 that you
would be willing to photocopy and send for a modest price? I can get
an unassembled one without the manual and was told that a replacement
would cost $35 from Heathkit. Any ideas?
73 Tom AA7NH ttrent@oregon.uoregon.edu

48. FS HomeBrew amp parts & tubes (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4tuatp$j4@anarchy.io.com>
Source record: 103625

See attachment;

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
REQUIRED, to listen to it !"

49. FS HomeBrew amp parts & tubes [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4tuauj$j4@anarchy.io.com>
Source record: 103626
Body handling: Inline uuencoded payload not displayed: HOMBRW.TXT

```
[Inline uuencoded payload not displayed: HOMBRW.TXT]
```

50. Re: Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: tuhams@netzone.com
Message-ID: <4tub3e$ovo@news1.netzone.com>
Source record: 103627

lweide@rastro.Colorado.EDU (Larry Weide) wrote:

>Hi folks,

>Would someone out here have some information/plans on a simple antenna
>tuner for an end fed 60'-70' line for the AM broadcast band?

>I'll be using it primarly for testing and playing antique radio "stuff"
>in my shop. Sometimes I'll use it for crystal sets and comm receivers.

>Thanks, Larry
You cannot go wrong with a simple L-network..

A coil with taps or alligator clips to make various taps and a
condenser (oops gave away my age) A capacitor also with
clips on both sides and a knob to turn the cacitor plates and your in
business....

the coil and cap can go in series, or paralell and there are lots of
combinations what will work really well....

i used on on a random wire and used a SWR meter between my transmitter
and the breadboard coil and cap and it worked very well...
Illigitimi non carborundum

51. Aan Adriaan uit Apeldoorn, laat meisje uit Leiderdorp met rust

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: sorry@nergens.com
Message-ID: <4tv8c9$a80@news.xs4all.nl>
Source record: 103628

"Beste" Adriaan.
We weten meer dan voldoende van je uitspattingen op het net.
Ook weten we dat je via deze groep mail post namens haar.
Ze wil niets meer met je te maken hebben en jij hebt nu ook een
vriendin met kind.
Laat haar met rust !
De volgende maatregel is een klacht en mailbomb bij je provider, eens
kijken hoe lang je je internet aansluiting nog kan misbruiken.
Bestel ook niet namens of voor haar een band van de conventie zoals je
pas hebt gedaan.
Laat haar met rust !!!
We hebben je e-mail naam en provider.
Doe normaal, bemoei je met je eigen zaken en wij laten je verder met
rust.
Zo niet ??
Je bent gewaarschuwd en ligt sneller van internet dan je denkt.

een vriend.

52. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4tvn76$4st@cc.iu.net>
Source record: 103629
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <32027DB0.566D@tir.com>, "Bill C." <wrc@tir.com> writes:
>If you mean you are looking to replace an antenna and receiver to listen
>to the ham bands there are probably legal restrictions blocking the way.
>While it may not always be illegal, it usually would be illegal and most
>of us won't be connecting our radios directly to the net.
> Bill KU8H

uh, why would LISTENING to a radio be illegal? it might be an interesting
idea to set up banks of remotely controlled receivers that could be listened to
with one of the "real time audio" formats...

(<sheesh> <grumble> extra class ham telling people that it's illegal to listen
to amateur radio when we don't have an "privacy" protection - specifically
stated in the various rules and regs...if anything we could use more people
discovering amateur radio and what it is today instead of those 1950's/1960's
Q&A manuals that are stuck on the average library shelf for those few who are
interested enough to look something up on the subject..)

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

53. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: Mark <kb9khm@expert.cc.purdue.edu>
Message-ID: <3202F26B.769A@expert.cc.purdue.edu>
Source record: 103630

I haven't followed this thread all the way from the beginning, but I'm amazed at how it changed from spelling to a discussion of the pros and cons of the no-code license class. Since I'm a no-code tech, I'm obviously for it. Where I see the problem of brain dead ham operators comming from is the publishing of the question pool. If the FCC published a study guide instead of the question pool, people would be forced to actually study and UNDERSTAND the information that they are being tested on. I know people who have passed the test by memorizing that the answer to a particular question was 'B'.

Mark
<KB9KHM>

54. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: emeb@indirect.com
Message-ID: <emeb-0308960936040001@s76.phxslip4.indirect.com>
Source record: 103631
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4tvn76$4st@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) wrote:

> it might be an interesting idea to set up banks of
> remotely controlled receivers that could be listened to
> with one of the "real time audio" formats...

Wow! This had never occurred to me! I have an old AOR 2500 widerange monitor sitting here with a cute little DB-9 connector on the back and a manual full of commands that can be sent to tune and configure it. It seems it would be pretty straightforward to build some CGI to send tuning commands and hook the audio out to a RealAudio server.

Using this config, anyone with a web browser could grab my scanner and listen to what's in the air in Phoenix. Now the question is "Who cares?" Plus, I'd have to set up a web server on my Mac, leave it running and on the net all day. Sounds like a project for someone with an existing server.

Interesting idea though.

--
Eric Brombaugh KC7GXA
emeb@indirect.com (private)
ericb@sicom.com (work)

55. Website updated

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: CSanders@RedRose.net
Message-ID: <CSanders-0308961420260001@205.246.83.177>
Source record: 103632
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.space

```
New and improved Web site! www.QTH.com/N3TLJ *Curt's Cyber Corner*
* faster loading home page
* aminated GIF
* for Ham Radio operators -- new URL form for updating/adding new sites
also with 262 selected new Ham Radio links added since mid-June 96.
Come visit! Netscape or Internet Explorer recommended to appreciate the site.
```

56. Re: 2M amp. Schematics???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-03 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8C5B293.0367000794.uuout@sourcebbs.com>
Source record: 103633

TO :Steve157@msn.com

SN>-Does anyone have some suggestions or full schematics for a 40-100W 2M
>-amplifier for use as a mobile unit driven by a 5W HT?? I would
>-greatly appreciate any help. Steve KF4CXB

Hi Steve:

I used a 35W amp with my HT in the car for a while with a 5/8 wave mag
mount from Radio Shack. It work quite well. The amp came from Tucker.
I am looking at their new catalog and they have gone to a new amp with
their name on it but it still delivers 35W with a 15 db preamp for $99.

73 de KE4QOK
Bob

* SLMR 2.1a * A ounce of pretension = a pound of manure.

This message originated from: ---------- Selective Source BBS
------- Virginia Beach, Virginia
----- (804) 471 6776

57. NW 80/20 kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: pchow@cisco.com
Message-ID: <4u0qf0$371@cronkite.cisco.com>
Source record: 103537

Anybody have experience building this kit (the 40 meter version) from
Dan's small parts? How good or bad it is? Thanks.

73,
KF6DLT

58. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <32044AF8.7247@flinet.com>
Source record: 103538

Bill C. wrote:
>
> Children. children!!
>
> This is approaching the combustion point!! The original post was
> nitpicking about "reciever" being mis-spelled. I wonder if anybody would
> really be confused by "reciever" and wonder if instead of a detection
> device it referred to a special dipole antenna or a bar of soap!!
>
> There is already a "code endorsement" on some ham licenses. The general
> code endorsement is 13 wpm as is the advanced. The extra is endosed at 20
> wpm and some of the other license classes have specific endorsements of 5
> wpm.
>
> Lighten up a bit. If you're going to use CW prosigns on *TTY* try to use
> them correctly before you complain about spelling.
>
> 73,
>
> Bill KU8H

I'm with you Bill, I think this does need to end. I also agree with the
remarks about spelling too. I did not know I was going to graded by
self appointed English Teachers while on the News Groups. Cant wait to
get my report card!

duane AB4BE

59. Old Equipment Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <32045448.17A6@flinet.com>
Source record: 103539

If anyone is looking for information on the following
items please let me know.
Hammarlund HQ-180
RCA WA-44C
Heathkit phone patch HD-15
HeathKit HP-23A AC power Supply
HeathKit SB-102 SSB Transceiver
I just found some Manuals for the above Equipment. I know its' old
stuff but some people like restoring this type of equipment.

AB4BE Duane

60. N6GN Microwave Data Link

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: John Clark <clarkjc@craft.camp.clarkson.edu>
Message-ID: <320471CE.7139D0BB@craft.camp.clarkson.edu>
Source record: 103540
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I was just about to start putting one of these together with modifications for 10 Mbps operation when I noticed that my schematic and the receiver board artwork didn't seem to match. I have a copy of _Packet: Speed, More Speed, and Applications_, but I just recently found out that the receiver board schematic is incorrect in many places. I hear that the '91 Handbook or the Dec. '89 issue of Ham Radio Magazine has the correct schematic. Could somebody with a kind soul, a copy of the forementioned texts, and a scanner email me a copy, perhaps? I'd really appreciate it! Thanks.

- John (N3IFG)

P.S. Thanks to everyone who knew where to find those SRA-1 mixers. Sorry, I didn't get to respond to everyone personally, though (my current news server tends to drop posts....)

61. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: "Brian D. McKinley, Ph.D." <bdmck@epix.net>
Message-ID: <3204FE8C.127A@epix.net>
Source record: 103541
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Christina Craft wrote:
>
> I've been looking endlessly for some cool amateur radio broadcasts
> (preferably live stuff) on the net. I realize the technology is
> still fairly expensive so it's hard for people to broadcast on
> RealAudio or Streamworks but I'm interested in hearing some stuff
> out there.
>
> If you know of places where I can find this kind of live broadcast
> I'd really appreciate being pointed to it.
>
> I've done countless searches and must be putting in the wrong key
> words.
>
> Is anyone out there doing some amateur stuff or is it mostly the
> mainstream doing online live broadcasts?
>
> Your help is appreciated
>
> email to ao349@freenet.carleton.ca
>
> Cheers!Why would you want to use a computer and an internet provider to
something that is available in free space. There are several modestly
priced receivers on the market (less than you pay for a year's net
connection).

The Whole World is yours instead a little "cool stuff".

bdmck@epix.net

62. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <32050910.4F21@tir.com>
Source record: 103542
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

It might be illegal to connect the licensed station to the net. It might not, too. I did not say "listening to a radio" is illegal! How does the FCC regard this media? Are we retransmitting amateur signals (for moentary gain)? Is anybody (including the service provider) receiving any money for the relay or rebroadcast of these signals?

PLEASE don't ask the FCC!! It sounds like a lot of people are getting a lot of harmless enjoyment from this. If you are involved in the actual connection for the relay or rebroadcast... keep an eye over your shoulder.

73,

Bill KU8H

63. FS Homebrew amp parts & tubes. (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4u2jbl$6tp@nntp-1.io.com>
Source record: 103543

Please read this attachment;

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
REQUIRED, to listen to it !"

64. FS Homebrew amp parts & tubes. [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4u2jbr$6tp@nntp-1.io.com>
Source record: 103544
Body handling: Inline uuencoded payload not displayed: HOMBRW.TXT

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[Inline uuencoded payload not displayed: HOMBRW.TXT]
```

65. ISO design ideas for power 14 MHz sine generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: fgrieu@micronet.fr
Message-ID: <fgrieu-0408961954300001@news.micronet.fr>
Source record: 103545

I'm seeking design ideas for a power 14 MHz sine generator
with the following specs :
- 50mA output into 50 ohm (translates to about 15 Vpp unloaded)
- any harmonics 50dB below 14MHz fundamental
- 100 ppm frequency tolerance => I'll start from a crystal
- no (or very few) adjustment
- reasonable efficiency (60% ?) from 24V DC power supply

Thanks in advance for your ideas.

Francois Grieu - fgrieu@micronet.fr

66. Re: ISO design ideas for power 14 MHz sine generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <32051ED9.6086@tir.com>
Source record: 103546

Start by looking at the smaller power FETs. You may have some stability problems at the power levels you want. Might be better off with a lower power oscillator and follow it with your 28 volt power stage.

Bill KU8H

67. FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4u2uvk$8bd@news.accessone.com>
Source record: 103547
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

The FCC has issued new rules regarding the evaluation of RF Emissions and
health effects from all transmitters. As always, the devil is in the details
and the details say that if you transmit over 50 watts, you may have
to perform an RF emissions environmental assessment of your Amateur station.
Under the new rules, the FCC will add five more questions on RF safety to three
of the written exams. Amateur radio operators will be required to certify as
part of their license application, under an as yet unspecified mechanism, that
they understand the FCC rules on this issue. In some situations, certain
Amateurs may have to file a complex "Environmental Assessment" better known as
an Environmental Impact Report regarding their Amateur station operation.

You can read the complete text of the relevent FCC ruling in FCC 96-396 at
Ham Radio Online magazine, available on the Internet at:
http://206.13.40.11/
(we had to move to a new server and are waiting for InterNIC to move our
www.hamradio-online.com domain name to the new server)

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

68. Minimum channel spacing@2mtrs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: n7oo@azgate.nj7p.ampr.ORG
Message-ID: <7739@NJ7P>
Source record: 103548

Recently a rival club installed a 144.93 node just 100 ft away from
our clubs 145.01 MHz packet node. The ARRL VHF manual suggests that
a horizontal antenna separation of 1 mile or more is required to
avoid desense at a 600 KHz repeater pair. In this case, we are only
dealing with a 80 KHz frequency separation. Our node is using a
Micor radio. The 144.93 radio is running 5 watts.

The other club insists there will be no desense to our node. Does anyone
on this group have practical experience on what minimum frequency
spacings should be when radios are operated in the immediate physical
location?

73 de Jack

69. Please Help with 10GHz Microwave Gunn Diode Assembly

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: sidener@crunch.nuc.umr.edu
Message-ID: <4u37un$rp@hptemp1.cc.umr.edu>
Source record: 103549

Hi, I need some help fixing a Microwave Associates 10GHz Gunn diode assembly.

the model is : MA 86656 CM

I have two of them and I am trying to make a amateur data link but one of them has no output when I apply the voltage to the diode. I noticed something rattling around inside the assembly so I took out the plunger which holds the Gunn diode and found that it had slipped out of it's holder (probably from being dropped). I replaced the diode in the holder and tried to fire up the assembly again. Still no output. I do not know which way the diode goes in so I tried both directions (there are no markings on the diode) Still no output.

I can only assume that the diode is bad, but I have no idea how to find another. It has no numbers.

If anyone has any specs or advice on obtaining another Gunn diode or the correct orientation, I would appreciate any help I could get.

I was told that one of these assemblies cost around $500 new, and I don't have that kind of "hobbie" money avaliable. So I would like to fix the one I have.

Thanks,

Scott Sidener N0WFL
sidener@umr.edu

70. Re: Please Help with 10GHz Microwave Gunn Diode Assembly

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: stevem@best.com
Message-ID: <4u3cht$avg@shellx.best.com>
Source record: 103550

In article <4u37un$rp@hptemp1.cc.umr.edu>,
Scott Sidener <sidener@crunch.nuc.umr.edu> wrote:
>Hi, I need some help fixing a Microwave Associates 10GHz Gunn diode
>assembly.
>
>the model is : MA 86656 CM
>
>I have two of them and I am trying to make a amateur data link but one of
>them has no output when I apply the voltage to the diode. I noticed
>something rattling around inside the assembly so I took out the plunger
>which holds the Gunn diode and found that it had slipped out of it's
>holder (probably from being dropped). I replaced the diode in the holder
>and tried to fire up the assembly again. Still no output. I do not know
>which way the diode goes in so I tried both directions (there are no
>markings on the diode) Still no output.
>
>I can only assume that the diode is bad, but I have no idea how to find
>another. It has no numbers.
>
>If anyone has any specs or advice on obtaining another Gunn diode or the
>correct orientation, I would appreciate any help I could get.
>
>I was told that one of these assemblies cost around $500 new, and I don't
>have that kind of "hobbie" money avaliable. So I would like to fix the
>one I have.
>
>Thanks,
>
>Scott Sidener N0WFL
>sidener@umr.edu
>

It sounds like you do have a bad diode. You can check the direction
it goes in by looking at your other assembly.

I have some 10 to 20mW Gunn diodes that were used in motion detectors
that might work. Contact me by direct email and we can describe our
respective package types to see if mine are mechanically identical.

Steve Muthet WF6R
stevem@w6yx.stanford.edu
stevem@best.com

71. List Of Stamp Applications [960804]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: cj@hth.com
Message-ID: <32053745.0@news.buller.se>
Source record: 103551
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
_____________________________________________ _____
_____________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 960804
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Contents

_____________________________________________

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.
_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
- Industri control
```

- Geological instruments
- Computer peripherals
- Scale model hobbyists
- Model train hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remember it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:
E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
```

Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

If you don't have access to Internet you could send an SASE to the
address given below and I will return you a 3.5" DOS-disk with the
latest version in ASCII-format.

High Tech Horizon
Attn: L.O.S.A
Asbogatan 29 C
S-262 51 Angelholm
SWEDEN

1.4 List of contributions

> = Indicates a new or updated application since last time.

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```
=========================================================================
Title : Robo-Cat [# 001]
=========================================================================
Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html
-------------------------------------------------------------------------
Description :
```

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or "Fatty Liver", basicly what this means is that for some reason he stoped eating and his liver started converting body to useable sugars. The fat deposists biuld up in the liver and cause severe liver damage. Because the liver isn't working well the cat feels crappy and wants to eat even less. The treatment for this disease is to run a tube down down the cats nose into his stomach, or a PEG tube through the abomine wall into the stomach and feed the cat a liquid diet this way.

I love my cat, but I can't be there every three hours to feed him through the tube for a month. Something about work and deadlines and such. So I went to a local supplus house and got a tiny motor driven pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every rotation of the pump shaft. The stamp turns on the pump for on a single rotation at intervels programable from the controll switches on top. An alarm buzzer and LED flash if the pump fails to run for any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this better than the 100ml feeding every three hours.

==========
Title : Logic Rudder [# 002]
==========
Date : 950812
Author: Christer Johansson
E-mail: cj@hth.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.hth.com/filelibrary/BS1-IC/

Description :

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

==========
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]

```
==========================================================================
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de
--------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A
--------------------------------------------------------------------------
Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via
RS232 2400bps the stamp is asked to measure channel numbern. After
conversion the result will be returned to the host computer as an
ascii string (0 .. 4096). Conversion rate is about 4 measures per
second.

==========================================================================
Title : Scrolling LED Sign [# 004]
==========================================================================
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org
--------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html
--------------------------------------------------------------------------
Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the
prototyping area of a Basic Stamp rev D. A scrolling alphanumeric
message moves one pixel at a time, just like real scrolling LED
signs, except this one only displays one full letter or portion of
two letters at a time as the message moves by.

==========================================================================
Title : Tone Decoder [# 005]
==========================================================================
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org
--------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html
--------------------------------------------------------------------------
Description :
```

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

```
=========================================================================
Title : Pager [# 006]
=========================================================================
Date : 950928
Author: Don McKenzie
E-mail: donmck@labyrinth.net.au
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : http://www.labyrinth.net.au/~donmck
-------------------------------------------------------------------------
Description :
```

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigg- er) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110" means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a short period, then hanging up, the Stamp will dial your Pager and report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user wishes to add enchancements such as "Multiple Ring-In's" say within a minute, for a command selection, there is plenty of program space left.

```
=========================================================================
Title : HexWalker Mobile Robot [# 007]
=========================================================================
Date : 960511
Author: Tom Thornton
E-mail: mandtsys@ix.netcom.com
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A
-------------------------------------------------------------------------
Description :
```

HexWalker is a hexapod robot that exhibits obstacle avoidance behavior. It is controlled by BASIC Stamp, BS1-IC, or Stamp chipset

(PIC16C65 + EEPROM). Driven by three servos it is the simplest machine architecture that can walk forward and backward, and turn left or right. A kit is commercially available contact author for details.

==========
Title : Robo Bug [# 008]
==========
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn

Description :

Using two stamps, a robot with six legs (2 degrees of freedom each) was able to walk and turn (at this stage, not very gracefully).

==========
Title : EXPBOT Robot controlled by Stamp [# 009]
==========
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it

Description :

This program allows a cool robot to move abound a room in search of light. Like a moth. Simple program changes can dramatically change the robots behavior.

==========
Title : Andrews Ever Evolving Lego Robot [# 010]
==========
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com

Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts

Description :

Currently the robot can only navigate to the brightest light source in a room. It's current operation mode has four major steps: - Scan a 180 Degree Field of "Vision" taking light level readings, and determining the brightest direction of light. - Decide if it needs to turn left, right, or continue moving forward. - Check for collision with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

==========
Title : Factory Monitoring System [# 011]
==========
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

```
=============================================================================
Title : Wave to the Cats/Desk Temperature [# 012]
=============================================================================
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com
-----------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp
-----------------------------------------------------------------------------
Description :

The Stamp has a serial connection to web server, a cardboard hand, a
servo motor to move the hand, and a DS1620 thermostat chip to meas-
ure the temperature. The web server can request the current temper-
ature or start the hand waving. See the web page for the source code
for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it
entertaining.

=============================================================================
Title : Gamer's Die Roller [# 013]
=============================================================================
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com
-----------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A
-----------------------------------------------------------------------------
Description :

The Gamer's Die roller is a little thing I am putting together as my
first Stamp Project. The Roller allows cumulative rolls of n dice up
to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random
numbers off of. Input is achieved via a Grayhill model 38 keypad
and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8
character smart display (5x7 LED characters) fed by two 74HC164
serial to parallel shift registers cascaded so I can use Shiftout to
feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random numb-
er generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
```

```
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop
```

This gets (pseudo) random numbers whose average is not skewed downwards by the counter's max of 256 (i.e. a 100 sided die is not affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 = sum of 3 ten sided dice), the user can input whatever combination they wish, including just 'd6' for one six sider. The keypad I have has removeable keycaps with legends, so I have 0-9 plus 'd' and '=' on them.

As noted earlier, since I am using an 8 bit counter, the maximum die size is 256, although that could be fixed easily by sampling two, three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy to e-mail it to any who want it.

```
==========================================================================
Title : Stamp II Serial I/O [# 014]
==========================================================================
Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov
--------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com
--------------------------------------------------------------------------
Description :
```

A bare-bones demonstation of 2 way serial communications between a PC running Qbasic and 1 or more Stamp II's.

```
==========================================================================
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
==========================================================================
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu
--------------------------------------------------------------------------
Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A
--------------------------------------------------------------------------
Description :
```

An IDer based upon the MORSE program. Has 4 time delays as well as
a random time delay. Circuitry includes selection of a voice id
using the Radio Shack 10 voice board or the Walden bookstore 10 sec
talking gift card. This is a very simple circuit and program but was
developed by my students under my direction.

May be of interest to someone out there.

```
========================================================================
Title : Lift (elevator) Controller [# 016]
========================================================================
Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com
------------------------------------------------------------------------
Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A
------------------------------------------------------------------------
Description :
```

A simple control loop monitoring lift Call buttons (with debounce)
and Limit switches, forbidding manual control past limits, and en-
forcing a Stop before reversal of direction. This will be used in
an owner -designed and -built single story platform lift for a home.

```
========================================================================
Title : Paging with the Stamp [# 017]
========================================================================
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com
------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A
------------------------------------------------------------------------
Description :
```

Use the Stamp to monitor several inputs, two temperature and two
contact closures in this application. When inputs go outside set
limits, dial pager and send coded message. Used to monitor power
failures and temperatures for computer and network equipment since
August 1994, running on 9 V power supply from one of the UPS units.

```
========================================================================
Title : Switching Sytem [# 018]
========================================================================
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net
```

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

I'm almost finishing a Basic Stamp Based Switching System (Small Phone system) which I consider very usefull for small companies that cant'n afford other brands. This is designed with a host computer which will have a vox-mail and all the functions like big ones to choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small Intelligent Switching phone system up to 2 Lines and 4 Extensions using the L.C.D serial circuitry for information display. I forgot to mention that the computer (Host for many processing functions) will be running under Windows 3.1 and Windows 95, making this way a usefull computer not only for the phone system but for ithers application at the office.

Please be free to send me E-mail, about any suggestion.

==========
Title : Door Entry Card Reader [# 019]
==========
Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A

Description :

Stamp 1 based version of the Card Reader article by J J Barbello as described in the August 1995 edition of Electronics Now. This version uses the Stamp 1 as a local controller determining the card number and deciding whether or not to allow door opening. Optional serial comms back to a master controller and optional local message readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit schematic and listing available.

==========
Title : Telephone Card Reader [# 020]
==========
Date : 960119

Author: Francesco Volpe
E-mail: f.volpe@ee.mu.oz.au

Stamp model : BS2-IC Module
Code available: YES
Filename : TELEMARK.LZH
URL : ftp://ftp.ix.de/pub/elrad/010/

Description :

The BS-II is used to read a German telephone card, which is a smart card. For more details see the German Electronic Magazine ELRAD (http://www.ix.de/el).

The data is transfered via RS232 to any terminal program.

==========
Title : DTMF Decoder [# 021]
==========
Date : 960125
Author: Joe Altieri
E-mail: radioman@banished.com

Stamp model : BS2-IC Module
Code available: YES
Filename : DECODE.BS2
URL : N/A

Description :

A new parallax BASIC Stamp II program for decoding a nine digit DTMF sequence of "Touch Tones" for remote activation/de-activation of any electrical appliance via Ham Radio, radio link, telephones, intercoms, etc.

==========
Title : Ion chamber radiation monitor [# 022]
==========
Date : 960125
Author: Jeffrey L. Rothman
E-mail: rothman@bnlls1.nsls.bnl.gov

Stamp model : BS1-IC Module
Code available: YES
Filename : RADMON12.BAS
URL : N/A

Description :

A Basic Stamp monitors the operation of an ion chamber radiation detector. The ion chamber and related circuitry produce a signal with a frequency proportional to the dose rate. The Stamp measures

the frequency and calculates the dose rate and total integrated dose.

The results are displayed on a log scale panel meter and an LCD respectively. The dose rate is also transmitted over RS-232 to a remote PC.

A Front panel button allows the user to reset the total integrated dose. Another button allows the audio alarm to be muted at low dose rates.

```
==========================================================================
Title : Barn Monitor [# 023]
==========================================================================
Date : 960203
Author: Lynn A. Roth
E-mail: lynnr@hesston.edu
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
--------------------------------------------------------------------------
Description :
```

The Barn Monitor checks the temperature in 5 rooms of a farrowing house. The temperatures are taken by DS1620 chips.

If the temperature goes outside the limit set by the farmer, the Stamp dials a pager using a 2400 baud MODEM. The same occurs if the power goes out.

```
==========================================================================
Title : Dallas one-wire interface [# 024]
==========================================================================
Date : 960212
Author: Daniel G. Clemmensen
E-mail: dgc@shirenet.com
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.shirenet.com/~dgc
--------------------------------------------------------------------------
Description :
```

As part of a furnace controller project, I've interfaced A Stamp II to a string of Dallas 1820 digital thermometers. The interface consists of three cheap IC's and some subroutines. A design note and a demo program are available on the web. I have successfully tested the interface with a string of twelve 1820's.

I have not yet tested it with other one-wire devices, although I
will update my web site when I do.

==========
Title : Sculpture control [# 025]
==========
Date : 960323
Author: Pierre Olivier
E-mail: olipie@aei.ca

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : N/A

Description :

I have been working with sculptors for some time doing control cir-
cuits for their works using 555 (limited), industrial controllers
(expensive and hell to program) and lately Basic Stamp.

Our latest piece deals with image deconstruction: it consists of 20
vertical cylinders on which an image is wrapped. Each has a photo
detector to detect "position zero", and a custom basic stamp board
with a MC3479 step motor driver that drives a step motor which turns
one cylinder. Each cylinder can thus have its own routine which pos-
itions it precisely (400 steps/rev motors) where we want it for any
amount of time, at any speed (very interesting sonically at sub-
second stepping speeds!).

The stamp outputs direction, step and enable signals to the motor
driver and a ready signal to a common line. It receives signals from
the aforementionned ready line, and from the optical sensor.

It would have been quite a bit more complicated, bulkyer and
expensive to implement this project without the stamp.

==========
Title : Commercial clothes dryer controler [# 026]
==========
Date : 960401
Author: J Amy
E-mail: Kuznjack@aol.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : N/A

Description :

Detects drop of coin and increments time remaining register.
Actuates main and heat relays. Checks temperature, and controles

heat relay Periodically decriments time remaining register. Provides cool down cycle in last four minits.

Replaces original controler which costs several hundred dollars, and is not reliable.

==========

Title : Morse Code Keyer [# 027]

==========

Date : 960415
Author: Richard Clemens
E-mail: clemens@academ.wvwc.edu

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.ccue.org/stamps/morse2_bs2.html

Description :

This program provides a four message keyer for Amateur Radio. The user can input four different messages, their character counts, and use four buttons to display the output and/or key a transmitter.

NB: the messages are limited to the upper and lower case letters, digits 0-9, space, period, comma, ? and /

Program is based on the information in Stamp I - Note 8 and uses some code from that note.

==========

Title : Traffic Light Controller [# 028]

==========

Date : 960418
Author: M-Systems Inc.
E-mail: mstems@aol.com

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

We have used a BS1-IC to control a simple two way intersection coordinate the timing and switching of a traffic light at a two way traffic intersection.

==========

Title : Automotive Lamp Control [# 029]

==========

Date : 960427
Author: Ron Woodward

E-mail: RWoodward@gnn.com

Stamp model : BS2-IC Module
Code available: N/A (Will share concepts)
Filename : N/A
URL : N/A

Description :

This system involved connecting two BS2 units to a bank of 28 MOSFET drivers which controled the external lighting in a demonstration vehicle shown at the SAE expo in Detroit MI.

The lighting control had to perform PWM modulation simultaniously on 10 different circuits while controling Turn, Stop, Tail, Backup Hi Beam, Low Beam and fog lamp circuits with a set of preprogrammed timing sequences.

The timing was worked out so that the PWM of the lamps was flicker free throughtout the demonstration sequence.

The BS2 units worked together in a master - slave relationship to maintain proper sequencing of lights on both hands of the vehicle.

==========
Title : Single Switch Scanning Device for Disabled [# 030]
==========
Date : 960508
Author: Chuck Benson
E-mail: Chuck%6567006@mcimail.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

This project modifies a Lanier VoiceWriter dictation device so that it can be operated by a person with a severe disability such as quadriplegia.

The interface to the device is via the VoiceWriter's hand contro-ller. The connections to the external switches are removed and replaced with switch closures via reed relays driven directly by the PIC's (BASIC Stamp's) I/O.

The user starts operation of the device by operating a SPST switch (typically with his or her cheek or jaw). The user then hears a series of five (5) tones which come from a piezo-electric speaker driven directly from an I/O pin.

The tones correspond to 'Play', 'Stop', 'Record', 'Rewind','Fast Forward'. When the desired tone is heard, the user activates the switch again and a relay corresponding to that function is closed. This in turn provides the desired function from the dictation device.

The code is a series of nested loops that provide the tone & the relay selection. Copies of code are available upon e-mail request.

==========
Title : Bell timer for school bell control [# 031]
==========
Date : 960511
Author: David Abineri
E-mail: dabineri@tso.cin.ix.net

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

This is a sytem which allows flexible control of bell schedules for schools. One may program up to seven different schedules of 30 different times each. Data entry is with a small keypad. Indicators show the schedule currently being used and the day of the week.

Users may instantly select which schedule to follow and may even enter a special schedule in a matter of a minute or so. The system simply operates a relay that rings all the bells in the building. Editing schedules is allowed as well as manual operation.

==========
Title : RIMS controller for beer making [# 032]
==========
Date : 960802
Author: C.D. Pritchard
E-mail: cdp@chattanooga.net

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://caladan.chattanooga.net/~cdp/index.html

Description :

Controls mash temperature on a recirculation infusion mash system (RIMS) and also controls the sparge water tank temperature. Uses thermistors to monitor temps- 2 on the RIMS and 1 in sparge water tank.

Controls AC power supply to two 1500W heaters via optoisolators/
zero-crossing driven triacs. Setpoints are entered via 4 keys.
Elapsed times, temperatures, setpoints and heater statuses are
displayed on a 2x16 LCD. Sends data via RS232 to a PC for logging
and analysis.

==========
Title : Stamp 1 and ISD 25XX Sound Chip Application [# 033]
==========
Date : 960605
Author: Ed Buckley
E-mail: ed@Milinst.demon.co.uk

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

Interfacing the Stamp 1 and the ISD 25xx series sound chips to give
an intercative demonstration of the Stamp's ability. The ISD 25xx
chips allow recording and playback of a number of discrete messages
up to a total of 90 seconds long.

The Stamp is used in this application to control the chips activities
in Operational Mode- message cueing. The Stamp looks for one of four
buttons to be pressed and then controls the ISD chip to play the
approprate message.

Great for simple demonstration boards exhibitions etc.

==========
Title : Camera Wireless Controller [# 034]
==========
Date : 960611
Author: David Kazdan
E-mail: dxk10@po.cwru.edu

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

My need was to put a Canon Rebel XS under radio remote control that
separated out the focus function (button half-press) and shutter
release (button full-press). Solution was to use off-the-shelf model
radio control equipment and a BASIC Stamp.

Stamp plugs into the R/C receiver and decodes one channel. Stamp
output is two transistors wired to a subminiature stereo plug which

plugs directly into the Canon. Many other cameras have similar
interfaces.

```
================================================================================
Title : Simple Battery Check using the BS2-IC [# 035]
================================================================================
Date : 960613
Author: Beau Schwabe
E-mail: bschwabe@ionet.net
--------------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : Se below
--------------------------------------------------------------------------------
Description :

External Components:

.01uF "ZTR" capacitor (Zero Temp Response)
100K Resistor

Directions:

1 - Connect the CAPACITOR and RESISTOR in parallel.
2 - Connect one side of the RC to Vin
3 - Select an available pin on the BS2 for the other
side of the RC.

Program:

Battery var byte

Start:
low {pin#}
rctime {pin#},0,Battery
Debug home,? Battery
goto Start

Typical Results:

85 - Fresh 9 Volt Battery
220 - Low 9 Volt Battery

Note:

Number INCREASES as Battery weakens...

================================================================================
Title : Photocell MIDI Controller [# 036]
================================================================================
Date : 960501
Author: Matt Rogalsky
E-mail: matt@lo-cal.music.wesleyan.edu
```

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://lo-cal.music.wesleyan.edu:8000/device.html

Description :

"Light Harp" photocell MIDI instrument: an aluminum triangle with 6 photocells in base and built in light source at apex. BS2-IC reads photocells via multiplexer (NS CD4051BC) into 8-bit A/D (NS ADC0831, a la Parallax application note).

For each photocell, if light falls below a given threshold, a MIDI note-on message is sent out pin 15 of stamp. Photocell then won't reset until threshold is exceeded again.

This simple instrument was built at STEIM in Amsterdam to use with the STEIM SensorLab, then adapted at Western Front, Vancouver, to work with the BS2.

==========
Title : DCF-Clock [# 037]
==========
Date : 960628
Author: Gerrit Polder
E-mail: g.polder@cpro.dlo.nl

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : DCF.BAS
URL : E-mail author

Description :

This application interfaces a dcf receiver module to the BASIC Stamp. The dcf module receives time information from the standard time transmitter in Mainflingen (Germany).

The basic stamp converts this information to rs-232. Each second it output's a complete time string at 2400 bps. A description of this application can be found in Elektuur 7/8 1996.

==========
Title : Radio-controlled Digital Clock [# 038]
==========
Date : 960628
Author: Ian Harries (project supervisor)
E-mail: ih@doc.ic.ac.uk

Stamp model : BS2-IC Module
Code available: N/A

Filename : N/A
URL : http://www.doc.ic.ac.uk/~ih/teaching/radclock.html

Description :

This student project was completed very successfully.

The objective was to program the BASIC Stamp II to continually
decode the data from a radio receiver tuned to the time signal
broadcast by the National Physical Laboratory in Rugby (UK).

The resulting time and date information was to be displayed and
updated on an LCD panel.

Check out the WWW page for more information.

==========
Title : Weather Station I [# 039]
==========
Date : 960701
Author: Christer Johansson
E-mail: cj@hth.com

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : Soon to come

Description :

This weather station is able to measure temperatures from -55 to 125
degree C, wind speeds from 0-50 m/s and wind directions from 0-360
degrees and sends the results via an RS-232 compatible interface to
a PC running a companion program written in Visual BASIC.

The VB program running on the PC polls the BASIC Stamp at regular
intervals and performs corrections and average calculations as well
as presentations and logging of the measured weather data.

==========
Title : Private Aid To Navigation [# 040]
==========
Date : 960701
Author: Bill Bohan
E-mail: wlb@why.net

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A

Description :

On inland lakes and intercoastal waterways the US Coast Guard may determine that a privately owned structure such as a Dock, Port, Breakwater, Barge, etc. may require visibility at night. The purpose being for Navigation, Safety, and Legal Liability.

I modelled my own PATON (Private Aid TO Navigation) after professionally made units. A remote, battery powered, solar recharged flashing light.

Whats adds to the complexity is that the Coast Guard may require a very irregular flashing pattern that may not be standardized by regular counting ICs.

Because of remote locations, lack of maintenance visits, multiple lamps with a lamp changer is necessary. This means that while only one lamp flashes the pattern, it is measured between flashes to verify the filament is good. If not, an alternate lamp is chosen.

At 5000+ hours per lamp, using Electric Vehicle deep cycle batteries and SOLAREX solar panels (12V @ 1A each), a very reliable system can be made for a few hundred $$. Professionally made PATONs are much less in substance and average $2000. for a very basic unit!

==========
Title : Stamp II in Space [# 041]
==========
Date : 960716
Author: Mel Torrie
E-mail: mel@gas.physics.usu.edu

Stamp model : BS2-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

The stamp was used in the control of a growth experiment on the last flight of the Space Shuttle Endeavor (May 19). The experiment was to

determine the feasability of growing food in outer space, i.e. not in a pressurized cabin.

The Stamp II turned on heaters and controlled motors and solenoids to water the experiment at the specified time. It then took temperature measurements of the growth chamber and surroundings through a Maxim serial 12-bit ADC and stored the data in the EEprom every half hour.

It also sampled the battery voltage and when a threshold was reached, it self-terminated. The Stamp performed as planned and we were able to download the data at the Kennedy Space Center through our terminal software.

Our experiment was part of a NASA program called the Get Away Special
which gives students the opportunity to gain hands-on experience with
the space program.

==========
Title : MAT32 long integer math routines [# 042]
==========
Date : 960726
Author: Francesco Bonomi
E-mail: f.bonomi@agora.stm.it

Stamp model : BS2-IC Module
Code available: YES
Filename : MAT32_06.BS2
URL : N/A

Description :

A set of binary long integer math routines, with the following
approximate timings (for 32-bit numbers):

addition 0.05 secs
subtraction 0.05 secs
multiply 0.1 secs
divide 4 secs <--- No, it's not a typo!

The routines work with numbers that are 24, 32, 40 or 48 bits long.
More than this, I run out of memory.

If you don't need multiplication and divide, you will have room for
up to 56 bits. Changes for a larger precision might include storing
the multiply buffer in EEPROM, this makes ense if you need to
multiply one variable number by a large, constant number.

Divide is terribly slow, but BTW, being a Stamp-Basic implementation
of a sort of floating point divide, you can esily change it to have
fractional (fixed-point?) results.

A set of BCD routines is also available, but no division!

==========
Title : Distinctive Ring Detector [# 043]
==========
Date : 960801
Author: J. Gary Sparks
E-mail: sparks@indy.net

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PULSIN2C.BAS
URL : N/A

Description :

The STAMP moniters the ringing of a telephone line which is "filtered" through a retriggerable monostable 74hct123. The STAMP determines whether a 2 second ring has occured (which is a normal ring) or a .8 second ring or a .4 second ring (which is an option available through most phone companies called "Distinctive Ring" or some other such name) has occured.

The STAMP then turns on a relay to connect a given device to the phone line. This allows one phone line to connect to several devices selectively without the addition. of a second line. Each ring pattern is rung by a different phone number, so different phone numbers can be routed to different devices

==========

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope it suffices to say "Thank you to all who have contributed to L.O.S.A - we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support this great products !

If there is anything you think I've missed (or spelled wrong <g>) I would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@hth.com

Stay tuned,

/Christer

Copyright (c) 1996 HTH. All rights reserved. Parallax, BASIC Stamp, and PBASIC are trademarks of Parallax, Inc. PIC is a registered trademark of Microchip Technology, Inc. Other brand and product names are trademarks or registered trademarks of their respective holders.

-=-=-=

72. Re: Please Help with 10GHz Microwave Gunn Diode Assembly

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug4.210420.603@main03>
Source record: 103552

In article <4u37un$rp@hptemp1.cc.umr.edu>, sidener@crunch.nuc.umr.edu (Scott Sidener) writes:
> Hi, I need some help fixing a Microwave Associates 10GHz Gunn diode
> assembly.
[snip]
> If anyone has any specs or advice on obtaining another Gunn diode or the
> correct orientation, I would appreciate any help I could get.
> I was told that one of these assemblies cost around $500 new, and I don't
> have that kind of "hobbie" money avaliable. So I would like to fix the
> one I have.
>
> Thanks,
>
> Scott Sidener N0WFL
> sidener@umr.edu

Scott,
SHF Microwave Parts Company sells replacement Gunn diodes.
They are $9 each. Not cheap, but cheaper than a new Gunnplexer. Perhaps
these will be usable in your unit.

Address is:
7102 W 500 St.
La Porte, IN 46350

Sorry, no phone listed.

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

73. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-04 00:00:00 UTC
From: george.tamayo@infosoftpub.com
Message-ID: <52113045@infosoftpub.com>
Source record: 103553

```
' Can't ' should have an apostrophe.
D(>I'm with you Bill, I think this does need to end. I also agree with the
D(>remarks about spelling too. I did not know I was going to graded by
D(>self appointed English Teachers while on the News Groups. Cant wait to<<<
D(>get my report card!
D(>
D(>duane AB4BE
D(>
D(>
***
George M. Tamayo - WD6EJO
---
* PowerAccess 1.10 The food here is terrible and the portions are too small.
```

74. http://www.msoft.it/noaa95/

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: aef@p90.msoft.it
Message-ID: <4u3bqs$8td@server-b.cs.interbusiness.it>
Source record: 103554

http://www.msoft.it/noaa95/

NOAA95 - HRPT program

Abstract: In this page you will find some info to build by yourself a
low cost ground station to receive HRPT images. All the software and
hardware are homemade by Roberto Ferrari and Enrico Falconelli and are
not intended for commercial purposes but for personal use only.

best regards! Enrico. <aef@p90.msoft.it>.

75. Re: QRP Schematic Archives

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: dhhogan@lightside.com
Message-ID: <3204de6d.3998704@netnews.lightside.com>
Source record: 103555

hrsil@flinet.com (KE4WBW) wrote:

> I was just wondering if there were any sites ftp or www related to QRP
>design and building that any one would recomend?
> thanks!
>--
>Henry Silvia hrsil@flinet.com
>{KE4WBW} WPB. FLA
>
Try: ftp.lehigh.edu

You may also want to join QRP-L , the QRP mail list.

Send a message, no subject required to:
listserv@lehigh.edu

On the first line of the body type:
SUBSCRIBE QRP-L your_name your_call

No signature.

You will be subscribed and get an acknowledgement back
read and save this.

Dan Hogan WA6PBY
dhhogan@lightside.com
Grid: OM84wc QRP-L #558

76. MFJ 1292 Video Digitizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: rekoss@ix.netcom.com
Message-ID: <4u3ngj$ic@dfw-ixnews8.ix.netcom.com>
Source record: 103556
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I splurged at the Jacksonville Hamfest this weekend, and picked up a video digitizer, MFJ's "Picture Perfect" Model MFJ-1292. I installed the board and software (v3.2) and fired it up. Now comes the problem: The program seems to be working properly, and seems to be responding to the camcorder. At least it knows when the camcorder is "on" or "off". Unfortunately, when I try to capture the video, nothing happens. The program says it is capturing video, but nothing ever gets into RAM. I have checked the specs, and the camcorder output signal is just what the MFJ board is (supposedly) looking for. Suggestions or comments would be appreciated - please E-Mail to rekoss@ix.netcom.com, or to kossr@edl1.ksc.nasa.gov. Thanks !

77. Re: Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: Joe Fitter BV/N0IAT <FITR%mimi@magic.itg.ti.com>
Message-ID: <320657E3.1A4D@magic.itg.ti.com>
Source record: 103557
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Eric M. Brombaugh wrote:
>
> In article <4tvn76$4st@cc.iu.net>, wnewkirk@iu.net (Bill Newkirk) wrote:
>
> > it might be an interesting idea to set up banks of
> > remotely controlled receivers that could be listened to
> > with one of the "real time audio" formats...
>

> Using this config, anyone with a web browser could grab my scanner and listen
> to what's in the air in Phoenix. Now the question is "Who cares?" Plus,
> I'd have to set up a web server on my Mac, leave it running and on the net
> all day. Sounds like a project for someone with an existing server.
>
> Interesting idea though.

Another thought -- just use IPHONE. Although it would be a 1-at-a-time
deal, it would be easy to do. FWIW, I've been talking to a group of
hams back in the USA via IPHONE and some control software called
REPEATER LINK. I can even access their repeater phone patch using a
midi DTMF simulator to place local calls to my folks. Of course, this is
not exactly private since the call goes over the repeater, but it sure beats
paying 3 bucks per minute for a quick phone call back to the states.

Talked with some other guys using CW via iphone....sure works better since
propagation is lousy.

Lots of neat applications using IPHONE....check them out.

73, Joe dit dit

Amateur Radio: BV/N0IAT Taipei TAIWAN Republic of China

ex. 7J1AOF (Japan) YU3/N0IAT (Slovenia) KA0ZDH (Novice)
Licensed Radio Amateur since 1986. Comments are mine only.
---

78. ISO design ideas for 1 Watt 14 MHz sine generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: fgrieu@micronet.fr
Message-ID: <fgrieu-0508961012360001@news.micronet.fr>
Source record: 103558
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I'm seeking design ideas for a 1 Watt 14 MHz sine generator
with the following specs :
- 1 Watt output into 50 Ohm load (20 V peak-peak)
- any harmonics 50 dB below 14 MHz fundamental
- 100 ppm frequency tolerance => start from a crystal
- no (or few) adjustment
- reasonable efficiency (60% ?) from 24V DC power supply

Thanks in advance for your ideas.

Francois Grieu - fgrieu@micronet.fr

79. Surplus & used rigs in San Francisco ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: kurt@ksode.pp.fi
Message-ID: <4u4luj$em8@idefix.eunet.fi>
Source record: 103559

I'll be visiting San Fracisco the second week in September and would like to visit some Surplus Electronics Stores there or in the Bay Area.

What is there???

Any good places for second hand Rigs in that area?

Please answer in this Newsgroup or personnally to:

kurt@ksode.pp.fi

OH2JVS

80. Re: ISO design ideas for 1 Watt 14 MHz sine generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: hill@rowland.org
Message-ID: <4u4rro$785@shore.shore.net>
Source record: 103560
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Francois Grieu, <fgrieu@micronet.fr> said...
>
>I'm seeking design ideas for a 1 Watt 14 MHz sine generator
>with the following specs :
>- 1 Watt output into 50 Ohm load (20 V peak-peak)

The Maxim MAX038 is a good sine-wave generator, after it warms up! Your
10V amplitude signal will require a 900V/us slew rate opamp plus a
200mA, 900V/us slew rate driver. The ELANTEC EL2030 may be a good opamp
choice and the EL2008C and EL2009C buffers can both supply 1Amp
with over 2500V/us slew. These will provide a tunable source.

Or you may prefer a tuned gain and power output stage.

--
Winfield Hill hill@rowland.org
The Rowland Institute for Science
100 Edwin Land Blvd.
Cambridge, MA USA 02142-1297

81. Re: N6GN Microwave Data Link

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4u52il$2ej@canyon.sr.hp.com>
Source record: 103561
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

John Clark (clarkjc@craft.camp.clarkson.edu) wrote:
: I was just about to start putting one of these together with
: modifications for 10 Mbps operation when I noticed that my schematic and
: the receiver board artwork didn't seem to match. I have a copy of
: _Packet: Speed, More Speed, and Applications_, but I just recently found
: out that the receiver board schematic is incorrect in many places. I

I only know of three errors, are there more? Add a bypass on Vbb, pin
11 of the 10116, add a bypass on the quadrature coil and change the
decoupling inductor on the varicap to a large value resistor.
None of these values are particularly critical, .01-.1 uF and 100K
should be fine.

: - John (N3IFG)

: P.S. Thanks to everyone who knew where to find those SRA-1 mixers.
: Sorry, I didn't get to respond to everyone personally, though (my
: current news server tends to drop posts....)

Don't overlook the SBL-1, it is often about half the price and works
just fine in the application.

Glenn n6gn

82. Re: Minimum channel spacing@2mtrs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <32066FA6.5DE6@nando.net>
Source record: 103562

Jack Taylor wrote:
> Recently a rival club installed a 144.93 node just 100 ft away from
> our clubs 145.01 MHz packet node. The ARRL VHF manual suggests that
> a horizontal antenna separation of 1 mile or more is required to
> avoid desense at a 600 KHz repeater pair. In this case, we are only
> dealing with a 80 KHz frequency separation. Our node is using a
> Micor radio. The 144.93 radio is running 5 watts.
>
> The other club insists there will be no desense to our node. Does anyone
> on this group have practical experience on what minimum frequency
> spacings should be when radios are operated in the immediate physical
> location?
>
> 73 de Jack

Hi Jack. Unfortunately, at only 80 khz separation, you'll need a _lot_ of horizontal separation...there will be desense (a boat load!) in your applications. I doubt if you can even find a tower tall enough to support vertical separation. They, being the newer kid on the block, need to move to the upper end of the band, maybe around 147.54ish (not being familiar with the digital plan in your area).

Another problem is equipment. You mentioned you're using a commercial rig (micor) for the node. You won't generate too much wide-band noise with your tx...but...if they're using a modern synthesized rig, they'll probably drive you nuts (even if they move to a distance where you don't bother them!) with their tx. I had a similar problem where a synthesized node was freaking out one of the repeaters I maintain. There aren't enough cavities on earth to clean up some synthesized tx's.

I think 100' horizontal separation might work if:

1- They also use a commercial TX,
2- They locate their TX as far as possible from you,
3- They move to the opposite end of the band,
4- You may still need 1 notch cavity on each system to notch out the other tx.

Just my $.02 based on similar experience.

As a side note, I maintain a 220 repeater site where a local VHF packet node is installed. The node is a conventional 2 meter synthesized rig. I had to install 1 2 meter notch cavity on the 220 repeater (!) to eliminate desense..whew...

73 es good luck!
--
Dave Hockaday Wb4iuy
wb4iuy@nando.net

http://www.webbuild.com/~wb4iuy/teara.html
(alternate)http://www.geocities.com/TheTropics/3341/
http://www.RTPnet.org/~fcarc/
(alternate)http://www.geocities.com/TheTropics/3212/
http://www.webbuild.com/~wb4iuy/
(alternate)http://www.geocities.com/TheTropics/3489/
http://www.geocities.com/TheTropics/3349/
http://www.RTPnet.org/~rdrc/

83. COLLINS RAdio for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: FXGT86A@prodigy.com
Message-ID: <4u5hk7$ngq@useneta1.news.prodigy.com>
Source record: 103563

SUBJECT: Collins Radio Station For Sale

-
HENRY FRANZREB FXGT86A@PRODIGY.COM
1961 Collins Radio 75S-3 Recvr 32S-1 Trans 312B-4 Stacntrl 516F-2
Power

84. Photovoltic Cells

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: Beau Winburn <jems@dbeach.com>
Message-ID: <3206960A.4720@dbeach.com>
Source record: 103564

Has anyone got a source for used PV Cells? I am trying to construct a
12V charging system.
thanks

85. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: dpm3@seanet.com
Message-ID: <dpm3.1202.00267F9A@seanet.com>
Source record: 103565
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article vbook@vbook.com (Ed Mitchell) writes:

:>The FCC has issued new rules regarding the evaluation of RF Emissions and
:>health effects from all transmitters. As always, the devil is in the details
:>and the details say that if you transmit over 50 watts, you may have
:>to perform an RF emissions environmental assessment of your Amateur station.

Thanks, Bill! Thanks, Hillary!, Thanks, (the late) Ron Brown! Thanks,
Daschle and Gephardt! Thanks psuedo-science enviro-hystricals! You gotta love
it don't you, folks?

==========
"I distrust a close-mouthed man. He generally picks the wrong time
to talk and says the wrong things. Talking is something you can't do
judiciously unless you keep in practice"
- Casper Gutman, The Maltese Falcon
==========

86. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: jones@San-Jose.ate.slb.com
Message-ID: <4u5sl2$llh@k9.San-Jose.ate.slb.com>
Source record: 103566

Just Me (kproctor@ix.netcom.com) wrote:
[...]
: There is no longer ANY commercial or military usage of CW.

Blanket statements like this are dangerous. Many commercial repeaters/
two way radio systems use CW ID. It's less disruptive of "traffic" than
a voice ID'er, and it is easy to automate to conform to the 10 minute
rule.

So there IS commercial usage of CW.

--
Disclaimer: The opinions expressed above are mine and not those of Schlumberger
because they are NOT covered by the patent agreement!

Phone: (602) 345-3638 Internet: jones@San-Jose.ate.slb.com
Packet:(not currently available) RF: KI7TU ICBM: 33 20' 44"N 111 53' 47"W
Snail: Clark Jones, Schlumberger Technologies, 7855 S. River Pkwy #116, Tempe,
AZ 85284-1825

87. how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-05 00:00:00 UTC
From: robert <nix@gate.net>
Message-ID: <3206BCE1.4324@gate.net>
Source record: 103567
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Could someone point towards info on how to broadcast on FM radio.
I've heard it called free radio or pirate radio. Does that mean it's
illegal (how illegal:)? What makes it illegal (in florida)? Where can I
buy the equipment? What would I need to buy? I just want to transmit 5
to 10 miles and just music (mostly my own and my friends music so as not
to violate copyrights or whatever).

--

____
robert mailto:nix@gate.net

88. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: mikef@pacifier.com
Message-ID: <4u7vsb$nl8@news.pacifier.com>
Source record: 103484
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4u644o$5l3@news.accessone.com>,
Ed Mitchell <vbook@vbook.com> wrote:
>
>While the ruling does place additional rules and compliance
>issues upon Amateur Radio stations, I'd guess that having a
>federal standard will help to prevent lots of local
>municipalities from creating their own, usually ill
>considered regulations on RF emissions.
>
Interesting point. You may be right. Still, it irritates me that FCC has
any questions on RF emissions and safety other than the usual "why
should you not hang onto an antenna when someone's transmitting a gallon
on it?". While at microsave frequencies and above (and, perhaps, at high
UHF), disastrous things can happen when humans get in the way of
high-powered RF fields, I am not at all certain (learned ptomes on this
newsgroup to the contrary notwithstanding) that RF emissions pose a
serious hazard at VHF and below. Certainly the Novice question-pool
question as to why one should keep the rubber duck antenna of a HT away
from one's head when transmitting seems to me not to be proper exam
material in that IMHO the jury is still out on RF problems at VHF and
below.

I know, at least, that I've used HTs with rubber ducks for over twenty
years and haven't noticed a thing other than the financial drain of buying
battery packs!

<<Asbestos suit on>>
--
Mike Freeman | Internet: mikef@pacifier.com
Amateur radio: K7UIJ | GEnie: M.Freeman11
/* PGP2.6.2 PUBLIC KEY available via finger or PGP key server */
.. Ask not for whom the <^G> tolls.

89. Protecting tubes with thyratrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Aug6.135151.25948@ucl.ac.uk>
Source record: 103485

Hi,
has anyone any experience of protecting tubes agains flashovers, by using a thyratron to cut the HT off rapidly in the event of a flashover ? I've seen such a scheme mentioned in some Burle (formally RCA) application notes and are considering it. Suffice it to say, I think I can lay my hands on a thryatron cheaply - the leftovers of an old PhD project here.

I dont suppose I would bother if the tube is cheap/plentiful, but if one has an expensive tube that is pretty much irreplacable on cost grounds, this might be worth considering.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

90. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <4u7o1o$6b7@vixen.cso.uiuc.edu>
Source record: 103486

In a previous article, jones@San-Jose.ate.slb.com (Clark Jones) says:

>Just Me (kproctor@ix.netcom.com) wrote:
>[...]
>: There is no longer ANY commercial or military usage of CW.
>
>Blanket statements like this are dangerous. Many commercial repeaters/
>two way radio systems use CW ID. It's less disruptive of "traffic" than
>a voice ID'er, and it is easy to automate to conform to the 10 minute
>rule.
>
>So there IS commercial usage of CW.
>

Yes indeed! Tune your receiver around 8600 kHz some evening. I found about 10-15 stations last night sending CW "idling" messages, and then a few actually sent text messages (fairly long) in CW (these were commercial messages, to ships I assume).

There aren't as many as there were 20 years ago, but some of the standards (WCC, WOO, CLN etc) seem to be still active on CW.

Zack W9SZ

--
"You can't be optimistic with a misty optic" - Rex Luscus

91. Interface help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: tcrismre@iquest.net
Message-ID: <4u7j2s$fcg_001@ind-007-237-45.iquest.net>
Source record: 103487

I have a Ten-Tec Paragon with a RS232 interface. So far I have been unable to find software to control the rig. With a term program I can control functions with ASCII charters and get feedback when requested. I want to control the rig form Windows 95. I was wondering if anyone had some ideas to help me do this. What I would like to do is make my own .BMP pictures that when I click on a portion of it this would send the commands to the rig.

92. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4u83e9$3rs@nnrp1.news.primenet.com>
Source record: 103488
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

I just want to know how to check if I comply or not. I downloaded the
PDF from the FCC, and the measurements listed there are WAY above me.
Is there a chart available for this?
I'm not too concerned because I only exceed 50W on 10M (100W), but
would still be interesting to know.

Rob Neff (N7ORY)

93. Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: kjhales@aol.com
Message-ID: <4u7ph5$d3g@newsbf02.news.aol.com>
Source record: 103489

A digital guy wants to build an analog DC receiver and has the following questions:

1) Audio amplifiers
The best op-amps I have run across have about 0.5uV input noise in a 3KHz band when driven from 100 ohms. Can I reasonably expect to do better with a discrete design? Or are other limits in the system going make improvement useless?

2) Audio Phase shifters
I have seen two types of phase shifters. One is a massive wad of R and C with 2 inputs driven 180 deg. out of phase. The other is a 6-pole active filter with an op-amp per 2 poles. All examples I've seen fail to give the theoretical values for the components, but present values that have already been rounded off. Does anyone have details on how to calculate the values of R and C for a phase shifter? Or exact values for some of the published circuits? Are 8-pole circuits practical, or do the component tolerances get too tight? Most circuits are designed for 300Hz-3KHz; can this be stretched a bit (say, 200-4K)?

3) LO phase shifter
Suppose I have a LC oscillator. Can I tap 2 points on the inductor and get signals 90 deg. apart? Assuming tuning is done with the capacitor (L is fixed), will the phase shift be constant over freq?

In case you wonder why I want to do this, my day job is DSP and I am a heretic at heart. The reference materials I have on hand are the Handbooks from ARRL and RSGB.

Thanks for any help

Kevin Hales

94. Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: tim_shearer@mk.com
Message-ID: <4u83g4$6al@esgadm.esg.mk.com>
Source record: 103490

I always find myself with my face right down near a circuit board trying to solder or un-solder some microsized surface mount part or something. I therefore breath a lot of solder/rosin smoke. Is this bad for your health? Is there lead in the smoke?

Anyone know? Maybe others also are curious?

Tim

95. CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960806134328704 32@zetnet.co.uk>
Source record: 103491

> This is a bunch of cr*p. The "NO CODE" Tech has allowed the HAM numbers
> to grow. With growth comes more representation and business. What
> would happen if HAM numbers start to decline as they were in the
> past? There is safety in numbers regardless of how one obtains a
> HAM license. If you do not believe this just look at the recent
> FCC Bands on the selling block.

> I'm always amazed at this self-serving attitude. Regardless of anyones
> opinion the truth of the matter is that a "NO CODE" Tech exists
> today and was backed by a majority. How about coming down off the
> pedestal and joining the rest of us "Sub Standard People"!

> Gary-
============comments GM0CSZ / KN6WH
Fully support Gary's point of view
Although I very much enjoy CW and hope some spectrum will always be
left for CW operation , wanting to maintain the code requirement as a
requisite for access to the HF bands ,while code is no longer used by
the non-amateur community , highlights a dinosaur atttitude for which
IMHO is no longer place in today's world . Afterall it's 1996 , no
longer 1956.
Let those who wish to operate CW enjoy it ,but let's not force it
upon people who are interested in other aspects of our common hobby.
Let's all move forward in a real world. As a bonus we then will
possibly be able to keep the spectrum currently allocated to the
amateur service.

Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

96. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug6.185614.19046@ke4zv.atl.ga.us>
Source record: 103492
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4u7flm$mun@news.halcyon.com> gfiber@halcyon.com (Gary Fiber) writes:
>
>This could get real interesting. Since the article says the station location
>and all occupants are in a controlled enviroment. They consider neighbors and
>such to be uncontrolled. I wonder what will happen if a neoghbor comes down
>with some mysterious illness like cancer and notices he has been bombarded with
>electromagnetic radiation from your station all these years could he hold the
>operator liable because he had knowledge of the EPA guidelines of RF radiation
>?.

You bet. The lawyers will love this. But you can be sure that the
manufacturer of the radio will be sued too. Remember the deep
pockets rule. General aviation was nearly ruined because the deep
pockets rule meant that the aircraft manufacturer was always sued
when some pilot did a stupid thing and hurt someone. The legal
theory was that the manufacturer should have built the plane so
that the pilot's stupidity couldn't cause an accident. Same logic
applies here.

>Also I wonder what the FCC intends to do with all the land mobile equipment
>as most all is 100 watts. The article implies a mobile station operating over
>50 watts could also not be in compliance with the guidelines..

Worse than that, Gary, the 50 watt exemption only applies to *amateurs*.
It does not apply to other classes of licensees. They've got to certify
compliance at *any* power level. Note that "push to talk" *radios* are
exempted from certification by their *manufacturers*, but *stations* using
such radios are not. The *licensee* is still responsible for seeing that
his station operates in compliance with 47 CFR 1.1307, 1.1311, and 1.1312.

However, Part 90 *portable* radio stations are categorically exempted.
I'm not sure the FCC considers "mobile" rigs to be "portable" radio
stations. If not, *each* installation must be certified. Otherwise,
they're exempt *regardless* of power level. Cops always seem to be
"more equal" under the law than you or me.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

97. Need antenna solution for 1969 Vette

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: Dan Newby <newbyd@omniview.com>
Message-ID: <32077AD3.4F01@omniview.com>
Source record: 103493

I'm looking for an antenna solution for a 1969 Vette. Of course I don't want to drill any holes and an on the glass mount won't work on the rag top.

I've been thinking about putting an antenna in the factory hole for the am-fm antenna. I can put some aluminum tape on the inside of the body panel for a ground plane. But then the problem is I don't have an antenna for the stereo.
Has anyone seen any duplexers that would let me use one antenna for the ham bands and the bradcast stuff as well? If they made a low pass section that cuts off at 110mhz and a high pass at about 140mhz, it would be perfect.

Does anyone have any good ideas?

Thanks,
Dan Newby
WD4LUR
newbyd@omniview.com

98. NEW PRACTICAL ELECTRONICS WEBZINE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: "N.Hampshire" <nickh@emags.u-net.com>
Message-ID: <4u8c3f$g4m@nuntius.u-net.net>
Source record: 103494

Electronics on the Web - is a new practical electronics webzine
for everyone with an interest in electronics. You can find us on:

http://www.emags.com/electron.htm

Nick Hampshire, Editor

99. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: jbaltz@news.cs.columbia.edu
Message-ID: <4u7vec$n56@play.cs.columbia.edu>
Source record: 103495

In article <4u7o1o$6b7@vixen.cso.uiuc.edu>,
Zack Widup <w9sz@prairienet.org> wrote:
>In a previous article, jones@San-Jose.ate.slb.com (Clark Jones) says:
>>Just Me (kproctor@ix.netcom.com) wrote:
>>: There is no longer ANY commercial or military usage of CW.
>>So there IS commercial usage of CW.
>Yes indeed! Tune your receiver around 8600 kHz some evening. I found

If you're ever lucky enough (!) to ride in the front car of a NYC subway
train, listen at the motorman's door and you can hear the NYC subway
repeaters ID in CW.

Very fast CW, but CW.

Please respect the Followup-to: line.

>Zack W9SZ

//jbaltz
--
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@cs.columbia.edu jbaltz@scisun.sci.ccny.cuny.edu KE3ML

100. Re: Protecting tubes with thyratrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4u8fjc$fjh@peabody.colorado.edu>
Source record: 103496

There is also the Plasma Kinetics copper vapor laser. It uses a big thyratron to discharge about a 1000 pF cap (at 20 kV) through the plasma - at 5 kHz rep rate (!) - and then uses a small thyratron EVERY pulse to protect the big thyratron from damaging ring-induced reverse biasing.

Bruce
N6URH

101. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: MATT FISHER <WW4Z@worldnet.att.net>
Message-ID: <4u8h1e$q6a@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 103497
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Ah! Ah! Have you tried calling the FCC for information?

102. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4u8cko$3cc@ka4ybr.netmha.com>
Source record: 103498

As I understand it Morse is the prescribed mode for satellite uplink
transmitters to id.
All uplinks are required to do this.
(commercial)

In article <4u7o1o$6b7@vixen.cso.uiuc.edu>,
Zack Widup <w9sz@prairienet.org> wrote:
>
>In a previous article, jones@San-Jose.ate.slb.com (Clark Jones) says:
>
>>Just Me (kproctor@ix.netcom.com) wrote:
>>[...]
>>: There is no longer ANY commercial or military usage of CW.
>>
>>Blanket statements like this are dangerous. Many commercial repeaters/
>>two way radio systems use CW ID. It's less disruptive of "traffic" than
>>a voice ID'er, and it is easy to automate to conform to the 10 minute
>>rule.
>>
>>So there IS commercial usage of CW.
>>
>
>Yes indeed! Tune your receiver around 8600 kHz some evening. I found
>about 10-15 stations last night sending CW "idling" messages, and then a
>few actually sent text messages (fairly long) in CW (these were
>commercial messages, to ships I assume).
>
>There aren't as many as there were 20 years ago, but some of the
>standards (WCC, WOO, CLN etc) seem to be still active on CW.
>
>Zack W9SZ
>
>--
>"You can't be optimistic with a misty optic" - Rex Luscus
>

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
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103. Re: Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4u8m4p$emj@optional.cts.com>
Source record: 103499

Kjhales (kjhales@aol.com) wrote:
: A digital guy wants to build an analog DC receiver and has the following
: questions:

: 3) LO phase shifter
: Suppose I have a LC oscillator. Can I tap 2 points on the inductor
: and get signals 90 deg. apart? Assuming tuning is done with the
: capacitor (L is fixed), will the phase shift be constant over freq?

To get a 90 deg phase shift over a wide freq range, the easiest way
is to have the LO at 4 times the desired freq. The LO output goes
to a flip/flop and divides the freq by 2. The two F/F outputs, Q and Q/
each got to another F/F. the Q outputs of the last two F/F's will be 90
degrees apart.

104. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: Jon Bloom <jbloom@connix.com>
Message-ID: <3207E2A6.2392@connix.com>
Source record: 103500
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Peter A. Klein wrote:
>
> Before people go ballistic over this, let's get the facts. Can someone

See http://www.arrl.org/news/rfsafety/

--
Jon Bloom, KE3Z
jbloom@connix.com

105. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: pklein@news.seattleu.edu
Message-ID: <4u89l1$fd0@handel.seattleu.edu>
Source record: 103501
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Before people go ballistic over this, let's get the facts. Can someone find out what these rules actually say about amateur stations, if anything? What does "MAY" have to perform an RF environmental assesment mean? Does this apply to sporadic transmissions like ham stations, or only constant emissions like broadcast, cellular, relay towers, etc. Are frequencies taken into account in any way (certain parts of the VHF, UHF, and microwave spectrum have much greater potential for biological impact than HF or other frequencies. Is there a certain distance from an antenna to the nearest house, etc. that would exempt most of us? Also, don't all proposed new rules have to go through a comment process?

There already are "environmental impact" rules about antenna structures, and 99.9% of hams just check a "No" box on Form 610 and get on with their lives.

I'm sure the ARRL, not to mention many commercial organizations, would raise quite a squawk if every user of a 50+ watt transmitter in the U.S. had to file Love Canal-style paperwork. This would involve every police and fire department in the country, for starters.

73,
Peter - KD7MW

>In article vbook@vbook.com (Ed Mitchell) writes:
>
>:>The FCC has issued new rules regarding the evaluation of RF Emissions and
>:>health effects from all transmitters. As always, the devil is in the details
>:>and the details say that if you transmit over 50 watts, you may have
>:>to perform an RF emissions environmental assessment of your Amateur station.
^^^^^^^
Dan Morisseau <dpm3@seanet.com> wrote:

> Thanks, Bill! Thanks, Hillary!, Thanks, (the late) Ron Brown! Thanks,
>Daschle and Gephardt! Thanks psuedo-science enviro-hystricals! You gotta love
>it don't you, folks?

--
Peter A. Klein (pklein@seattleu.edu) : ------==3== --- ---
Information Services, ext. 5569 : | | | | | | | |
Seattle University : @| @| @| @| @| @| @| @|

106. Re: FS Homebrew amp parts & tubes. [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: wiley@interaccess.com
Message-ID: <wiley.13.00432598@interaccess.com>
Source record: 103502

In article <3207641d.33863681@news.santafe.edu> jpotter@jpaw.com (Jim Potter) writes:
>From: jpotter@jpaw.com (Jim Potter)
>Subject: Re: FS Homebrew amp parts & tubes. [hombrw.txt] (1/1)
>Date: Tue, 06 Aug 1996 15:27:40 GMT

>kk5dr@io.com wrote:

>>begin 644 HOMBRW.TXT

<Big Snip>

>Doesn't look to readable to me. What's the secret?

>de K9GXC, Jim

The "key" is in the name of the file: "HOMBRW.TXT."

If you "Extract" the file with your news reader program and save
it to your hard drive, you can double-click (from File Manager), or
view it under any of the Microsoft programs that work with .TXT files.
Trumpet News Reader will automatically display the .TXT file after
you have extracted it. It works the same way as when extracting and
viewing .JPG (and other specialized) files.

73,

Bill - WA9NHQ

107. Re: CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: John P Smith <ki4ro@mnsinc.com>
Message-ID: <32083114.1664@mnsinc.com>
Source record: 103503

Frank Dinger wrote:
>
> > This is a bunch of cr*p. The "NO CODE" Tech has allowed the HAM numbers
> > to grow. With growth comes more representation and business. What
> > would happen if HAM numbers start to decline as they were in the
> > past? There is safety in numbers regardless of how one obtains a
> > HAM license. If you do not believe this just look at the recent
> > FCC Bands on the selling block.
>
> > I'm always amazed at this self-serving attitude. Regardless of anyones
> > opinion the truth of the matter is that a "NO CODE" Tech exists
> > today and was backed by a majority. How about coming down off the
> > pedestal and joining the rest of us "Sub Standard People"!
>
> > Gary-
> ============comments GM0CSZ / KN6WH
> Fully support Gary's point of view
> Although I very much enjoy CW and hope some spectrum will always be
> left for CW operation , wanting to maintain the code requirement as a
> requisite for access to the HF bands ,while code is no longer used by
> the non-amateur community , highlights a dinosaur atttitude for which
> IMHO is no longer place in today's world . Afterall it's 1996 , no
> longer 1956.
> Let those who wish to operate CW enjoy it ,but let's not force it
> upon people who are interested in other aspects of our common hobby.
> Let's all move forward in a real world. As a bonus we then will
> possibly be able to keep the spectrum currently allocated to the
> amateur service.
>
> Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
> e-mail : gm0csz.kn6wh@ukrs.org
> Packet : GM0CSZ @ GB7NOS.#76.GBR.EUI'd rather have quality than quantity myself. Most of
the repeaters I
listen to in the Washington DC area sound like a bunch of CBers anymore.
My 2m mobile rig has been relegated to the glove box in case I ever need
it to report a traffic problem, other than that I'll probably not take it
out of the glove box anytime soon. I know we need to move forward, but
making the testing and the requirements easier and easier has generated,
in my opinion, a lot of hams who could care less.

73
John

108. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <320831F2.13C0@wenzel.com>
Source record: 103504

I doubt if there is much lead but the smoke is far from "healthy". Try placing a small fan to one side. A slight breeze is all that is needed to keep the smoke out of your face. You can even "whistle while you work" (blow gently) while you solder. If you do a lot of soldering you may wish to get a HEPA air filter or some ventilation for the room. More fancy approaches include vacuum pickup devices - either a whole-bench pickup similar to the hood on your stove or a little pipe at the tip of the iron with a vacuum system exhausting to the outside. We used the little pipe technique for several years and it works great but the vacuum pump is difficult to aquire and tended to get clogged with flux due to lots of users. You can find suitable constant-duty pumps in some larger computers or copiers at the local junk yard. They are used for forced-air cooling, in most cases. I also have a computer fan mounted in a Bud box with a vacuum cleaner hose. The fan "sucks" air into the box and out the hose. Just place the box near the back of your work and away go the fumes out the window (or hole in the wall, in my case)! Disregarding the health factors, such a system is still worth making for your general comfort level.
Charles

109. QRP homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: anders.ostlund@mbox200.swipnet.se
Message-ID: <4u8e6v$hmu@mn5.swip.net>
Source record: 103505

If your interested in reading about me building a Sierra kit, look at

http://www.geocities.com/CapeCanaveral/2773

73 de Andy

110. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug6.180710.18828@ke4zv.atl.ga.us>
Source record: 103506
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4u644o$5l3@news.accessone.com> vbook@vbook.com (Ed Mitchell) writes:
>In article <4u2uvk$8bd@news.accessone.com>, vbook@vbook.com says...
>>The FCC has issued new rules regarding the evaluation of RF Emissions and
>>health effects from all transmitters. As always, the devil is in the details
>>and the details say that if you transmit over 50 watts, you may have
>>to perform an RF emissions environmental assessment of your Amateur station.
>>Under the new rules, the FCC will add five more questions on RF safety to
>three
>>of the written exams. Amateur radio operators will be required to certify as
>>part of their license application, under an as yet unspecified mechanism, that
>>they understand the FCC rules on this issue. In some situations, certain
>>Amateurs may have to file a complex "Environmental Assessment" better known as
>>an Environmental Impact Report regarding their Amateur station operation.
>
>CORRECTION
>Contrary to our first reading, it does not appear likely
>that any hams will be subjected to filing EIRs. Word to the wise:
>Don't read government legal opinions while your 9 year old daughter is
>holding a big birthday party with a crowd of 9 year olds :)
>
>While the ruling does place additional rules and compliance
>issues upon Amateur Radio stations, I'd guess that having a
>federal standard will help to prevent lots of local
>municipalities from creating their own, usually ill
>considered regulations on RF emissions.

An EA filing would be required if a station is out of compliance with
the new exposure rules and wishes permission to operate anyway. Without
a complex, costly, and time consuming EA (and favorable FCC action,
frankly unlikely), an amateur station *must* be brought into compliance
with the new rules by Jan 1 1997.

This is likely to affect a considerable number of amateurs. I'd
suggest most amateurs running more than 50 watts who use an indoor
antenna are out of compliance. And those using low outdoor antennas
may have to install fences with access interlocks before being able
to crank the power back up over 50 watts.

OTOH, if your antenna is more than 10 meters above any horizontal
surface where a person might stand, and you're running no more
than 1,000 watts ERP (that's your output power minus feedline
loss and plus antenna gain), you're probably Ok. You'll need to

evaluate each situation, however, to be sure you are in compliance, this is only a very crude rule of thumb, and not sufficient to assure compliance (your MPE might still be too high in the above scenario depending on antenna type and orientation). The chart in Appendix B of the report and order gives the allowable limits for controlled and uncontolled exposures at various frequencies (exposure limits are different for different frequency ranges).

The controlled exposure numbers are the limits for *your* exposure. The uncontrolled exposure numbers (much lower) are the exposure limits for any member of the general public due to your transmissions. This latter number is likely to cause problems for those operating in apartments or condos. (The numbers are approximately 30 times lower than the previous ANSI limits the FCC has used in the past for licensees not exempted, IE broadcasters. Amateurs *were* exempted, but no more if they run 50 watts or more.)

If we follow the good amateur practices of mounting our antennas as high and in the clear as possible while running the minimum power necessary for communications, many of us will be Ok. The problems are going to arise for those using indoor antennas, low outdoor antennas in access uncontrolled areas, and for those with close neighbors or public throughfares. HF mobile operators are going to have to be particularly careful. Operating in a parking lot, or in heavy traffic, could easily put you out of compliance unless you drop your power to below 50 watts. There aren't many VHF+ mobile operators running more than 50 watts, so most of them will be exempt. Those who are running 50 watts or more, however, are going to have to take steps to limit exposures.

People running glass mount antennas are almost certainly out of compliance with even the controlled exposure limits, but remain exempted if they're running less than 50 watts. That's not a good reason to still be suffering excess exposures, however, and prudence would suggest getting rid of that glass mount and drilling that hole in the roof like I've been urging you to do for years.

Repeater owners may be in particular trouble if their site isn't controlled access (and even if it is if the *combined* exposure from all sources on the site exceed the controlled exposure limit). In the latter case, *everyone* will have to shut down any time maintenance at the site is to be performed (or suitable protective clothing will have to be worn by the maintenance personnel entering the area). This is a *biggie* folks, and may limit amateur access to many places where we've traditionally sited repeaters. The site owner is going to be held primarily responsible for seeing the exposure limits aren't exceeded, and they're going to turn a fish eye on amateurs trying to cadge a free site. (Get your "moon" suits now, it may be the only way you'll be allowed onto many sites.)

Note, we don't have to file an EA unless our station is out of
compliance and we want to operate it anyway. But we *do* need
to do the measurements or calculations showing that our station
is in compliance with the exposure limits if we run more than
50 watts. This information must be kept with our station records,
and be available for FCC inspection at any time.

Some of the limits are going to be hard to measure. For MPE, above
30 MHz there aren't any trustworthy instruments available. The
FCC is going to allow us to measure the Volt/meter field and
calculate the MPE from that. For well characterized antennas,
the FCC will also let us depend on computer simulation calculations.
For SAR limits, that's the only prudent way.

Hardware gurus need to be designing suitable instrumentation for
us to make sure we're in compliance (and suitable field calibration
techniques to assure us the instruments are trustworthy). Software
gurus need to give us computer programs to model exposures. Both
of these are going to be tough tasks if they're to work in the
real world where our stations operate, and not in some idealized
free space.

Remember, we have to have documentation on file with our station
records showing that we are in compliance before we can run 50
watts or more. 49.99 watts may wind up being the new defacto
amateur power limit if we can't come up with reliable hardware
and software to document that we're in compliance with the new
exposure limits.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

111. Re: QRP Schematic Archives

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: John P Smith <ki4ro@mnsinc.com>
Message-ID: <3208322B.4CD1@mnsinc.com>
Source record: 103507

Dan Hogan wrote:
>
> hrsil@flinet.com (KE4WBW) wrote:
>
> > I was just wondering if there were any sites ftp or www related to QRP
> >design and building that any one would recomend?
> > thanks!
> >--
> >Henry Silvia hrsil@flinet.com
> >{KE4WBW} WPB. FLA
> >
> Try: ftp.lehigh.edu
>
> You may also want to join QRP-L , the QRP mail list.
>
> Send a message, no subject required to:
> listserv@lehigh.edu
>
> On the first line of the body type:
> SUBSCRIBE QRP-L your_name your_call
>
> No signature.
>
> You will be subscribed and get an acknowledgement back
> read and save this.
>
> Dan Hogan WA6PBY
> dhhogan@lightside.com
> Grid: OM84wc QRP-L #558Hey Dan,
Here's a couple of sites for you to check out:

http://www.duke.edu/~djohnson/
http://www.fix.net/~jparker/norcal.html

72
John KI4RO

112. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: dpm3@seanet.com
Message-ID: <dpm3.1204.001EAF59@seanet.com>
Source record: 103508
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article pklein@news.seattleu.edu (Peter A. Klein) writes:

>Before people go ballistic over this, let's get the facts. Can someone
>find out what these rules actually say about amateur stations, if
>anything?

To my thinking the real, immediate problem is that IF the amatuer station has to file an EIS, that gives every neighbor and enviro-busybody an invitation to object, delay and appeal the "construction" of the station. Out here on The Left Coast, that practically guarantees a group of hystericals and allies from The Birkenstock Brigade adding their 2 cents worth to every station they decide is a "risk". Remember how ham radio got pilloried by KING-TV, Channel 5 when the neighbors set on sacrosanct magnolia Hill had problems. I can't wait for that old rag Jean Ennerson to find this issue to crusade on.

==========
"I distrust a close-mouthed man. He generally picks the wrong time
to talk and says the wrong things. Talking is something you can't do
judiciously unless you keep in practice"
- Casper Gutman, The Maltese Falcon
==========

113. motorola ht600e help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: rd.johnson@ukonline.co.uk
Message-ID: <4u8c06$ajg@morse.ukonline.co.uk>
Source record: 103509

looking for a copy of programming software for the ht600e hndheld and info.
Can anyone help thankyou.

114. Latest SSTV Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: johnl@world.std.com
Message-ID: <Dvoxrs.8Fz@world.std.com>
Source record: 103568

```
See http://www.ultranet.com/~sstv/ezsstv.html for
details and download instructions.
```

115. FS HB parts & tubes, etc. (updated) (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4u67uc$g40@nntp-1.io.com>
Source record: 103569

PLEASE READ THIS ATTACHMENT;

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
REQUIRED, to listen to it !"

116. FS HB parts & tubes, etc. (updated) [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4u67uj$g40@nntp-1.io.com>
Source record: 103570
Body handling: Inline uuencoded payload not displayed: HOMBRW.TXT

```
[Inline uuencoded payload not displayed: HOMBRW.TXT]
```

117. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <3206f382.0@mothra.westworld.com>
Source record: 103571

Spelling Ah yes:

In the world of academic excellence, and achievement, spelling is important. However in the real world of making a living it's toned down a bit to " If you can read it, "it's spelled right"

Jay

118. Minimum channel spacing@2 mtrs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: n2ucn@wa2soc.ampr.ORG
Message-ID: <925@wa2soc.ampr.org>
Source record: 103572

> Date: 4 Aug 96 21:36:02 GMT
> From: n7oo@azgate.nj7p.ampr.ORG (Jack Taylor)
> Subject: Minimum channel spacing@2mtrs
>
> Recently a rival club installed a 144.93 node just 100 ft away from
> our clubs 145.01 MHz packet node. The ARRL VHF manual suggests that
> a horizontal antenna separation of 1 mile or more is required to
> avoid desense at a 600 KHz repeater pair. In this case, we are only
> dealing with a 80 KHz frequency separation. Our node is using a
> Micor radio. The 144.93 radio is running 5 watts.
>
> The other club insists there will be no desense to our node. Does anyone
> on this group have practical experience on what minimum frequency
> spacings should be when radios are operated in the immediate physical
> location?
>
> 73 de Jack

Jack,

There is no hard and fast rule since numerous variables are involved. Things like antenna gains, bearings and heights and feed line losses are important factors.

Assuming a conservative rejection of 70 dB at 80 KHz spacing for your receiver, -130 dBm useful sensitivity for your receiver and 36 dBm (5 watts) transmit output (and no feedline loss), then -135 + 70 - 36 = 96 db of isolation is required.

If the two antennas are half wave dipoles (0 dBd gain) at the same height, there would be 41 dB of isolation between them given 100 ft (15.2 wavelengths) separation on 2 meters. This is less than one-half the isolation required.

If the two antennas have more gain and are oriented (by height or bearing seperation) so that the two radiation patterns tend not to overlap the isolation will be increased. However, it is unlikely that the required additional (96 - 41 = 55 dB) isolation would be obtained in this way with certainty. It may *possibly* be obtained by painstaking location of either antenna so that the antennas are in each other's nulls in radiation patterns.

Of course, cavity filters could easily provide the required additional isolation.

Chuck

****** Vote Harry Browne, Libertarian for U.S. President ******
amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

119. Re: ISO design ideas for 1 Watt 14 MHz sine generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: hill@rowland.org
Message-ID: <4u75s2$klu@shore.shore.net>
Source record: 103573
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Winfield Hill, <hill@rowland.org> said...
>
>Francois Grieu, <fgrieu@micronet.fr> said...
>>
>>I'm seeking design ideas for a 1 Watt 14 MHz sine generator ...
>
>The Maxim MAX038 is a good sine-wave generator, after it warms up!

NOT! OK, I admit it: I got carried away with the analog opamp-style parts! The -038 has 200 ppm/degC typ drift and is clearly unsuited for a 100ppm task, as Francois asked, wheras likely any old crystal will exceed that spec.

>10V amplitude signal will require a 900V/us slew rate opamp plus a
>200mA,... driver. ELANTEC EL2030 opamp ...and EL2008C /09C buffers...

Ditto. Only a tuned class-C conventional RF output stage has the potential to meet Francois' 60% efficiency goal! ;-)

--
Winfield Hill hill@rowland.org
The Rowland Institute for Science
100 Edwin Land Blvd.
Cambridge, MA USA 02142-1297

120. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4u644o$5l3@news.accessone.com>
Source record: 103574
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4u2uvk$8bd@news.accessone.com>, vbook@vbook.com says...
>
>The FCC has issued new rules regarding the evaluation of RF Emissions and
>health effects from all transmitters. As always, the devil is in the details
>and the details say that if you transmit over 50 watts, you may have
>to perform an RF emissions environmental assessment of your Amateur station.
>Under the new rules, the FCC will add five more questions on RF safety to
three
>of the written exams. Amateur radio operators will be required to certify as
>part of their license application, under an as yet unspecified mechanism, that
>they understand the FCC rules on this issue. In some situations, certain
>Amateurs may have to file a complex "Environmental Assessment" better known as
>an Environmental Impact Report regarding their Amateur station operation.
>
>You can read the complete text of the relevent FCC ruling in FCC 96-396 at
>Ham Radio Online magazine, available on the Internet at:
> http://206.13.40.11/
>(we had to move to a new server and are waiting for InterNIC to move our
>www.hamradio-online.com domain name to the new server)
>

CORRECTION
Contrary to our first reading, it does not appear likely
that any hams will be subjected to filing EIRs. Word to the wise:
Don't read government legal opinions while your 9 year old daughter is
holding a big birthday party with a crowd of 9 year olds :)

While the ruling does place additional rules and compliance
issues upon Amateur Radio stations, I'd guess that having a
federal standard will help to prevent lots of local
municipalities from creating their own, usually ill
considered regulations on RF emissions.

We corrected the web article shortly after posting on Usenet
(which you can retract once posted). Oh well.

Ed, KF7VY

--

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at

http://www.hamradio-online.com

121. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: mike_luther@ziplog.com
Message-ID: <4u7s06$cp4@news.myriad.net>
Source record: 103575
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In <4u644o$5l3@news.accessone.com>, vbook@vbook.com (Ed Mitchell) writes:
>In article <4u2uvk$8bd@news.accessone.com>, vbook@vbook.com says...
>>
>>The FCC has issued new rules regarding the evaluation of RF Emissions and
>>health effects from all transmitters. As always, the devil is in the details
>>and the details say that if you transmit over 50 watts, you may have
>>to perform an RF emissions environmental assessment of your Amateur station.
>>Under the new rules, the FCC will add five more questions on RF safety to
>three
>>of the written exams. Amateur radio operators will be required to certify as
>>part of their license application, under an as yet unspecified mechanism, that
>>they understand the FCC rules on this issue. In some situations, certain
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>>an Environmental Impact Report regarding their Amateur station operation.
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>>You can read the complete text of the relevent FCC ruling in FCC 96-396 at
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>>
>
>
>CORRECTION
>Contrary to our first reading, it does not appear likely
>that any hams will be subjected to filing EIRs. Word to the wise:
>Don't read government legal opinions while your 9 year old daughter is
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>
>While the ruling does place additional rules and compliance
>issues upon Amateur Radio stations, I'd guess that having a
>federal standard will help to prevent lots of local
>municipalities from creating their own, usually ill
>considered regulations on RF emissions.
>
>We corrected the web article shortly after posting on Usenet
>(which you can retract once posted). Oh well.
>
>Ed, KF7VY
>
>

>--
>------------------------
>Ed (KF7VY) and Kim (N7VPL) Mitchell
>email to vbook@vbook.com
>Visit Ham Radio Online, it's free! at
>http://www.hamradio-online.com
>

Interesting play anyway Ed and Kim. I went to the FCC server and got down the whole 1 meg Word Perfect 5.1 file anyway. Haven't read it yead, but I will. It probably is close to the ANSI standard stuff that is already in the ARRL handbook and not a bad view of life anyway. Actually, if you look at the charts and do some real thinking, the curves and distances for you to use in plotting "safe" spacing between you and your antennae, they are not all that unreasonable. When laying out my more recent antenna arrays on low band stuff for the vertical arrays, I did the check runs for the space required by the new projected standards and my operating position.

What I found was interesting from a far different perspective! Considering that feed line lengths are part of the limiting factor on how far away you can afford to go to get to an antenna and the higher the frequency is, the shorter your pocket book gets, a curious thing happens.

There is so much interaction between vertical arrays and other vertical arrays that are higher than them then the whole business of how far away they have to be from the shack is somewhat moot! If you lay out a plant with anything like the right minimal spacing so that the bigger and taller arrays don't tear up the shorter higher frequency fellers, the spacing from the user is so far above the proposed new standards that they are, in effect, meaningless.

To keep a 160 meter vertical from tearing up an 80 meter 4 square array takes about 600 feet of lateral space separation.......

Plot it all out with MN or whatever.. You'll be surprised. It takes real work to figure out how to hold interaction down without spacing separations like that...

After having worked in the broadcast business as well as being a ham, I really don't want to put an indoor loop antenna in my appartment and then feed 2KW PEP into it, nor do I want to put a three element beam on a roof top rotator right above me in the attic and toss 2KW PEP into that either. Surely running the limit on RTTY that way must make it worse even by common sense.

The charrts that are there are interesting. Mobile unit field levels are also interesting when you take a look at what is happening there.

High power VHF stuff does present hazards...

For you to have simply gotten the attention of some people and perhaps piqued their interest in the issue, may have helped..

Mike @ W5WQN

122. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4u7qbl$ml6@nnrp1.news.primenet.com>
Source record: 103576
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

gfiber@halcyon.com (Gary Fiber) wrote:

It won't be long before our stools must be tested to comply with EPA emissions standards. Why don't they just skip right to the end result, and declare everything to cause cancer. Then we can sue everyone for being a contibutor to our demise. Problem with that is, there would probably be an environmental fee attached to whatever you are awarded, so the government and enviro-weirdos can sleep easier at night knowing you can't spend it on waste-producing polutants.

New Surgeon Generals warning label:

"The Surgeon General has determined that prolonged brain usage may cause cancer, premature aging and death. Try not to think, live longer."

Rob Neff (N7ORY)

123. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: mike_luther@ziplog.com
Message-ID: <4u7sfb$cp4@news.myriad.net>
Source record: 103577
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In <4u7flm$mun@news.halcyon.com>, gfiber@halcyon.com (Gary Fiber) writes:
>vbook@vbook.com (Ed Mitchell) wrote:
>
>>The FCC has issued new rules regarding the evaluation of RF Emissions and
>>health effects from all transmitters. As always, the devil is in the details
>>and the details say that if you transmit over 50 watts, you may have
>>to perform an RF emissions environmental assessment of your Amateur station.
>>Under the new rules, the FCC will add five more questions on RF safety to three
>>of the written exams. Amateur radio operators will be required to certify as
>>part of their license application, under an as yet unspecified mechanism, that
>>they understand the FCC rules on this issue. In some situations, certain
>>Amateurs may have to file a complex "Environmental Assessment" better known as
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>> http://206.13.40.11/
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>>-------------------------
>>Ed (KF7VY) and Kim (N7VPL) Mitchell
>>email to vbook@vbook.com
>>Visit Ham Radio Online, it's free! at
>>http://www.hamradio-online.com
>
>This could get real interesting. Since the article says the station location
>and all occupants are in a controlled enviroment. They consider neighbors and
>such to be uncontrolled. I wonder what will happen if a neoghbor comes down
>with some mysterious illness like cancer and notices he has been bombarded with
>electromagnetic radiation from your station all these years could he hold the
>operator liable because he had knowledge of the EPA guidelines of RF radiation
>?. Also I wonder what the FCC intends to do with all the land mobile equipment
>as most all is 100 watts. The article implies a mobile station operating over
>50 watts could also not be in compliance with the guidelines..
>
>Gary
>

Oh knowledge of the affair isn't really required! Product liability, for example
transcends all reasonable sane limits for time elapsed on that, with or without

knowledge.

I am familiar with one lawsuit now going on where the product involved was built in 1978. The claim is the gate design on a cattle trailer was defective and the user had the gate come open last year and the cows fell out and caused a massive traffic accident.

Allegations seem to be that because the design was copied from another product back in 1963, it is really not the copiant that may have the final liability, but the party from which the design was COPIED!

For millions of dollars in claimed damages.....

:)

Mike @ W5WQN

124. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <4u7flm$mun@news.halcyon.com>
Source record: 103578
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

vbook@vbook.com (Ed Mitchell) wrote:

>The FCC has issued new rules regarding the evaluation of RF Emissions and
>health effects from all transmitters. As always, the devil is in the details
>and the details say that if you transmit over 50 watts, you may have
>to perform an RF emissions environmental assessment of your Amateur station.
>Under the new rules, the FCC will add five more questions on RF safety to three
>of the written exams. Amateur radio operators will be required to certify as
>part of their license application, under an as yet unspecified mechanism, that
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> http://206.13.40.11/
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This could get real interesting. Since the article says the station location
and all occupants are in a controlled enviroment. They consider neighbors and
such to be uncontrolled. I wonder what will happen if a neoghbor comes down
with some mysterious illness like cancer and notices he has been bombarded with
electromagnetic radiation from your station all these years could he hold the
operator liable because he had knowledge of the EPA guidelines of RF radiation
?. Also I wonder what the FCC intends to do with all the land mobile equipment
as most all is 100 watts. The article implies a mobile station operating over
50 watts could also not be in compliance with the guidelines..

Gary

125. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: dougd@lrbcg.com
Message-ID: <4u7gpr$lr6@news.dx.net>
Source record: 103579
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

robert <nix@gate.net> wrote:

>Could someone point towards info on how to broadcast on FM radio.
>I've heard it called free radio or pirate radio. Does that mean it's
>illegal (how illegal:)? What makes it illegal (in florida)? Where can I
>buy the equipment? What would I need to buy? I just want to transmit 5
>to 10 miles and just music (mostly my own and my friends music so as not
>to violate copyrights or whatever).

>--
>_____________________
>robert mailto:nix@gate.net

Robert send a $1 to:

Pan-Com International
P O Box 130
Paradise CA 95967-0130

(916) 534-0417

They have a lot of equipment & kits for FM low power
broadcast stations.

Doug

____
Protect Yourself & Your Family - No One Else Will!
Doug's Personal Defense Products
http://lrbcg.com/dougd

126. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: rchappel@eag.unisysgsg.com
Message-ID: <4u7tjs$e4i@email.tds-eagan.lmco.com>
Source record: 103580

>. . . snipped . . .
> : There is no longer ANY commercial or military usage of CW.
> Blanket statements like this are dangerous. Many commercial
repeaters/
> two way radio systems use CW ID. It's less disruptive of "traffic"
than
> a voice ID'er, and it is easy to automate to conform to the 10 minute
> rule.
> So there IS commercial usage of CW.
> --
>. . . snipped . . .

By the way - when last I looked air navigation aids such as VORs,
TACANs, ILSs, VORTACs were still identified with CW identifiers.

Bob Chappelear
AB0CI
& Airline Transport Pilot Certificate 1665484

127. Re: FS Homebrew amp parts & tubes. [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3207641d.33863681@news.santafe.edu>
Source record: 103581
Body handling: Inline uuencoded payload not displayed: HOMBRW.TXT

kk5dr@io.com wrote:

[Inline uuencoded payload not displayed: HOMBRW.TXT]

Doesn't look to readable to me. What's the secret?

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

128. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DvpFDq.5vH@news.hawaii.edu>
Source record: 103582
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dan Morisseau <dpm3@seanet.com> wrote:
> Thanks, Bill! Thanks, Hillary!, Thanks, (the late) Ron Brown! Thanks,
>Daschle and Gephardt! Thanks psuedo-science enviro-hystricals! You gotta love
>it don't you, folks?

I do! Imagine if everyone voluntarily kept their output power limited to under 50W. Remember, we're supposed to run the minimal power necessary for reliable communication. Since folks don't self-police themselves in following this regulation, we'll now have the government carry out those duties. But we can thank the FCC for *raising* the cutoff to 50W; the original proposal was for a lower power level.

As long at that is 50W output and not 50W ERP, just think of the more efficient antennas that are going to be sprouting from each shack now.

KH2PZ

129. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-06 00:00:00 UTC
From: No@junk.email
Message-ID: <4u8202$4ck@uuneo.neosoft.com>
Source record: 103583
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

>New Surgeon Generals warning label:
>
>"The Surgeon General has determined that prolonged brain usage may
>cause cancer, premature aging and death. Try not to think, live
>longer."
>

Now I don't have a difficult time at all believing that kind of
statement could come out of Washington, DC. Kind of scary, if
you consider the Friends of Bill who have met their end.

130. Re: Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDvs8Fy.Gpt@netcom.com>
Source record: 103434

kjhales@aol.com (Kjhales) writes:

>A digital guy wants to build an analog DC receiver and has the following
>questions:

All of your concerns have been easily addressed in a very workable design by Rick Campbell, KK7B, in the whole series of R1 and R2 direct conversion receivers. August 1992 QST for the R1 (straight DC), Jan. 1993 QST for the R2 (phasing). Lots of other discussion, too.

Check my homepage for lots of details on one way to build it:

<http://www.pconline.com/~rohrwerk/k0jd/>

There are surely lots of refinements possible, but this is the best published circuit in the "mainstream" amateur press to date.

: John Seboldt \ Duke Ellington on CW: It don't mean a thing
: rohrwerk@netcom.com | Ham: K0JD \ If it ain't got that swing!
: Minneapolis, MN USA | Music Dir., \ Didah, didah, didah, didah,
: Church of the Annunciation \ ....

131. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug7.153944.3851@ke4zv.atl.ga.us>
Source record: 103435

In article <4u8cko$3cc@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>As I understand it Morse is the prescribed mode for satellite uplink
>transmitters to id.
>All uplinks are required to do this.
>(commercial)

No. We're required to encode our call sign in the vertical blanking interval in such a way that rolling the sync bar down allows it to be read off the monitor. Or we can use a specified digital encoding in the vertical interval instead (this has become the most common method and is more adaptable to automatic computer control of networks of uplink systems). We *cannot* use OOK because that would change the transponder saturation level and would cause interference to other signals being relayed.

Commercial satellite transponders are operated with a specified saturation level. When we power up, the satellite control center will advise us to increase power until we reach the specified saturation level, and then hold it there so that we won't pump other signals using the transponder. (We watch that on the downlink spectrum analyzer in the truck anyway, but satellite control has the final word.)

We can't use MCW on one of the sound subcarriers for the legal reason that we must continously ID our uplink signal (so that a source of double illumination can be identified immediately), and for the practical reason that we're using the subcarriers for program audio anyway.

I'm not familiar with the ID requirements of SCPC or other data uplink systems, but they can't use OOK either, and I would opine that they embed their ID in the data framing (somewhat similar to amateur packet).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

132. Re: WANTED: Battery-powered generator info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4uaf9i$pl1@nadine.teleport.com>
Source record: 103436

In article <01bb83ee.8801e020$c509a4c2@nsagar.netkonect.co.uk>,
"Nick Sagar" <nick@nsagar.netkonect.co.uk> wrote:
>I don't know if this is the correct newsgroup for my question but I
>thought I'd give it a try. Basically what I'm after is any info on the
>feasibility/availability of a battery powered generator that could supply
>240V at around 13/16A. It would be used to drive a small mobile P.A.
>system in environments where standard fuel based units would not be
>allowable (i.e.. indoor shopping centres). Someone has said that it should
>be possible using a car battery, a step up transformer, an inverter and
>some kind of frequency filtering. Is this so and can they be bought of the
>shelf ?

If you use a 12 volt car battery and your converter is 100% efficient, the current drain from the car battery will be 260-320 amps. (Actually it would be greater, because the battery voltage would be less than 12 volts under this kind of load and the converter wouldn't be 100% efficient.) The typical car battery would provide this kind of current for a few minutes at most. Running a car battery completely down just a few times will ruin it. A deep-cycle battery would withstand the deep discharges but probably wouldn't produce that sort of current at a reasonable terminal voltage.

That's quite a PA system you've got, consuming over 3500 watts. Not what I would call "small"! Surely you can find a 12-volt powered PA you can run directly from a battery, that doesn't require that kind of power.

Roy Lewallen, W7EL

133. Re: Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4uaerl$pl1@nadine.teleport.com>
Source record: 103437

In article <4u7ph5$d3g@newsbf02.news.aol.com>,
kjhales@aol.com (Kjhales) wrote:
>A digital guy wants to build an analog DC receiver and has the following
>questions:
>
>1) Audio amplifiers
> The best op-amps I have run across have about 0.5uV input noise
> in a 3KHz band when driven from 100 ohms. Can I reasonably expect
> to do better with a discrete design? Or are other limits in the system
> going make improvement useless?

If your DC rx is for HF and you'll be using reasonably efficient antennas,
atmospheric noise will typically limit the system if you use one of the
lower-noise op amps. Any further improvement in receiver noise figure
over this won't improve system performance.

> . . .

I haven't made a phasing system - yet - so can't answer the remaining
questions. I suggest reading the QST articles on this topic by Rick
Campbell beginning three or so years ago.

Roy Lewallen, W7EL

134. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: billsohl@planet.net
Message-ID: <4u90ad$lcq@jupiter.planet.net>
Source record: 103438
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

OK, so where can we find a copy of these rules
on the internet?

>In article vbook@vbook.com (Ed Mitchell) writes:
>:>The FCC has issued new rules regarding the evaluation of RF Emissions and
>:>health effects from all transmitters. As always, the devil is in the details
>:>and the details say that if you transmit over 50 watts, you may have
>:>to perform an RF emissions environmental assessment of your Amateur station.

Bill Sohl K2UNK
ARRL Local Gov't Liaison, Mt. Olive Township, NJ

135. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: billsohl@planet.net
Message-ID: <4u90nd$ldg@jupiter.planet.net>
Source record: 103439
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

gfiber@halcyon.com (Gary Fiber) wrote:

>vbook@vbook.com (Ed Mitchell) wrote:
>>The FCC has issued new rules regarding the evaluation of RF Emissions and
>>health effects from all transmitters.
>>You can read the complete text of the relevent FCC ruling in FCC 96-396 at
>>Ham Radio Online magazine, available on the Internet at:
>> http://206.13.40.11/
>>(we had to move to a new server and are waiting for InterNIC to move our
>>www.hamradio-online.com domain name to the new server)

>This could get real interesting. ....
> Also I wonder what the FCC intends to do with all the land mobile equipment
>as most all is 100 watts. The article implies a mobile station operating over
>50 watts could also not be in compliance with the guidelines..
>Gary

Yep, all the police cars in my town run 100 watts at 39 MHz.
Should be interesting as said...

Bill Sohl K2UNK
ARRL Local Gov't Liaison, Mt. Olive Township, NJ

136. 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: nitro@aloha.net
Message-ID: <4uaqu1$hkn@nuhou.aloha.net>
Source record: 103440

Desperately looking for any help I can get on building an amplifier
out of my 4-1000a tube that I picked up at a hamfest. Thanks... WH6EQ

nitro@aloha.net

137. Re: WANTED: Battery-powered generator info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4ub5td$j6r@synthemesc.insync.net>
Source record: 103441

"Nick Sagar" <nick@nsagar.netkonect.co.uk> wrote:

>>|I don't know if this is the correct newsgroup for my question but I
>>|thought I'd give it a try. Basically what I'm after is any info on the
>>|feasibility/availability of a battery powered generator that could supply
>>|240V at around 13/16A. It would be used to drive a small mobile P.A.
>>|system in environments where standard fuel based units would not be
>>|allowable (i.e.. indoor shopping centres). Someone has said that it should
>>|be possible using a car battery, a step up transformer, an inverter and
>>|some kind of frequency filtering. Is this so and can they be bought of the
>>|shelf ?
>>|Any info on this subject would be greatly appreciated - I am working with
>>|a trained electrician but he has never had experience of such a unit so
>>|I'm trying to put out as many feelers as possible.
>>|Thanks for your time.

>>|Nick Sagar

>>|P.S. Any formulas for winning the lottery would also be appreciated :-)

I'll try to answer your questions based on my understanding of your post. First a question: Is the venue where you wish to perform either unequipped with electrical power or unwilling to allow you to plug into thier mains? If the answer to either question is yes, then some form of invertor is called for. From the power requirements that you specified, it sounds like you are either running a lot of equipment or are just anticipating worst case requirements.

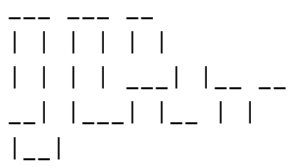
Invertors are off-the-shelf items. You can get these for US$100 for a 200 watt unit, a 500 watt unit goes for US$230. Larger units are available, but they are uneconomical. Tripp-Lite(tm) is a major U.S. maker of these units and I believe they are international. These are used in RV's (I think you call them caravans), and aboard yachts. They take 12v or 24v from a storage battery and produce a rough approximation of mains power. (see below)

If you are running a lot of equipment, get several invertors and batteries. This will help keep the costs reasonable, and provide redundancy in the event of failure. Don't overload them, the better ones are designed to shut down until the excess load is removed rather than blowing fuses and circuit breakers all over the place.

Each invertor should run from its own battery, for both practical and safety reasons. The minimum battery size should be around 50 ampere-hour, and I recommend using a deep-cycle battery, rather than a standard automotive starting battery. Although these are more

expensive at first cost, they are more economical in the long run because they are designed for multiple deep-discharge cycles, which would quickly ruin a standard automotive battery.

There are some caveats: Most invertors produce either square-wave output or "quasi-sine-wave" output. Many of them will usually say on the name plate what they produce.


Square wave Quasi sine wave

If whatever you are running does not have AC motors in it, you are OK. Most purely electronic equipment is tolerant of square wave power. If you are running anything with an AC motor, you will have to get a true sine wave invertor, which will be about twice the price of a suare-wave invertor.

for more information, go to

http://www.tripplite.com/ or
http://www.industry.net/sola.electric

Sorry, I can't help you with the lottery. <G>

Erikc

Religious fundamentalists are a plague sent by God to punish us for our joys. -- me

138. Re: Surplus & used rigs in San Francisco ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0708962100460001@iceberg-d36.sierra.net>
Source record: 103442

In article <4u4luj$em8@idefix.eunet.fi>, kurt@ksode.pp.fi (Kurt Soderstrom) wrote:

> I'll be visiting San Fracisco the second week in September and would
> like to visit some Surplus Electronics Stores there or in the Bay
> Area.
>
> What is there???
>
> Any good places for second hand Rigs in that area?
>
> Please answer in this Newsgroup or personnally to:
>
> kurt@ksode.pp.fi
>
> OH2JVS

There are probably others that have their partisans, but I like Haltek in Mountain View, on Terra Bella, I think, off of Amphitheater Parkway near the freeway. There were others, especially one up in Redwood City that I think has faded away. Another one is on the fringe of my memory bank but unrecoverable.
Check out Haltek.

Anyone else with favorites?

139. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <839448385snz@lfheller.demon.co.uk>
Source record: 103443

In article <4u83g4$6al@esgadm.esg.mk.com>
tim_shearer@mk.com "Tim Shearer" writes:

> I always find myself with my face right down near a circuit board trying to
> solder or un-solder some microsized surface mount part or something. I
> therefore breath a lot of solder/rosin smoke. Is this bad for your health?
> Is there lead in the smoke?
>
> Anyone know? Maybe others also are curious?

I think there probably are some lead vapour and particles in the smoke,
but the resin fumes are probably more harmful. I read somewhere that one
can become sensitised to them, resulting in a form of asthma, in some
cases. Someone I know recommended blowing from the mouth over the joint
whilst soldering, ensuring that the fumes aren't breathed in, and are
blown away at the same time.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

140. FREE WEB SWAP SHOP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <32096BE1.74EB@concentric.net>
Source record: 103444

```
Check out the Internet Swap Shop at:
http://www.concentric.net/~n9zle
You may post items at no charge!
```

141. Re: ISO design ideas for 1 Watt 14 MHz sine generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: inet@intellisys.net
Message-ID: <4ub6ka$b2t@zoom2.telepath.com>
Source record: 103445
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <fgrieu-0508961012360001@news.micronet.fr>, fgrieu@micronet.fr says...
>
>I'm seeking design ideas for a 1 Watt 14 MHz sine generator
>with the following specs :
>- 1 Watt output into 50 Ohm load (20 V peak-peak)
>- any harmonics 50 dB below 14 MHz fundamental
>- 100 ppm frequency tolerance => start from a crystal
>- no (or few) adjustment
>- reasonable efficiency (60% ?) from 24V DC power supply
>Francois Grieu - fgrieu@micronet.fr

A packaged xtal osc into a linear power FET seems like the
simple way to go.

brian

142. Brantford Flea Market Aug 17

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: jthomas@wat.hookup.net
Message-ID: <4ua4mv$chn@nic.wat.hookup.net>
Source record: 103446
Cross-posted to: rec.nude,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap,rec.radio.scanner,alt.radio.scanner,alt.cellular-phone-tech,alt.cellular,uw.forsale,tor.general,tor.events,ont.forsale,uwo.forsale,ca.forsale,kingston.forsale,hamilton.buysell,hamilton.general,tor.forsale.computers,tor.forsale.misc

BRANTFORD AMATEUR RADIO CLUB'S

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SATURDAY AUGUST 17th, 1996

From 9:00 am.....Admission $5.00
Vendors 7:30 am.....$8.00/table plus admission
Tailgaters Welcome.....$4.00 plus admission
Expanded: 2 buildings this year.....Acres of free parking
Major Door Prize: $700 gift certificate from Norham Radio Inc.
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For more info and table reservations, phone or write:
Richard La Rose, VE3RLX Brantford Amateur Radio Club
153 Dunsdon St. P.O. Box 25036
Brantford, ON. N3R 6N3 Brantford, ON. N3T 6K5
519-752-2437

143. Re: Please Help with 10GHz Microwave Gunn Diode Assembly

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: maddix@dawn.icd.teradyne.com
Message-ID: <4uamls$ehg@steadfast.teradyne.com>
Source record: 103447

SHF Micro is on the net:
http://www.shfmicro.com/

email: prutz@shfmicro.com

They have pretty cheap gunnplexers (w/out varactors, though) and replacement diodes.

For really cheap gunnplexers try
Gary Krancher WB1AUA 10GHz sources $25/pair 203-634-3006

Good luck and 73,
Nick Maddix N1IHA

144. Re: N6GN Microwave Data Link

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: maddix@dawn.icd.teradyne.com
Message-ID: <4uambp$ehg@steadfast.teradyne.com>
Source record: 103448
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

The handbook article is also incorrect in many ways. N6GN's web page
for the project has some of the corrections needed.
http://www.tapr.org/~n6gn/uwavelink/uwv.html

I have also noticed a few that are not on the page. As soon as I get them
together I post them so the page can be changed. The ones I remeber are that
the base of the LO JFET is not grounded on the board, and the LM386 amp is
connected correctly on the board but not the schematic. I know there is one
or two other missing connections, but I don't know them off the top of my
head (oddly enough :)

73,
Nick Maddix N1IHA

145. Re: PCB resources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: maddix@dawn.icd.teradyne.com
Message-ID: <4uam0e$ehg@steadfast.teradyne.com>
Source record: 103449

Try AP Circuits. They are fairly cheap, provide quick turn-around, and plated-through holes. All data is sent electronically, too.

http://www.apcircuits.com/

73,
Nick Maddix N1IHA

146. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: pecampbe@mtu.edu
Message-ID: <4uapth$d8c@mmlab15.mm>
Source record: 103450
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

n7ory@primenet.com wrote:
: gfiber@halcyon.com (Gary Fiber) wrote:
:
: It won't be long before our stools must be tested to comply with EPA
: emissions standards. Why don't they just skip right to the end
: result, and declare everything to cause cancer. Then we can sue
: everyone for being a contibutor to our demise. Problem with that is,
: there would probably be an environmental fee attached to whatever you
: are awarded, so the government and enviro-weirdos can sleep easier at
: night knowing you can't spend it on waste-producing polutants.

Uhh..you do realize that rainwater does not meet EPA regulations for discharge into public bodies of water? EPA rules say pH MUST be 6-8. The fact that absorbed carbon dioxide makes it pH 5.5 makes rainwater a violation of EPA regulations.

Also spring floods due to particulates. To say nothing of natural background radiation, mercury, lead, etc., in areas that have that stuff.

147. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: pecampbe@mtu.edu
Message-ID: <4uaq2n$d8i@mmlab15.mm>
Source record: 103451
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <4u7flm$mun@news.halcyon.com> gfiber@halcyon.com (Gary Fiber) writes:
: >
: >This could get real interesting. Since the article says the station location
: >and all occupants are in a controlled enviroment. They consider neighbors and
: >such to be uncontrolled. I wonder what will happen if a neoghbor comes down
: >with some mysterious illness like cancer and notices he has been bombarded with
: >electromagnetic radiation from your station all these years could he hold the
: >operator liable because he had knowledge of the EPA guidelines of RF radiation
: >?.
:
: Worse than that, Gary, the 50 watt exemption only applies to *amateurs*.
: It does not apply to other classes of licensees. They've got to certify
: compliance at *any* power level. Note that "push to talk" *radios* are
: exempted from certification by their *manufacturers*, but *stations* using
: such radios are not. The *licensee* is still responsible for seeing that
: his station operates in compliance with 47 CFR 1.1307, 1.1311, and 1.1312.

Worse than that, they didn't make an exemption for black body radiators.

Those pesky cows sure do emit a lot of unlawful radiation, unintentional
or not! To say nothing of the farmer and his wife...

148. Grid dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: jorgen.jonsson@uddeholm.se
Message-ID: <4u9h7u$lg8@Steinlager.tip.net>
Source record: 103452

Can somewone help me with a shematics on a God an Easybuild dip meter that works in the range up to 150 Mhz or more

PSE email to me : jorgen.jonsson@uddeholm.se

149. Old HeatKit Mesaurments shematichs wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: jorgen.jonsson@uddeholm.se
Message-ID: <4u9l2r$mnr@Steinlager.tip.net>
Source record: 103453

If you have some shematichs on somtehing like it pse me Email
jorgen.jonsson@uddeholm.se

150. Re: Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4u8ogr$kjk@peabody.colorado.edu>
Source record: 103510

From kjhales@aol.com Tue Aug 6 18:13:21 MDT 1996
Subject: Direct Conv. Receiver Questions

3) LO phase shifter
Suppose I have a LC oscillator. Can I tap 2 points on the inductor
and get signals 90 deg. apart? Assuming tuning is done with the
capacitor (L is fixed), will the phase shift be constant over freq?

Probably not; in any case the amplitudes will not be equal.

A nice way to get a clean quadrature output relies on the fact that
doubly balanced mixers give zero DC output when fed two signals in
quadrature:

```
I ------|
|
Q------(X)---- LPF -- nothing (If really 90.000 degrees and mixer ideal)
^
DBM
```

When the inputs are not in perfect quadrature, an error signal (whose
sign depends on which signal leads in phase w.r.t. 90 deg) comes out at
DC, and you amplify that, and feed it to some varactors that are in your
phase shift network:

```
VFO------Splitter------ I output
|
|
----inductor----- Q output
phase | |
shift | |
network | |
--- --- /|
\/ varactors \/ / |
--- --- / -|----- from I/Q mixer LPF
-----------------------------/ |
--- --- \ |opamp
/\ /\ \ |
--- --- \+|-------- GND
| | \|
GND GND
```

(Add your choice of loop filter things... like freq. comp. for the
opamp, and a complementary phase-shift network with one varactor
through, and two inductors to ground, for "equal" signal treatment.)

This circuit has the advantage that it enforces quadraturity of the I and Q ports over however far the varactors can tune, to within the tolerance of the mixer's idea of "perfect quadrature" = no DC output.

Bruce
N6URH

151. FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4u8u23$c39@news.accessone.com>
Source record: 103511
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

***** Breaking News Story *****
FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas
by Ham Radio Online, 7 August 1996

In a major ruling, the FCC declared void local laws prohibiting
or restricting the use of small wireless dish antennas.
More significantly, the FCC declared that use of small dish
antennas and television receiving antennas can not be restricted
by "any private covenant, homeowners' association rule or similar
restriction on property within the exclusive use or control of
the antenna user". Under the federal pre-emption, all homeowners
must be allowed to install TV antennas. Longer term this ruling may
have important ramifications for eliminating restrictions on Amateur
Radio antennas.

The complete story is available at Ham Radio Online at:
http://206.13.40.11/
(we are waiting for InterNIC to get our domain name pointed at our new
server).

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

152. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4u93ab$kl7@synthemesc.insync.net>
Source record: 103512
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

n7ory@primenet.com wrote:

>>|gfiber@halcyon.com (Gary Fiber) wrote:

>>|It won't be long before our stools must be tested to comply with EPA
>>|emissions standards. Why don't they just skip right to the end
>>|result, and declare everything to cause cancer. Then we can sue
>>|everyone for being a contibutor to our demise. Problem with that is,
>>|there would probably be an environmental fee attached to whatever you
>>|are awarded, so the government and enviro-weirdos can sleep easier at
>>|night knowing you can't spend it on waste-producing polutants.

>>|New Surgeon Generals warning label:

>>|"The Surgeon General has determined that prolonged brain usage may
>>|cause cancer, premature aging and death. Try not to think, live
>>|longer."

>>|Rob Neff (N7ORY)

More to the point, the leading cause of death in this country is being
born. ;-) Get used to it.

Erikc

Religious fundamentalists are a plague sent by God to
punish us for our joys. -- me

153. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <32081707.89663397@nntp.ix.netcom.com>
Source record: 103513
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Mon, 05 Aug 1996 23:32:49 -0400, robert <nix@gate.net> wrote:

>Could someone point towards info on how to broadcast on FM radio.
>I've heard it called free radio or pirate radio. Does that mean it's
>illegal (how illegal:)? What makes it illegal (in florida)? Where can I
>buy the equipment? What would I need to buy? I just want to transmit 5
>to 10 miles and just music (mostly my own and my friends music so as not
>to violate copyrights or whatever).
>
>--
>_____________________
>robert mailto:nix@gate.net

Ramsey sells a nice little kit that will broacast stereo FM at the legal limit for about 30 to 40 bucks. This won't reach the 5 to 10 mile mark you want, but will cover a block or two if you have good antennas and choose a part of the band that is relitivly unused in your area.

You could add an amplifier, but that would be illegal. There are large fines if someone has been complaining, which the big boys will do.

By "your own music", I assume you mean music that you and your friends have written and performed. Anything else would be a copyright infringement. I doubt you would have much trouble unless you started selling advertising. (Then EVERYBODY would be on your butt!)

If you keep the power at or below the legal limit, you can probably do just about anything you want. The signal won't get far enough to get you in trouble.

Kevin
"Let us all be gentlmen, for as it has been said,Blondes prefer gentlemen."

154. Re: homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: chris bloxsom <n2kbk@pop.servtech.com>
Message-ID: <32085B05.64F5@pop.servtech.com>
Source record: 103514
Cross-posted to: rec.ham-radio.swap,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Bernie McClenny, WR3E wrote:
>
> Ken Bessler wrote:
> >
> > Dave Booth wrote:
> > >
> > > I just revised my homepage if you want to check it out.
> > > new stuff!
> > > --
> > > Dave Booth
> > > kc6wfs
> >
> > I am always ready to surf....However I do need a URL....:-)
>
> This is my first reply to a news group. What does this have to do with
> DX. I have been reading the rec.radio.amateur.dx stuff for about a week
> now and notice little DX info is reported here. Is this intended to be a
> source for DX? If not let me know so I can stop wasting my time. de
> Bernie, WR3E.

hey bernie ,stop your bitching.

155. Re: 148gtl 10 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: ny1t@ix.netcom.com
Message-ID: <4u99fq$ca5@sjx-ixn3.ix.netcom.com>
Source record: 103515

In <31FF1257.2DEE@flash.net> hacker <hacker@flash.net> writes:
>
>if you know where I can get
>the plans for this, I would
>be greatly appreciative.
>thanks
>
>
I found a crystal at about 11.5 MHz and put that in place of the
10.7MHz. then I took 1 turn off the final and drive coils and retuned.

156. WANTED: Battery-powered generator info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: Nick Sagar <nick@nsagar.netkonect.co.uk>
Message-ID: <01bb83ee.8801e020$c509a4c2@nsagar.netkonect.co.uk>
Source record: 103516

I don't know if this is the correct newsgroup for my question but I thought I'd give it a try. Basically what I'm after is any info on the feasibility/availability of a battery powered generator that could supply 240V at around 13/16A. It would be used to drive a small mobile P.A. system in environments where standard fuel based units would not be allowable (i.e.. indoor shopping centres). Someone has said that it should be possible using a car battery, a step up transformer, an inverter and some kind of frequency filtering. Is this so and can they be bought of the shelf ?
Any info on this subject would be greatly appreciated - I am working with a trained electrician but he has never had experience of such a unit so I'm trying to put out as many feelers as possible.
Thanks for your time.

Nick Sagar

P.S. Any formulas for winning the lottery would also be appreciated :-)

157. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4u93ad$kl7@synthemesc.insync.net>
Source record: 103517

tim_shearer@mk.com (Tim Shearer) wrote:

>>|I always find myself with my face right down near a circuit board trying to
>>|solder or un-solder some microsized surface mount part or something. I
>>|therefore breath a lot of solder/rosin smoke. Is this bad for your health?
>>|Is there lead in the smoke?

>>|Anyone know? Maybe others also are curious?

>>|Tim
I would imagine so if your job was to sit there all day and assemble
or rework PC boards. It is objectionable as hell, sorta like someone
blowing cigarette smoke in your face while you are eating. Get any
kind of small fan (like a muffin fan) and arrange it to blow across
your work area. I use a 12v fan out of an old PC power supply, and
run it on 5v. It is quiet and the airflow is such that the fumes are
blown away, but the soldering iron is not cooled off by the airflow.

Hope this helps.

Erikc

Religious fundamentalists are a plague sent by God to
punish us for our joys. -- me

158. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: billn@PEAK.ORG
Message-ID: <4u98l6$gfl@bashir.peak.org>
Source record: 103518
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: OTOH, if your antenna is more than 10 meters above any horizontal
: surface where a person might stand, and you're running no more
: than 1,000 watts ERP (that's your output power minus feedline
: loss and plus antenna gain), you're probably Ok. You'll need to

This is a bit misleading Gary. It should be output power, minus feeline losses, multiplied by the antenna gain. For example, 150 watts out of transmitter, minus 10 watts feedline loss, is 140 watts at the antenna. If the antenna has 10 dB gain, then the ERP would be 140 times 10 or 1400 watts - which is too much.

So much for encouraging better antennas, rather than high power linears. There is now little reason to use an efficient antenna - as the penalty is the same either way. It is much easier to install a linear than a good antenna system.

Of course, you could limit the power under 50 watts, and install a very good antenna. However, I wonder if you would have to have a station that was incapable of greater power output?

I suspect that the new directive is only going to make a bunch of Hams lawbreakers.

Bill

159. HELP: Suitable KWM-2A Q-multiplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: "JOSE V. GAVILA" <Fermax.esp@vlc.servicom.es>
Message-ID: <32083A19.3A49@vlc.servicom.es>
Source record: 103519
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I'm looking for information on a suitable KWM-2A Q-multiplier; I also wonder if the old Heathkit QF-1 would work. Please, any information highly appreciated.

E-mail to: EB5AGV@AMSAT.ORG

Thanks!

73 JOSE - EB5AGV

160. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <4ua2jr$bi8@news.halcyon.com>
Source record: 103520
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

mike_luther@ziplog.com wrote:

>>
>>>The FCC has issued new rules regarding the evaluation of RF Emissions and
>>>health effects from all transmitters. As always, the devil is in the details
>>>and the details say that if you transmit over 50 watts, you may have
>>>to perform an RF emissions environmental assessment of your Amateur station.
>>>Under the new rules, the FCC will add five more questions on RF safety to three
>>>of the written exams. Amateur radio operators will be required to certify as
>>>part of their license application, under an as yet unspecified mechanism, that
>>>they understand the FCC rules on this issue. In some situations, certain
>>>Amateurs may have to file a complex "Environmental Assessment" better known as
>>>an Environmental Impact Report regarding their Amateur station operation.
>>
>>>You can read the complete text of the relevent FCC ruling in FCC 96-396 at
>>>Ham Radio Online magazine, available on the Internet at:
>>> http://206.13.40.11/
>>>(we had to move to a new server and are waiting for InterNIC to move our
>>>www.hamradio-online.com domain name to the new server)
>>
>>This could get real interesting. Since the article says the station location
>>and all occupants are in a controlled enviroment. They consider neighbors and
>>such to be uncontrolled. I wonder what will happen if a neoghbor comes down
>>with some mysterious illness like cancer and notices he has been bombarded with
>>electromagnetic radiation from your station all these years could he hold the
>>operator liable because he had knowledge of the EPA guidelines of RF radiation
>>?. Also I wonder what the FCC intends to do with all the land mobile equipment
>>as most all is 100 watts. The article implies a mobile station operating over
>>50 watts could also not be in compliance with the guidelines..

>Oh knowledge of the affair isn't really required! Product liability, for example
>transcends all reasonable sane limits for time elapsed on that, with or without
>knowledge.

>I am familiar with one lawsuit now going on where the product involved was
>built in 1978. The claim is the gate design on a cattle trailer was defective
>and the user had the gate come open last year and the cows fell out and
>caused a massive traffic accident.

>Allegations seem to be that because the design was copied from another
>product back in 1963, it is really not the copiant that may have the final
>liability, but the party from which the design was COPIED!

>For millions of dollars in claimed damages.....

>:)

>Mike @ W5WQN

It might be the manufacturers will have to apply a warning label on equipment to remind the installer / user of the possiable electromagnetic radiation problems of improperly installed equipment.

Kind of like warning label " Danger the coffee in the cup is hot and may cause burns if spilled upon yourself "

We will all learn about the EPA requirements for radio transmission and radiated power. I know manufacturers cannot build a handheld that transmits over 7 watts RF power with out going through MAJOR EPA loops and hoops. No body wants to go through all of what the EPA requires for handheld over 7 watts in power, so they do not build them.

I would guess this might also be a good case for antenna heighth. The higher the radiating element the less signal affects the immediate surrounding area

Gary

161. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <4ua3um$bsq@news.halcyon.com>
Source record: 103521
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

vbook@vbook.com (Ed Mitchell) wrote:

>CORRECTION
>Contrary to our first reading, it does not appear likely
>that any hams will be subjected to filing EIRs. Word to the wise:
>Don't read government legal opinions while your 9 year old daughter is
>holding a big birthday party with a crowd of 9 year olds :)

>While the ruling does place additional rules and compliance
>issues upon Amateur Radio stations, I'd guess that having a
>federal standard will help to prevent lots of local
>municipalities from creating their own, usually ill
>considered regulations on RF emissions.

>We corrected the web article shortly after posting on Usenet
>(which you can retract once posted). Oh well.

>Ed, KF7VY

>--
>-----------------------
>Ed (KF7VY) and Kim (N7VPL) Mitchell
>email to vbook@vbook.com
>Visit Ham Radio Online, it's free! at
>http://www.hamradio-online.com

Ed,

The article on your web site " The following is the text of the FCC 96-396 R/O. Was that straight from the FCC or your interpetation of what the FCC was saying ?

I do not think just not having to file a EIR is a victory or sigh of relif, but the intemt of the FCC to require and make the amateur responsiable for proper knowledge and proper installiation / operation of his equipment . This would include his being resopnsible for not exceeding the EPA guidelines for RF exposure limits.

By mere addition of these questions on a test, you are made aware that the government assumes you know about these limits They would most likely hold the licensee responsible for operation with in the EPA RF Exposure limits. This could turn out to be be a major turning point in Amateur Radio.

Recently in Seattle, Wa area some brought a cellular phone company into court to keep a tower out of the neighborhood, although they group lost, still the legal battle was on. I for one will keep a weary eye to the FCC and EPA about my Amateur Radio operations, also will have another look at my station installiation.

Gary

162. Re: Minimum channel spacing@2 mtrs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4ua1sp$rlc@opera.iinet.net.au>
Source record: 103522

n2ucn@wa2soc.ampr.ORG (Charles Curtis) wrote:

>Of course, cavity filters could easily provide the required
>additional isolation.

>Chuck

I agree with comments re antenna siting. Vertical separation appears to be important.
However I doubt that even a shunt connected cavity filter would provide much attenuation at only 80 KHz away without attenuating the wanted signal considerably

Also watch for intermodulation products when both transmitters are operating. Signal from one gets into the other via a retrograde path and IM products are generated. This can be prevented by using an isolator in the feedline of both transmitters
We have seen this effect in Australia where multiple pager transmitters operating in the 148-150 MHz band are colocated on the same tower. They have a typical ERP of 1 KW. Spurious products fall the amateur 2 metre band.

Thirdly the phase noise sidebands of such a close signal would probably be audible in the other receiver, even for a good quality transmitter

Richard Hosking VK6BRO
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

163. Television Spare Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: Stephen Saunders <102354.2034@CompuServe.COM>
Message-ID: <4ua3hb$1ki$1@mhadg.production.compuserve.com>
Source record: 103523

I have a front projection Mitsubishi 50" color TV circa 1982. It has performed flawlessly for 14 years. Recently, the red CRT gun went bad. So I called several service facilities and Mitsubishi as well. I learned that a replacement gun is no longer available. So I bit the bullet and bought a new TV.

I'm still interested in fixing the thing myself, so I thought maybe I could leverage the Internet to locate a used, but operable CRT gun. If I can't locate one, I'm willing to sell parts off my TV to others in need.

I really didn't have a clue what newsgroup would be appropriate for my posting. Since I hold an advanced ham ticket, I have been reading this newsgroup occasionally. I asking if there is a newsgroup for my type of request, or if any of you homebrew enthusiasts might know of a TV service facitility that might have the CRT gun I'm looking for.

73,
Stephen Saunders KD6EUT

--
Don't have a Signature yet,... WATCH THIS SPACE!!!!

164. Inductance meter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: jorgen.jonsson@uddeholm.se
Message-ID: <4ua61i$r07@Steinlager.tip.net>
Source record: 103524

Do anyone out there have a shematic for an easy build and good
working inductance meter !?

165. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <4uacqb$km3@mgate.arrl.org>
Source record: 103525
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

gfiber@halcyon.com (Gary Fiber) wrote:
>vbook@vbook.com (Ed Mitchell) wrote:
>
>>The FCC has issued new rules regarding the evaluation of RF Emissions >>and health effects from all transmitters. As always, the d=
evil is in >>the details and the details say that if you transmit over 50 watts, you >>may have to perform an RF emissions environme=
ntal assessment of your >>Amateur station. Under the new rules, the FCC will add five more >>questions on RF safety to three of the =
written exams. Amateur radio >>operators will be required to certify as part of their license >>application, under an as yet unspeci=
fied mechanism, that
>>they understand the FCC rules on this issue. In some situations, >>certain Amateurs may have to file a complex "Environmental Asse=
ssment" >>better known as an Environmental Impact Report regarding their Amateur >>station operation.

In essence, the FCC is relying on the demonstrated technical ability
and proven self-policing track record and allowing amateurs to perform
their own evaluations. If we determine that our stations are in
comliance with current FCC regulations, we need not file anything with
the FCC. The FCC goes on to say that stations that run less than 50 watts
do not need to perform the self-evaluation but are presumed to be in
compliance.

The VAST majority of amateur stations are already in compliance with
these rules. Those few stations who determine that they are *not* in
compliance are expected to correct the situation or to file the EA as
described in Part 1 of the FCC rules.

The FCC then goes on to say, "We want the licensees of such stations to
provide adequately for RF safety. We do not believe, however, that a
detailed EA or other routine environmental filing is practical or
necessary. . . An EA would be evaluated by the Commission to determine
whether the authorization should be granted in view of the environmental
impact. In reality, this leads to a de facto compliance requirement,
since most applicants and licensees who are not categorically excluded
(see above) undertake measures to ensure compliance before submitting an
application in order to avoid the preparation of a costly and
time-consuming EA. For this reason EAs are rarely filed with the
Commission. This has not changed from the existing rules. "

>This could get real interesting. Since the article says the station >location and all occupants are in a controlled enviroment. T=
hey >consider neighbors and such to be uncontrolled. I wonder what will >happen if a neoghbor comes down with some mysterious illne=
ss like cancer >and notices he has been bombarded with electromagnetic radiation from >your station all these years could he hold th=
e operator liable because >he had knowledge of the EPA guidelines of RF radiation?.

This could happen right now, before these regulations are in place. A few hams have been sued, and a few local regulations were attempted, on these grounds. In those cases, most hams have NOT had an easy way to demonstrate that their station did not exceed the limits specified in recognized standards. Nor did those standards have the force of law. With the new FCC regulations, and the upcoming material being prepared by the FCC, hams will have regulations that limit the amount of energy they can radiate into their neighbors homes (IMHO, with a presumption that anything less than the allowed maximum is presumed to be safe), and, more importantly, a tool that will allow them to demonstrate that they are in compliance with the regulations, using OST Document 65 (being revised to OET Document 65) referenced many times in the Report and Order. I have to suspect that we will be better off this way.

>Also I wonder what the FCC intends to do with all the land mobile >equipment as most all is 100 watts. The article implies a mobil=
e >station operating over 50 watts could also not be in compliance with the >guidelines..

The FCC covered that in paragraph 67:

" 67. Although our exposure criteria will apply to portable and mobile devices in general, at this time routine evaluation for compliance will not be required of devices such as "push-to-talk" portable radios and "push to talk" mobile radios used in taxicabs, business, police and fire vehicles and used by amateur radio operators. These transmitting devices will be excluded from routine evaluation because their duty factors (percentage of time during use when the device is transmitting) are generally low and, for mobile radios, because the antennas are normally mounted on the body of a vehicle which provide some shielding and separation from the user. This significantly reduces the likelihood of human exposure in excess of the RF safety guidelines due to emissions from these transmitters. Duty factors associated with transmitting devices that are not "push-to-talk," such as transportable cellular telephones ("bag" phones) or cellular telephones that use vehicle-mounted antennas, would be generally higher, and we will require that these devices be subject to routine evaluation for compliance with general population/uncontrolled MPE limits. Although we are not requiring routine evaluation of all portable and mobile devices, under Sections 1.1307(c) and 1.1307(d) of the FCC's Rules, 47 CFR 1.1307(c) and (d), the Commission reserves the right to require evaluation for environmental significance of any device (in this case with respect to SAR or compliance with MPE limits)."

Now, back to writing the detailed report that my boss is making me write.
:-)

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

166. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: protect@bright.net
Message-ID: <protect-0708961118320001@chil6-cs-3.dial.bright.net>
Source record: 103526
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

In article <3206BCE1.4324@gate.net>, robert <nix@gate.net> wrote:

> Could someone point towards info on how to broadcast on FM radio.
> I've heard it called free radio or pirate radio. Does that mean it's
> illegal (how illegal:)? What makes it illegal (in florida)? Where can I
> buy the equipment? What would I need to buy? I just want to transmit 5
> to 10 miles and just music (mostly my own and my friends music so as not
> to violate copyrights or whatever).
>
They call it PIRATE RADIO because they hang Pirates when they catch them.
That is what the FCC will do if you are caught broadcasting music 5-10
miles on FM Radio without a license. Amateur radio regulations prohibitthe
broadcast of music. Other broadcast of music requires a commercial
broadcast license. You are facing fines ranging from $2000 to $15000 if
you are caught, which means free radio is only free until you are caught.
These are serious fines, the FCC does noto mess around with parking ticket
size penalties. If you choose to use amateur radio FM equipment, licensed
amateurs will quickly track you down and report you to the FCC. Tracking
illegal stations is an Amateur radio hobby/sport.
Charles

167. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: bcdlr@midwest.net
Message-ID: <4uaf53$a60@sparky.midwest.net>
Source record: 103527
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

"Christopher W. Boone" <cboone@earthlink.net> wrote:

>Thor Wiegman wrote:
>> As my boss always says "why re-invent the wheel?" Western Multiplex makes
>> a little SS unit for 2GHz called the Lynx. These are showing up on the
>> surplus market because for high reliablilty/quality most cell techs don't
>> like them (a matter of personal taste). I would think that picking up a
>> used pair of these would be cheaper and easier than building something
>> unless you're looking for the experience. These units don't require a
>> license for operation as they are covered under part 15. I've put up 40
>> mile hops with them (using 8 foot high performance dishes) so I would
>> think that a pair of homebrew yagi's would get the job done for you.

>I agree!!! My company has several of the LYNX at 2Ghz operating and are
>doing great...one 12 mile hop and some are as much as 28 mile hops!
>No problems with them at all!

So where can a guy get these LYNX xcvrs? I'd like to try them to
connect two school buildings. Can you just plug them into a hub on
each end? Or do you need a router? Sounds neat! What are you using
for antennas, please be specific if possible or email me direct?

Dan Reynolds - Technology Coordinator
Lutheran School Association of Decatur, IL
ham radio: KB9JLO packet: KB9JLO@N9KGZ.#CIL.IL.USA.NOAM
web: http://www.midwest.net/orgs/lsa/
email: bcdlr@midwest.net or lsa@midwest.net
Peace+
Dan Reynolds, bcdlr@midwest.net, KB9JLO

168. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: mcdavid@mindspring.com
Message-ID: <4ualrf$1buu@mule1.mindspring.com>
Source record: 103528
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Neil Gjere <ngjere@skypoint.com> wrote:

>Christopher W. Boone wrote:

>So where can one pick up a set of these units and what type of costs
>are we talking about???
Try 2ndsource cellular they have a web page.

169. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <3208DA7A.F69@ccm.sc.intel.com>
Source record: 103529

Gary Coffman wrote:
> Obviously, don't
> pull the old stunt of holding the solder in your mouth while you work.
>
But Gary, it's so tasty! Seriously, the above is a dumb stunt from my
youth that I now avoid.

OSHA must have something to say on this topic. Anybody know that they
recommend in industrial situations?

73, Dave NG0X

170. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: mcolvin@calweb.com
Message-ID: <4uaoqn$jjo@news.calweb.com>
Source record: 103530
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Become a DJ?

171. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <4uah76$hme@flood.weeg.uiowa.edu>
Source record: 103531

I have a unit that has an activated charcoal filter in it that removes the smoke. Works good for what I need. Can't remember what company I got it through, but the brand name is HAK O 493 E.S.D. Smoker absorber.

It is nothing more than a large muffin fan with a filter on the front. The filters can be replaced.

John WA0VYZ

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

172. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: stevem@best.com
Message-ID: <4uaqnm$92t@shellx.best.com>
Source record: 103532

In article <1996Aug7.153944.3851@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>In article <4u8cko$3cc@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>>As I understand it Morse is the prescribed mode for satellite uplink
>>transmitters to id.
>>All uplinks are required to do this.
>>(commercial)
>
>No. We're required to encode our call sign in the vertical blanking
>interval in such a way that rolling the sync bar down allows it to
>be read off the monitor. Or we can use a specified digital encoding
>in the vertical interval instead (this has become the most common
>method and is more adaptable to automatic computer control of networks
>of uplink systems). We *cannot* use OOK because that would change
>the transponder saturation level and would cause interference to other
>signals being relayed.
>
>Commercial satellite transponders are operated with a specified
>saturation level. When we power up, the satellite control center
>will advise us to increase power until we reach the specified
>saturation level, and then hold it there so that we won't pump other
>signals using the transponder. (We watch that on the downlink spectrum
>analyzer in the truck anyway, but satellite control has the final word.)
>
>We can't use MCW on one of the sound subcarriers for the legal reason
>that we must continously ID our uplink signal (so that a source of
>double illumination can be identified immediately), and for the
>practical reason that we're using the subcarriers for program audio
>anyway.
>
>I'm not familiar with the ID requirements of SCPC or other data
>uplink systems, but they can't use OOK either, and I would opine
>that they embed their ID in the data framing (somewhat similar
>to amateur packet).
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

This is not entirely correct. Videocipher encoded video on
satellite does use MCW on the audio subcarrier since VBI encoding

could only be seen by receivers with key authorization for that particular service. The FCC needed some way to ID the uplink on encoded channels without actually having to subscribe to the service.

Steve Muther WF6R

173. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug7.145052.3666@ke4zv.atl.ga.us>
Source record: 103533

In article <4u83g4$6al@esgadm.esg.mk.com> tim_shearer@mk.com (Tim Shearer) writes:
>I always find myself with my face right down near a circuit board trying to
>solder or un-solder some microsized surface mount part or something. I
>therefore breath a lot of solder/rosin smoke. Is this bad for your health?
>Is there lead in the smoke?

There shouldn't be any lead vapor in the smoke. Soldering temperatures
are well below the vaporization point of lead. There will be rosin fumes,
however, and they can irritate the eyes and lungs. Use a fan to keep the
fumes out of your face. I keep an ordinary 12 volt boxer fan on the
bench for this. There are commercial fume extractors available, but
the simple fan is usually sufficient.

The big lead danger is that some will rub off on your fingers while
you are handling the solder. This can then be ingested if you eat,
drink, smoke, or otherwise touch body openings without washing your
hands carefully first. Don't rub your eyes either. Obviously, don't
pull the old stunt of holding the solder in your mouth while you work.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

174. FS Parts, Parts. (updated) [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4uduvb$690@nntp-1.io.com>
Source record: 103384
Body handling: Inline uuencoded payload not displayed: HOMBRW.TXT

```
[Inline uuencoded payload not displayed: HOMBRW.TXT]
```

175. Re: Television Spare Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: John M Domblewski <wendysue@global2000.net>
Message-ID: <320A876F.5A69@global2000.net>
Source record: 103385

Stephen Saunders wrote:
>
> I have a front projection Mitsubishi 50" color TV circa 1982. It
> has performed flawlessly for 14 years. Recently, the red CRT gun
> went bad. So I called several service facilities and Mitsubishi
> as well. I learned that a replacement gun is no longer available.
> So I bit the bullet and bought a new TV.
>
> I'm still interested in fixing the thing myself, so I thought
> maybe I could leverage the Internet to locate a used, but operable
> CRT gun. If I can't locate one, I'm willing to sell parts off my
> TV to others in need.
>
> I really didn't have a clue what newsgroup would be appropriate
> for my posting. Since I hold an advanced ham ticket, I have been
> reading this newsgroup occasionally. I asking if there is a
> newsgroup for my type of request, or if any of you homebrew
> enthusiasts might know of a TV service facitility that might have
> the CRT gun I'm looking for.
>
> 73,
> Stephen Saunders KD6EUT
>
> --
> Don't have a Signature yet,... WATCH THIS SPACE!!!!

HI

Try sci.electronics.repair They're always talking about TV
repair..

73

John << N2OJY >>

176. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: "James F. Boehner, MD" <jboehner@csra.net>
Message-ID: <320A8CEE.2C0A@csra.net>
Source record: 103386
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Bill Sohl wrote:
>
> vbook@vbook.com (Ed Mitchell) wrote:
>
> >***** Breaking News Story *****
> >FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas
> >by Ham Radio Online, 7 August 1996
>
> >In a major ruling, the FCC declared void local laws prohibiting
> >or restricting the use of small wireless dish antennas.
> >More significantly, the FCC declared that use of small dish
> >antennas and television receiving antennas can not be restricted
> >by "any private covenant, homeowners' association rule or similar
> >restriction on property within the exclusive use or control of
> >the antenna user". Under the federal pre-emption, all homeowners
> >must be allowed to install TV antennas. Longer term this ruling may
> >have important ramifications for eliminating restrictions on Amateur
> >Radio antennas.
>
> >The complete story is available at Ham Radio Online at:
> >http://206.13.40.11/
>
> Wow, do I have a couple of ideas for some QST articles
> that begin with a title: How to build a (enter your
> favorite band here) meter antenna that looks like a TV
> antenna :-)
>
> Bill Sohl K2UNK
> ARRL Local Gov't Liaison, Mt. Olive Township, NJ

How about a sky of aluminum with a $40 Radio Shack Antenna on top?
YES!!!!!

73 de JIM N2ZZ

177. Kemwood TS180S mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: drradio1@aol.com
Message-ID: <4udi8u$f3e@newsbf02.news.aol.com>
Source record: 103387

I need the mods for a Kenwood TS180S. I need to have 25MHZ to 30MHZ to
run
a transverter (VHF) Can you assist....???

178. Brantford Flea Market August 17

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: jthomas@wat.hookup.net
Message-ID: <4uct2u$ku4@nic.wat.hookup.net>
Source record: 103388
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap,rec.radio.scanner,alt.radio.scanner,alt.current-events,tor.events,ont.events,wny.events,kingston.events,queens.events

BRANTFORD AMATEUR RADIO CLUB'S

FLEA MARKET

At Burford Fairgrounds, Burford, Ontario
On Highway 53 - 15 km West of Brantford

SATURDAY AUGUST 17th, 1996

From 9:00 am.....Admission $5.00
Vendors 7:30 am.....$8.00/table plus admission
Tailgaters Welcome.....$4.00 plus admission
Expanded: 2 buildings this year.....Acres of free parking
Major Door Prize: $700 gift certificate from Norham Radio Inc.
Talk-in on VE3TCR 147.150+

For more info and table reservations, phone or write:
Richard La Rose, VE3RLX Brantford Amateur Radio Club
153 Dunsdon St. P.O. Box 25036
Brantford, ON. N3R 6N3 Brantford, ON. N3T 6K5
519-752-2437

179. Re: Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: crowe@geovax.geo.wvu.edu
Message-ID: <DvtyyC.2A0@cerc.wvu.edu>
Source record: 103389

In article <4u8m4p$emj@optional.cts.com>, jlkolb@sd.cts.com (John Kolb) wrote:
>Kjhales (kjhales@aol.com) wrote:
>: A digital guy wants to build an analog DC receiver and has the following
>: questions:
>
>: 3) LO phase shifter
>: Suppose I have a LC oscillator. Can I tap 2 points on the inductor
>: and get signals 90 deg. apart? Assuming tuning is done with the
>: capacitor (L is fixed), will the phase shift be constant over freq?
>
>To get a 90 deg phase shift over a wide freq range, the easiest way
>is to have the LO at 4 times the desired freq. The LO output goes
>to a flip/flop and divides the freq by 2. The two F/F outputs, Q and Q/
>each got to another F/F. the Q outputs of the last two F/F's will be 90
>degrees apart.
>
>
You can also look at a LM567 tone decoder / phase lock loop. Look in the data
books. There is a sample circuit that lists "Oscillator with Quadrature
Output" Where there is a 90 degree phase shift. Being a PLL the freq. should
be pretty stable. Good to ~ 50 Mhz.

Randy N8OZY

crowe@geovax.geo.wvu.edu

180. Info on old GenRad oscillators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug8.204935.606@main03>
Source record: 103390
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

General Radio 1362 UHF Oscillator, 220-920mhz and
General Radio 1208B VHF Oscillator, 65-500mhz

I found these neat UHF and VHF oscillators at a hamfest for $5. Only problem is that they have a pigtail cable apparantly plug into a mating power supply, which I do not have. Does anyone know the pinouts or have a schematic? Perhaps even the supply? :)

Thanks and 73!
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of cou

181. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: djfinn@ibm.net
Message-ID: <4udrd1$46li@news-s01.ny.us.ibm.net>
Source record: 103391
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>However, Part 90 *portable* radio stations are categorically exempted.
>I'm not sure the FCC considers "mobile" rigs to be "portable" radio
>stations. If not, *each* installation must be certified. Otherwise,
>they're exempt *regardless* of power level. Cops always seem to be
>"more equal" under the law than you or me.

Does anyone know off hand if they are using the IEEE C92.1 limits? If so, Anybody trying to transmit at the normal 100W in a residential neighborhood (ie, low wire dipole antenna) may be in trouble. Forget about using attic antennas. The standard penalizes efficient antennas. I also believe the limits vary wiith frequency; I know that that the allowable ERP at 800MHz is only about 0.4W, compared to the previous 7W Max. transmitter power (the old standard did not consider antenna efficiency). I also know that 800MHz products designed well below the 7W transmitter power level usually did not meet the 0.4W ERP or that other parameter, SAR (for products held close to the ear). Yes, our handheld devices may be exempted but my point is that, if FCC is using the 1992 IEEE standard, amateurs in residential areas (a large portion of the ham population) will at the very least be marginal at 100W, if they use wire dipoles, G5RV's, slopers etc., and I believe the small 600W linears will be out of the question. I hate to sound like I'm sounding a false alarm but I'm not ready yet to buy into ARRL's contention (D. Sumner) that the new regulation will show how safe amateur installations really are. I'm sure he has a high tower to take advantage of 1/R**2. The new IEEE limits are much lower than the previous standard, but we will not start seeing this until after we start making the measurements.

73

KR4AJ

182. FS Parts, Parts. (updated) (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4uduv7$690@nntp-1.io.com>
Source record: 103392

Please read this attachment; UUencoded (Decoding required)

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
REQUIRED, to listen to it !"

183. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <320A7159.7682@erols.com>
Source record: 103393
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

It is worth pointing out that the FCC standards are from the NCRP and they represent a total exposure over a six minute period. As long as you are running HF sideband (or heaven forbid --even morse) your duty cycle is such that you will not be likely to get a continuous six minute exposure.

Remember that a sideband signal's average power is typically 1/4 of the PEP and that unless you are quite chatty (the FCC thinks we'll transmit and receive 50% of the time) you are unlikely to hit the limits of your exposure at 100 watts. So my Kenwood TS-50 will likely still meet the standards set by the FCC even though I typically run 100 watts. As for how I'm supposed to document this and where I'm supposed to file this report --that has yet to be determined.

73,
Jake Brodsky, mailto:frussle@erols.com
PP-ASEL-IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

184. where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: Tom Kreyche <tomkr@microsoft.com>
Message-ID: <01bb8598.fe59c5c0$fb99389d@DISCUS>
Source record: 103394

I'm planning to build a detector for bats (the flying mammals!) probably for dumping into a laptop for some kind of spectral analysis. Anyone have recommendations for ultrasonic sensors? Different bat species use different frequencies, typically 40 kHz to 60 kHz, audio.

BTW, I've seen some standalone commercial detectors for about $250 but it's no fun just buying one!

Thanks, Tom KG6YJ

185. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: Gary Sanders <gsanders@midwest.net>
Message-ID: <320AB5EF.58F8@midwest.net>
Source record: 103395
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Having been a ham for 20 or so years, wearing a ham HT on my belt for a good portion of that time, and wearing a commercial HT on my belt during working hours for several years, and for the last 6 months undergoing chemotherapy due to lymphoma (which is, interestingly, cancer of the lymph nodes located in my abdomin, near where the HT antennas were located), I don't think I'll get too excited if I have to document compliance with a regulation designed to lengthen my life.

Cancer isn't any fun.

Sure, I know I'll get flamed, because I don't _know_ that the cancer was caused by the HT's, but then again, I don't _know_ that thay _didn't_ cause it.

186. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: billsohl@planet.net
Message-ID: <4ubedc$san@jupiter.planet.net>
Source record: 103454
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

vbook@vbook.com (Ed Mitchell) wrote:

>***** Breaking News Story *****
>FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas
>by Ham Radio Online, 7 August 1996

>In a major ruling, the FCC declared void local laws prohibiting
>or restricting the use of small wireless dish antennas.
>More significantly, the FCC declared that use of small dish
>antennas and television receiving antennas can not be restricted
>by "any private covenant, homeowners' association rule or similar
>restriction on property within the exclusive use or control of
>the antenna user". Under the federal pre-emption, all homeowners
>must be allowed to install TV antennas. Longer term this ruling may
>have important ramifications for eliminating restrictions on Amateur
>Radio antennas.

>The complete story is available at Ham Radio Online at:
>http://206.13.40.11/

Wow, do I have a couple of ideas for some QST articles
that begin with a title: How to build a (enter your
favorite band here) meter antenna that looks like a TV
antenna :-)

Bill Sohl K2UNK
ARRL Local Gov't Liaison, Mt. Olive Township, NJ

187. Non-conductive Rod Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: dougd@lrbcg.com
Message-ID: <4ubp81$e5u@news.dx.net>
Source record: 103455
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I've seen posts for plastic rods for booms, etc. Here is a
good source I found:

United States Plastic Corp.
1390 Neubrecht Road
Lima OH 45801

1-800-537-9724 - Voice
1-419-228-5034 - FAX

They offer plastic, acrylic, polycarbonate, PVC, CPVC,
polyethylene, polypropylene, UHMW?, teflon, delrin, nylon,
polystyrene, polyurethane, phenolic, Fibergrate DynaForm,
etc., all sizes. Enough to make any homebrewer's heart glad!
;-)

Doug
KC8CGX

188. Re: CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <32096810.FE8@flinet.com>
Source record: 103456

John P Smith wrote:
>
> Frank Dinger wrote:
> >
> > > This is a bunch of cr*p. The "NO CODE" Tech has allowed the HAM numbers
> > > to grow. With growth comes more representation and business. What
> > > would happen if HAM numbers start to decline as they were in the
> > > past? There is safety in numbers regardless of how one obtains a
> > > HAM license. If you do not believe this just look at the recent
> > > FCC Bands on the selling block.
> >
> > > I'm always amazed at this self-serving attitude. Regardless of anyones
> > > opinion the truth of the matter is that a "NO CODE" Tech exists
> > > today and was backed by a majority. How about coming down off the
> > > pedestal and joining the rest of us "Sub Standard People"!
> >
> > > Gary-
> > ============comments GM0CSZ / KN6WH
> > Fully support Gary's point of view
> > Although I very much enjoy CW and hope some spectrum will always be
> > left for CW operation , wanting to maintain the code requirement as a
> > requisite for access to the HF bands ,while code is no longer used by
> > the non-amateur community , highlights a dinosaur atttitude for which
> > IMHO is no longer place in today's world . Afterall it's 1996 , no
> > longer 1956.
> > Let those who wish to operate CW enjoy it ,but let's not force it
> > upon people who are interested in other aspects of our common hobby.
> > Let's all move forward in a real world. As a bonus we then will
> > possibly be able to keep the spectrum currently allocated to the
> > amateur service.
> >
> > Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
> > e-mail : gm0csz.kn6wh@ukrs.org
> > Packet : GM0CSZ @ GB7NOS.#76.GBR.EUI'd rather have quality than quantity myself. Most
of the repeaters I
> listen to in the Washington DC area sound like a bunch of CBers anymore.
> My 2m mobile rig has been relegated to the glove box in case I ever need
> it to report a traffic problem, other than that I'll probably not take it
> out of the glove box anytime soon. I know we need to move forward, but
> making the testing and the requirements easier and easier has generated,
> in my opinion, a lot of hams who could care less.
>
> 73
> John

John I feel you are correct in your opinion. The problem regarding CW is that the people who never learned the art of CW are the ones pushing to have it removed so they can have more room for voice communications. And for the most part could care less if many amateurs truly enjoy CW. If they cared about the CW operators they would get off their high horse and quit talking about how useless it is. It seems as if your a CW operator who tries to defend the use of CW they (NO CODE)get quite upset about it a then all of a sudden its you who has the attitude.

duane AB4BE

189. Re: Surplus & used rigs in San Francisco ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: dmturne@pbdmt.pacbell.com
Message-ID: <4uc043$9j6@gw.PacBell.COM>
Source record: 103457

In article <rst-0708962100460001@iceberg-d36.sierra.net> rst@tetrault.com (Bob T.) writes:
>In article <4u4luj$em8@idefix.eunet.fi>, kurt@ksode.pp.fi (Kurt
>Soderstrom) wrote:
>
>> I'll be visiting San Fracisco the second week in September and would
>> like to visit some Surplus Electronics Stores there or in the Bay
>> Area.
>>
>> What is there???
>
>There are probably others that have their partisans, but I like Haltek in
>Mountain View, on Terra Bella, I think, off of Amphitheater Parkway near
>the freeway. There were others, especially one up in Redwood City that I
>think has faded away. Another one is on the fringe of my memory bank but

Haltek is actually on Linda Vista; from Amphitheater Parkway you must
turn south onto Terra Bella, then make the first left onto Linda Vista.

Also try Weird Stuff in Sunnyvale on Lawrence Expressway; it is associated
with Haltek.

While you are there you may as well go next door to Fry's. It isn't surplus
but many people will find it an interesting *grocery* store that sells
electronics.

There is a Ham Radio Outlet across Lawrence Expressway from Weird Stuff.

Then go to Halted Specialties (HSC) on Ryder.
From WS go south to Kiefer and turn left.
Turn left on Gordon Ave (first left) and turn right at the Y.

Since you will be in the area you should go to Alltronics 2300 Zanker Rd
in San Jose.

There *are* others: Jameco in Belmont, JDR in San Jose, etc.
but J and H Outlet in San Carlos is gone.

Come to think of it, you will need more than a week. :-)
--
Dave Turner (510) 823-2001 dmturne@pacbell.com

190. 4CX250C/F Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: rudix@atlas.infopta.co.za
Message-ID: <4uc203$qug@baloo.pipex-sa.net>
Source record: 103458

Hello everyone,

I have been planning on building a 6m and a 2m amp using 4CX250B tubes, I managed to get hold of some new 4CX250C/F tubes and I wonder if I can use them. Are the different from the B's and if they are what is the difference ?

Thanks for the info!

Cheers

Rudi

e-mail : rudix@atlas.infopta.co.za
Packet : ZR6VE@ZS0DLD.TVL.ZAF.AF

191. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDvssA6.q5@netcom.com>
Source record: 103459
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4uacqb$km3@mgate.arrl.org> Ed Hare <ehare@arrl.org> writes:
-The VAST majority of amateur stations are already in compliance with
-these rules.

Does it include those (MANY) of us who *CANT* put up a tower; who operate with apartment balcony antennas or wires attached to houses? I can just see all the city boards gleefully getting rid of ham radio with the "We won't allow a tall tower, and the FCC won't allow power with a low antenna" opinions. I guess it is time to dust off the HW-8.

We are trying to promote ham radio other than 2M thru repeaters, and now we get socked with this. Or will it be like all those 300 watt Italian stations...

/mike
(Does the negative gain from my windowsill-mounted hamstick reduce my 100W to a safe level :-)

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@netcom.com /|\

192. Re: CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <32096C59.7969@flinet.com>
Source record: 103460

Frank Dinger wrote:
>
> > This is a bunch of cr*p. The "NO CODE" Tech has allowed the HAM numbers
> > to grow. With growth comes more representation and business. What
> > would happen if HAM numbers start to decline as they were in the
> > past? There is safety in numbers regardless of how one obtains a
> > HAM license. If you do not believe this just look at the recent
> > FCC Bands on the selling block.
>
> > I'm always amazed at this self-serving attitude. Regardless of anyones
> > opinion the truth of the matter is that a "NO CODE" Tech exists
> > today and was backed by a majority. How about coming down off the
> > pedestal and joining the rest of us "Sub Standard People"!
>
> > Gary-
> ============comments GM0CSZ / KN6WH
> Fully support Gary's point of view
> Although I very much enjoy CW and hope some spectrum will always be
> left for CW operation , wanting to maintain the code requirement as a
> requisite for access to the HF bands ,while code is no longer used by
> the non-amateur community , highlights a dinosaur atttitude for which
> IMHO is no longer place in today's world . Afterall it's 1996 , no
> longer 1956.
> Let those who wish to operate CW enjoy it ,but let's not force it
> upon people who are interested in other aspects of our common hobby.
> Let's all move forward in a real world. As a bonus we then will
> possibly be able to keep the spectrum currently allocated to the
> amateur service.
>
> Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
> e-mail : gm0csz.kn6wh@ukrs.org
> Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

Frank, do you really believe if CW was no longer required on the HF
bands that the NO Code Hams would not want your old useless CW portion
of the band for voice Communication. If you do than be prepared to throw
away your key forever. I like CW too all the more reason to keep it
alive.
written by a dinosaur !

duane AB4BE
ps: too all those who hate CW try it , you may just like it.

193. Re: Surplus & used rigs in San Francisco ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4ubr6h$e12@dfw-ixnews8.ix.netcom.com>
Source record: 103461

In article <4u4luj$em8@idefix.eunet.fi>, kurt@ksode.pp.fi (Kurt Soderstrom) wrote:

> I'll be visiting San Fracisco the second week in September and would
> like to visit some Surplus Electronics Stores there or in the Bay
> Area.

In the North and East Bay I know of:

a) Mike Quinn's, out at the Oakland airport,

b) Electronics Etc on 10th Street in Berkeley,

c) Haltek in Santa Rosa (about 20 miles n. of SF),

d) Haltex (?), a couple of miles from Haltek.

73,
Mike, KK6GM

194. Radio Shack ProbeScope Review

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <3209A345.7035@hevanet.com>
Source record: 103462

Radio Shack ProbeScope, A Quick Review

The long awaited ProbeScope has finally arrived, so I rushed right down and=
bought one.
The software has a fatal flaw (for me). On my monochrome laptop, you can't=
see the acquired trace.
On a color monitor, the color mapping looks kinda like a green trace on a g=
reen background, but on the laptop =

gray-scale LCD display, the acquired trace is very dim against a very dim b=
ackground. It=92s not just low =

contrast, it=92s no contrast. I'd be interested to know if this is a quirk=
of the color mapping in my laptop, =

or if this is a universal problem.
The RS technical people had not heard of the problem.

Since I was going to take it back, I made no quantitative measurements. Th=
e following is only a quick =

overview of my observations.

It's a neat toy.
Specs are non-existent. The spec says that typically it may work. How wel=
l it works is anybody's guess.
The onboard LCD display is cute, but next to useless. Resolution is 16x32 =
pixels. You can't see much.
When hooked to a computer, the resolution is a more usable 64x128 pixels. =
You might actually do some real =

work with the computer display.

Vertical:
There are three vertical scales, 1V, 10V, 100V full scale. You can set zer=
o anywhere in the range so you can =

get the full range either positive or negative. If you=92re looking at a 3=
V TTL display, you have about 20 =

pixels to work with. You=92re not going to learn much more than if a signa=
l is there. On the built-in display, =

you get about 5 pixels.

With a low impedance source, the square wave response is quite flat on the =
1V range. The 10V range had about =

10% underpeaked response. I didn't have a flat source handy to check the 1=
00V range properly, but it looked =

about the same as the 10V range.

Horizontal:
The sample rate ranges from 50ns to 1ms. Good range, but the 128 sample me=
mory is just not enough.

Trigger:
The trigger is adjustable in six steps and worked quite well. There is no =
pretrigger view and no delay =

function. The autotrigger mode is actually a free-run mode. There is no t=
rigger in this function.

DVM:
The DVM reads in steps of 1/64V, 10/64V and 100/64V. So, if you want to me=
asure 12V, you have to use the 100V =

range and you get about 2V resolution. With a little practice, you can ge=
t that much resolution out of a =

light bulb.

Power Supply:
It will run off a 9V battery. Takes about 12ma with the backlight off and =
80ma with it on. Absolute max is =

13V, so don=92t plan on running it off a car battery with the engine runnin=
g. The manual describes a battery =

pack accessory that has 15 minute run time.

Computer interface:
The unit is not programmable. It acquires the signal and blindly shoves it=
out the RS232 port at 19.2Kbaud. =

I made a quick attempt to write a simple quickbasic program to acquire the =
data and solve my screen problem. =

19.2K was just too fast for Basic on my 386 laptop.

Documentation:
No documentation is available except what comes with the unit.

Subjective Stuff:
I tried looking at the vertical sync signal out of a VGA card. You can tri=
gger and look at the pulse width, =

but you can't measure the period. The relationship between period and puls=
e width are such that if you =

trigger on one pulse, you're guaranteed to miss the next one. 128 samples =
is just too coarse to look at this =

signal.

After the =93wow what a neat toy=94 factor wore off, I tried to list all th=
e places I=92d actually be able to use =

it. For troubleshooting computers in the field, it=92s too slow for the fa=
st stuff and the record length is too =

short for the slow stuff. You might look at line transients, except that 1=
20VAC exceeds the max input =

voltage. The vertical resolution is too coarse to make any useful quantita=
tive measurements.
My list ended up with no elements. If it had worked with my laptop, I prob=
ably would have kept it anyway as a =

toy.

Recommendation:
It=92s an impressive toy. If you have $100 burning a hole in your pocket a=
nd want a neat toy, here=92s your =

chance. If you don=92t have a scope and want one, go buy a used scope. Th=
e $10 fleamarket scope will serve you =

better in general use. I=92m going to wait for the next generation.

195. Re: N6GN Microwave Data Link

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: John Clark <clarkjc@craft.camp.clarkson.edu>
Message-ID: <32096DE9.2011DDEA@craft.camp.clarkson.edu>
Source record: 103463
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In response to N6GN's question about receiver board schematic errors:

Oh, I found more than those 3 errors... I emailed you (N6GN) a list of the ones I found, but your machine, sr.hp.com, seems to be down as far as I can tell (ping, traceroute, etc..)

Oh, and while I'm here, can anyone tell me how I can get 75 and 100 nH inductors for this project? Do I have to wind them, or can I buy them? I looked through Digi-Key's August catalog, but the only 75's I could find are surface mount....

Thanks.

- John (N3IFG)

196. PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: ke4udn@amsat.org
Message-ID: <4ubor0$pfa@uruguay.earthlink.net>
Source record: 103464

How many microseconds does it take for a PIN diode to switch?

--73, Todd KE4UDN

Todd Owen Hanover Engineers, P.C.
Richmond, VA 804-730-0011 (Voice)
804-730-4012 (Fax)

ke4udn@amsat.org

---

197. fft ANALYZER INFO NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: viny Coppola <76103.723@CompuServe.COM>
Message-ID: <4ucq9ppeo3@mhafc.production.compuserve.com>
Source record: 103465

Need an FFT analyzer program that runs on a PC/soundcard that will not average and entire waveform, but allow the observance of the spectra of a part of the waveform. Does anybody know if such software exists as shareware or commercially ?

Thanks beforehand

Viny Coppola N1VC

198. Re: Manual or Schematics for HP3746A Selective Level Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <4uc9dk$p7g@hpwin055.uksr.hp.com>
Source record: 103466

DD2KO (101503,2417@Compuserve) wrote:
: Need copy of circuit diagram or manual for HP test set HP3746A Selective Level Meter.
: Contact DD2KO Compuserver 101503,2417. Thanks and VY 73 de DD2KO.

I don't have a manual handy, but as someone who designed a few parts
of it, and then the special 90MHz version, I've still got a lot of it in
my head :-)

Can I help?

We no longer get a notesfeed to this site, so I now only rarely get
access to the groups via a remote login. Please try email to:

david_stockton@hp.com

If this doesn't work, my home address should be correct in all
callbooks.

Cheers
David GM4ZNX

199. Re: PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.839495866@bauv111>
Source record: 103467

ke4udn@amsat.org (Todd Owen) writes:

>How many microseconds does it take for a PIN diode to switch?

Few microseconds depending on the type. I think 60 or 80 microseconds
is the upper limit for such devices, if I remember well.
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

200. 2m Allmode Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: rudix@atlas.infopta.co.za
Message-ID: <4uc3ir$qug@baloo.pipex-sa.net>
Source record: 103468

Hello everyone,

I wonder if someone can help me, I have a Yaesu FT-290R1 that is doing
a great job on ssb. I would like a bit more power (it only runs 2.5 w PEP)
and as I like building I wonder if there is a circuit available for
an amp that will work with only 2.5w input and run 50+ w out.

Any information and pointers will be great (Remember I live in Dark Africa
and parts is not always easy to get !)

Thanks,

73, Rudi de ZR6VE.

e-mail : rudix@atlas.infopta.co.za
Packet : ZR6VE@ZS0DLD.TVL.ZAF.AF

201. Re: CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <320A43BB.4ED7@tir.com>
Source record: 103469

Hi Duane,

Discussions like this tend to move to flames. I'll take my chance and exit if flames erupt. I regard flamers as dwelling in the depth of ignorance. Will not respond to any.

CW is not gone from non-amateur services and is not used solely for repeater IDs, either. Actual messages are sent and received daily using cw. It appears that will be the case for a long time to come. People who would deny this have only to tune across the spectrum. So... CW isn't really dead.

I held my extra class ticket all during the the no-code modifications to our rules. There were hot discussions about all the "dingbats" who would invade the ham bands. It was believed that cw was an infallible dingbat filter, keeping undesirable people out. I had to point out all those articles about FCC actions against jammers and other ne'er do wells in the ham ranks. Almost all of them were.... extra class licensees!! It seems the cw filter didn't actually work, either.

I *KNOW* we have more yoyo's with ham licenses, but there are also many more hams. Probably about the same percentage of dingbats as always. I have observed many new no-code licensees take the initiative to learn the code so they could have more priveleges (nobody has "rights") and many who were happy to live on the FM repeaters forever. Most are good people.

So... why should those who want more priveleges be required to learn CW? I had to learn about building and operating satellites (not just using them) and how to build and operate a repeater and other things that I intend *NEVER* to do when I wanted to upgrade to Extra. I have no complaint. I had to demonstrate knowledge of things I never intend to do as part of the "package" of priveleges I wanted. It didn't hurt a bit. Those techniques (satllites and repeaters) are current, but, as we have seen, so is CW. If you're happy with no-code priveleges (nobody has rights) then I'll see you on the repeaters. If you want more priveleges, then buckle down, meet the requirements (more than just CW) and I'll see you in even more places.

There are as many varied interests in ham radio as there are hams. I'd never "waste my time" linking a lot of FM repeaters to increase the coverage area. But... I think it is a cool idea and applaud those who do it. I'd also defend their "privelege" to do so. I might even use the system some time. Enjoy your priveleges. Earn more if you want them. Take some time to appreciate what all those other cool people are doing. You'll get even more pleasure from the hobby.

Bill KU8H

202. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: "Brian S. McDaniel" <bmcdanie@dbtech.net>
Message-ID: <320A1B2F.6727@dbtech.net>
Source record: 103470
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Michael Colvin wrote:
>
> Become a DJ?

Work on your communications skills, first.

73 DE KC4LMD
WVTM-TV

203. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.839495464@bauv111>
Source record: 103471

nitro@aloha.net (Del Packard) writes:

> Desperately looking for any help I can get on building an amplifier
>out of my 4-1000a tube that I picked up at a hamfest. Thanks... WH6EQ

You can use the schematics of a lower power amplifier and you have to adapt
the components. There is no fundamental difference to ampliers using a
4-125A or a 4-400A or such a tube. Note that you can use the 4-1000A
in GG mode too, although it is probably not the best tube for this mode.
Considering that this tube is often available at a good price, this can
even be a good reason to use it.
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

204. Help wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: misto@iglou.com
Message-ID: <Dvtwly.4oB@iglou.com>
Source record: 103472

I am currently a Tech+ ham licensed as N9ZLI. Just to save you the time, I'll tell you that I live Jeffersonville, IN just about 4 miles north of Louisville KY. Okay, here's what I am looking for:

Wanted, person or persons to assist newly interested ham in building small projects where cost is a major concern. I a looking for someone in the Louisville Metropolitan Area who is willing to sit down once a week (maybe more if time allows) and teach me about radio and how to construct my own goodies. I am currently stuck on 10m as my 2m radio was stolen. If anyone knows a good source for simple kits that would help me learn this wonderful craft, I'd be more than thankful. As I said, money is the biggest limitting factor to my enjoying amateur radio.

Thanks,
Misto
Joe Denison
N9ZLI

--
+-----------------------------+ The opinions above are soley those of the
| Mr. Mistopheles | writer and reflect only his beliefs and
| Joe Denison | should be in no way misconstrued as to
+-----------------------------+ be representative of any of the agencies
|Amateur Radio Operator: N9ZLI| with which the writer is attached. Thank
+-----------------------------+ you for your consideration in this matter.
|Jeffersonville, Clark County.|
+-----------------------------+ Sometimes, when we're lucky, the bad guys
| Indiana, USA | don't go to jail.
+-----------------------------+
|email: misto@iglou.com|
+-----------------------------+

205. Cheap CW Transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960808133136.6328A-100000@net.digalogsys.com>
Source record: 103473
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

Hi!

I just got my Tech Plus ticket a few weeks ago, but I don't have a rig!

I won't need my hand held too tightly (I'm an electrical engineer who's been interested in radio since I got my Novice ticket at 12 years old), but I'd rather start with a proven design than strike out on my own for my first homebrew rig.

I'd like to build a CW transceiver as SIMPLY and CHEAPLY as possible. QRP is fine. Any band is fine (I'll be getting my General ticket soon). I would kind of like to keep it in one piece but if separate transmitter and receiver would be better for some reason, I'm open to that too.

Pointers to circuits described in magazines would be nice, as long as they're accompanied by at least a short description of the project and how much it's likely to cost me in parts. Kits might be okay too, if they're really inexpensive.

Some ham catalogs came in the mail and struck price-shock into Bonnie, my wife. If I can show her that a homebrew rig built out of cheap parts and/or salvaged junk is all I require, her relief would be immeasurable.

Any help would be much appreciated...

"Rigless" Rick Miller (kb9obn) rdmiller@execpc.com

206. Re: FS Homebrew amp parts & tubes. [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: Gary Watts <gwatts@qni.com>
Message-ID: <Pine.GSO.3.94.960808143906.24300A-100000@qni.com>
Source record: 103474

Bill,
Yep kk5dr really made it hard on who ever might be interested in his
list..
ALSO this uuencoded message is 700 bytes LARGER than a normal text file
I wonder what his reason was to uuencode the message ?
:-)
I'm sure a no-code tech would never do that :-)

TTYL
Gary Watts

On Tue, 6 Aug 1996, William Gode wrote:

> In article <3207641d.33863681@news.santafe.edu> jpotter@jpaw.com (Jim Potter) writes:
> >From: jpotter@jpaw.com (Jim Potter)
> >Subject: Re: FS Homebrew amp parts & tubes. [hombrw.txt] (1/1)
> >Date: Tue, 06 Aug 1996 15:27:40 GMT
>
> >kk5dr@io.com wrote:
>
> >>begin 644 HOMBRW.TXT
>
> <Big Snip>
>
>
> >Doesn't look to readable to me. What's the secret?
>
> >de K9GXC, Jim
>
> The "key" is in the name of the file: "HOMBRW.TXT."
>
> If you "Extract" the file with your news reader program and save
> it to your hard drive, you can double-click (from File Manager), or
> view it under any of the Microsoft programs that work with .TXT files.
> Trumpet News Reader will automatically display the .TXT file after
> you have extracted it. It works the same way as when extracting and
> viewing .JPG (and other specialized) files.
>
>
>
> 73,
>
> Bill - WA9NHQ
>
>

>
>
.

.

207. Re: HELP: Suitable KWM-2A Q-multiplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <4udeqq$7cp@canyon.sr.hp.com>
Source record: 103475
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

JOSE V. GAVILA (Fermax.esp@vlc.servicom.es) wrote:
> I'm looking for information on a suitable KWM-2A Q-multiplier; I also
> wonder if the old Heathkit QF-1 would work. Please, any information

There's no reason I can think of that the old Heathkit QF-1 wouldn't work; it's just not as "sanitary" an installation as that afforded by the Waters built in unit. The QF-1 has a flexibility advantage (selectable null, peak, etc) over the Waters, however. Waters manufactured a lot of nice accessories for the Collins line; unfortunately one of their competitors virtually 'stole' some of their ideas and began marketing ersatz products.

73 from Don, K6LTS
donrm@sr.hp.com

208. Re: PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ud9aq$ek9@hpcvsnz.cv.hp.com>
Source record: 103476

Todd Owen (ke4udn@amsat.org) wrote:
: How many microseconds does it take for a PIN diode to switch?

Depends on the diode and the forward and reverse currents. It can
be well under a microsecond for some diodes. Seems to me there is an
application note that covers things like this in the HP Microwave
and RF Designer's Catalog.

--
Cheers,
Tom
tomb@lsid.hp.com

209. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: alandp@flash.net
Message-ID: <4ucub5$et8@excelsior.flash.net>
Source record: 103477

In article <4u83g4$6al@esgadm.esg.mk.com>, tim_shearer@mk.com says...
>
>I always find myself with my face right down near a circuit board trying to
>solder or un-solder some microsized surface mount part or something. I
>therefore breath a lot of solder/rosin smoke. Is this bad for your health?
>Is there lead in the smoke?
>
>Anyone know? Maybe others also are curious?
>
>Tim
At my job I work with solder wafting up into my face all day.
I did as the others have done, put a small fan to one side to
blow the fumes away. A while back the company had some
guys come in a do air tests, they said there isn't enough
stuff in the air to be harmful, just be sure to wash your hands
before eating if you've been handling solder, and for God's sake
don't hold it in your mouth (as one of our less brilliant techs did
when both his hands were full).
73 -- Alan KJ5ZD
--
http://www.flash.net/~alandp/

210. ICOM IC-V200TN - information NEED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: "T. Warchal" <twarchal@wg.ns.onet.pl>
Message-ID: <3209D613.7395@wg.ns.onet.pl>
Source record: 103478

I need a program and hardware interface to program ICOM IC-V200TN.

Is anyone have any information about it ?

Thaddy SP9VFC

email: twarchal@wg.ns.onet.pl
tel/fax +48-18-421-075

211. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <4ucn8t$hl1@nnrp1.news.primenet.com>
Source record: 103479

Here in the US, all manufacturers of materials that may cause some health problems are required to issue a Material Safety Data Sheet (MSD). You can request it from wherever you purchased the solder, Radio Shack has them, other retailers may not have them but can get them quickly.
The information is very terse, but ventilation and exposure limits are very clear.

Jim N7TCF

212. Re: N6GN Microwave Data Link

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4ud1ve$6dt@canyon.sr.hp.com>
Source record: 103480
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

John Clark (clarkjc@craft.camp.clarkson.edu) wrote:
: In response to N6GN's question about receiver board schematic errors:

: Oh, I found more than those 3 errors... I emailed you (N6GN) a list of
: the ones I found, but your machine, sr.hp.com, seems to be down as far
: as I can tell (ping, traceroute, etc..)

I *did* just get the mail. My machine is behind a firewall which is the
reason you don't find end-end IP connectivity with it. Your list
seems to be of differences between the layout/assembly information
on the web pages and the schematic(s) published by the ARRL. It appears
that the differences are all "errors" of the layout rather than the
schematic.

> Well, here are some I've noticed by comparing the schematic with the
> printed board layout and part placement diagram I downloaded from your
> web site:
> 1) Q3 and Q4 are switched
> 2) The 20K resistor between the base and emitter of Q3
> (formerly Q4) is a 147 on the part placement diagram
> 3) The pins on U5 are switched between U5A and U5B
> 4) Connector P1 is wired very, very differently, esp. pins 6,7,8
> 5) The MAR-6 is labelled U7 and it should be U9
> 6) Connector P2 is wired differently (look at pin 4)
> 7) There is a 9 pin D-SUB connector on the layout that
> presumably for the microwave board but isn't on the
> schematic
>
> There might be more; I haven't checked everything yet...

These all seem to be issues specific with that particular (older) ARRL
layout.

(1) both devices are the same 2n2222 so it doesn't matter anyway
(2) schematic is correct
(3) dual opamps in the same package. Doesn't matter.
(4) I think this was changed at the ARRL when they (re)laid the board.
the schematic in my 1991 Handbook shows things OK, as far as I
can tell.
(5) It's labeled U8 on the schematic I have.
(6) It appears to be shown correctly in the Handbook schematic.
(7) The ARRL layour used a different connector type but on the one
set of their boards I loaded, both the rx and uwave ends are working

with a ribbon (soldered, not connectored) between them) I think this
was done because they didn't have the connectors I used available.

Perhaps someone who has assembled a transceiver using the FAR Circuit
board set can comment. I have never even seen any board sets except
the early ones from the ARRL. The original four transceivers I built
were all hand wired. I did load and test the ARRL board set though and
it worked, with a couple of corrections. I believe that the corrected
schematic (corrections as listed on the web page) is suitable for making
all necessary corrections to the Handbook schematic. If this is not the
case, I'd appreciate hearing about it.

Thanks for taking time to list these, I don't know if anyone else is
presently trying to use the layouts to build their own boards. Perhaps
they can comment on any other corrections to that artwork.
If more are found, please indicate and I'll put them where everyone can
see them.

Has anyone had recent experience with the FAR boards or other layouts?

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page --------------------|
| |
| http://www.tapr.org/~n6gn/index.html |

213. Re: Need mod to enable CW fltr for LSB on FT757GXII

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4udm40$nf0@hpscit.sc.hp.com>
Source record: 103481

In article <4ud8k2$hmd@sjx-ixn3.ix.netcom.com>,
Joel Gamble <ko4qc@ix.netcom.com> wrote:
> I am in desperate need of any info concerning enabling the narrow CW
>filter to work on SSB,on the FT757GXII.I believe it must be for the
>GXII,as I received a mod for a GX once and the schematic didnt match my
>rig.I am not even sure if this mod exists but I will appreciate any
>help.
> Thanks,
> Joel
> Ko4qC
>

I did this to my FT757 GX-I so I could use the narrow CW filter
for RTTY without having to flip the tones in the TU. It involved
bringing out 3 wires to a toggle switch (I just let the toggle
switch hang on the end of the wires; I will leave it to your
imagination how to mechanically mount the switch.) The wires went
to the switching diodes that select the filters. It was fairly
straightforward to figure out from the schematic how to do this
I routed the wires out the back thru the left hand most ventilation hole.
I would guess that if you get a correct GXII schematic, you can
figure it out fairly easily if its anything like the original
model.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

214. 7591 tube needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: "Yuri Yulaev." <yuriyal@microsoft.com>
Message-ID: <01bb8542.ce26b6c0$0d71389d@yuriyal>
Source record: 103482

any pointers will be appreciated

215. Need mod to enable CW fltr for LSB on FT757GXII

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-08 00:00:00 UTC
From: ko4qc@ix.netcom.com
Message-ID: <4ud8k2$hmd@sjx-ixn3.ix.netcom.com>
Source record: 103483

I am in desperate need of any info concerning enabling the narrow CW filter to work on SSB,on the FT757GXII.I believe it must be for the GXII,as I received a mod for a GX once and the schematic didnt match my rig.I am not even sure if this mod exists but I will appreciate any help.
Thanks,
Joel
Ko4qC

216. Re: Microwave ideas please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Steven Preston <spreston@highpower.com>
Message-ID: <320C2DC9.439D@highpower.com>
Source record: 103284

alan anganes wrote:
>
> Are there any microwave experts out here? This is not quite a ham radio
> question, but I figured that there must be someone here who can help me.
>
> I need some ideas for a method to couple microwave energy, from say a MW
> oven magnetron, to a small liquid sample (a few cc's) which is mostly
> water. I wish to cause rapid heating of samples in a very short amount of
> time, with short microwave pulses.
>
> I learned lots of this stuff in collage, but am really so far from it
> now, that I need one of you guys to point me in the right direction.
>
> I apologize for the off topic post, and will gladly move off to email,
> so as not to drive everyone nuts. Thanks for your help.
>
> al@chelmsford.com
>
> Al Anganes WB1BQC

Why not put the "liquid sample" into the oven and turn the oven on?

-Julia Child

217. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: dpm3@seanet.com
Message-ID: <dpm3.1207.00225B14@seanet.com>
Source record: 103285
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article domonkos@access5.digex.net (Andy Domonkos) writes:

>I wouldn't sweat it guys. How friggin enforceable is this kin d of crap.
>Look/listen around.

The problem is, Andy, is that it gives your hysterical neighbor, the do-gooders in your city planning department lawyers for some "Public Interest Research Group" and other associated crazies a "hook" to use in starting litigation. Just wait until they demand to see your EIS and then threaten to challenge its sufficiency in court unless you agree to comply with their conditions, including th right to audit. Complaints of non-compliance are almost sure to follow when they hear any interference on their cheap no type-accepted TV they boaugh at Uncle Sam's Barain Barn. It opens Pandora's Box and that spells trouble for anyone with a hobby these anti-technolgy Luddites don't share or understand.

==========
"I distrust a close-mouthed man. He generally picks the wrong time
to talk and says the wrong things. Talking is something you can't do
judiciously unless you keep in practice"
- Casper Gutman, The Maltese Falcon
==========

218. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: stevem@best.com
Message-ID: <4ug83v$epm@shellx.best.com>
Source record: 103286

In article <01bb8598.fe59c5c0$fb99389d@DISCUS>,
Tom Kreyche <tomkr@microsoft.com> wrote:
>I'm planning to build a detector for bats (the flying mammals!) probably
>for dumping into a laptop for some kind of spectral analysis. Anyone have
>recommendations for ultrasonic sensors? Different bat species use
>different frequencies, typically 40 kHz to 60 kHz, audio.
>
>BTW, I've seen some standalone commercial detectors for about $250 but
>it's no fun just buying one!
>
>Thanks, Tom KG6YJ

I looked around for sendors for the same reason about a year ago. About
the best reasonable priced devices I could find are the ultrasonic
emitter/detectors used for motion detectors. I have seen them in a
number of surplus stores that have ads in hobby magazines. The only
problem is that these have a somewhat limited frequency response.
Ideally, I would have wanted something that was reasonably flat from
20KHz to 80KHz or so.

The plan was to use a balanced modulator like the LM1496 to translate
the ultrasonics down to the range of human hearing and drive a pair
of headphones. Just one of those projects I never got around to.

Good Luck

Steve Muther WF6R

219. Microwave ideas please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: alan anganes <al@chelmsford.com>
Message-ID: <4ugh0a$4jc@server1.chelmsford.com>
Source record: 103287

Are there any microwave experts out here? This is not quite a ham radio question, but I figured that there must be someone here who can help me.

I need some ideas for a method to couple microwave energy, from say a MW oven magnetron, to a small liquid sample (a few cc's) which is mostly water. I wish to cause rapid heating of samples in a very short amount of time, with short microwave pulses.

I learned lots of this stuff in collage, but am really so far from it now, that I need one of you guys to point me in the right direction.

I apologize for the off topic post, and will gladly move off to email, so as not to drive everyone nuts. Thanks for your help.

al@chelmsford.com

Al Anganes WB1BQC

220. Re: Direct Conv. Receiver Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ue116$2oo@hpcvsnz.cv.hp.com>
Source record: 103396

Kjhales (kjhales@aol.com) wrote:

: 1) Audio amplifiers
: The best op-amps I have run across have about 0.5uV input noise
: in a 3KHz band when driven from 100 ohms. Can I reasonably expect
: to do better with a discrete design? Or are other limits in the system
: going make improvement useless?

Discrete parts can do much better than this, but then so can op amps.
There are several op amps with voltage noise levels around 1nV/rtHz or
below. The Analog Devices AD797 is one example, and it also is very
low distortion. At that noise level, the RMS noise output will be
dominated by the noise in the 100 ohm resistor, a bit more than 1nV/rtHz
at room temperature, and construction technique will become important.
Use low noise power supplies, a good layout, and appropriate shielding.

--
Cheers,
Tom
tomb@lsid.hp.com

221. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: mike_luther@ziplog.com
Message-ID: <4ue8qn$goo@news.myriad.net>
Source record: 103397
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In <4uaq2n$d8i@mmlab15.mm>, pecampbe@mtu.edu (Paul E. Campbell) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: In article <4u7flm$mun@news.halcyon.com> gfiber@halcyon.com (Gary Fiber) writes:
>: >
>: >This could get real interesting. Since the article says the station location
>: >and all occupants are in a controlled enviroment. They consider neighbors and
>: >such to be uncontrolled. I wonder what will happen if a neoghbor comes down
>: >with some mysterious illness like cancer and notices he has been bombarded with
>: >electromagnetic radiation from your station all these years could he hold the
>: >operator liable because he had knowledge of the EPA guidelines of RF radiation
>: >?.
>:
>: Worse than that, Gary, the 50 watt exemption only applies to *amateurs*.
>: It does not apply to other classes of licensees. They've got to certify
>: compliance at *any* power level. Note that "push to talk" *radios* are
>: exempted from certification by their *manufacturers*, but *stations* using
>: such radios are not. The *licensee* is still responsible for seeing that
>: his station operates in compliance with 47 CFR 1.1307, 1.1311, and 1.1312.
>
>Worse than that, they didn't make an exemption for black body radiators.
>
>Those pesky cows sure do emit a lot of unlawful radiation, unintentional
>or not! To say nothing of the farmer and his wife...

To say nothing about the methane...

Mike @ W5WQN

222. Got a W2JAV article: Tks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: rmmiller@ix.netcom.com
Message-ID: <4ue78o$6pi@sjx-ixn3.ix.netcom.com>
Source record: 103398

Thanks to the folks who responded to my query for a W2JAV RTTY TU print. I'm off the garage to try it one more time

73,

Bob, KE6F

223. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Randy Smith <smithr@cfw.com>
Message-ID: <320AD784.64D4@cfw.com>
Source record: 103399

There are 3 dangers to soldering...
1) Being burnt!
2) Melting solder with an iron temperature above 800-850 degrees F (depending on tin/lead ratio), will cause the lead to be liberated in gaseous form. Not healthy to breathe!
3) Handling solder, then touching food that you eat. This will transfer lead from the solder to your fingers then on to your food... resulting in the direct ingestion of lead.

Randy Smith
KN4KB

224. Re: Inductance meter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.271.000FEA72@TRL.OZ.AU>
Source record: 103400

In article <4ua61i$r07@Steinlager.tip.net> jorgen.jonsson@uddeholm.se writes:
>From: jorgen.jonsson@uddeholm.se>Subject: Inductance meter schematic
>Date: Wed, 07 Aug 1996 13:35:10 GMT> Do anyone out there have a shematic for
an easy build and good>working inductance meter !?

If you only need to measure in the microhenry range, see;

"The Handy Inductance Bridge" by KB4ZGC, in 73 Amateur Radio, May '91.

Drew, VK3XU.

225. Re: Ham-Homebrew Digest V96 #334

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: aa6eg@tmx.COM
Message-ID: <Pine.LNX.3.91.960808230832.21483B-100000@tmx.com>
Source record: 103401

Re: 4CX-250 B and 4CX-250F tubes;

From the Eimac Data Book, it appears that the only difference between
the tubes is the Oxide Coated cathode heater voltages.

4CX 250B/7203 : 6.0 Volts, 2.6 amperes
4CX 250FG/8621: 26.5 Volts, 0.54 Amperes

73, QRO, DX, de Pat, AA6EG, aa6eg@tmx.com

226. Re: Interface help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Randy Smith <smithr@cfw.com>
Message-ID: <320AD690.23E2@cfw.com>
Source record: 103402

Hello Tom,
If you are into programming, you ought to check out LabWindows from
National Instruments. I wrote a control program for my ic-735 with it. It
allows pcx file support.
Randy Smith

227. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Randy Smith <smithr@cfw.com>
Message-ID: <320AD52F.4451@cfw.com>
Source record: 103403

Mark,
At one time that was the case. There was NO study guide at ALL. Then came the BASH books, then specific study guides, then a cry from all the people who thought it was too hard to learn from a "no question and answer" type study guide... so it became. The FCC mandated that all the question pools be published. Sounds kind of like the no-code license story to me.
Randy Smith
KN4KB

228. Re: "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: cphillips@interpath.com
Message-ID: <4ueaa1$eai@redstone.interpath.net>
Source record: 103404
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

ccart@erols.com (CHRISTOPHER CARTWRIGHT) wrote:
>Scott Ryan (crtoy@fyiowa.infi.net) wrote:
>: I'm looking to purchase or build a "Y" adapter that will allow me to
>: connect the mono audio out (headphone, 1/8") from a scanner and a SW
>: receiver to one stereo headset.
>I've done this before and most times it seems to work quite well.
>Sometimes it was two scanners, or SW and scanner, or whatever. Just a few
[snip]
>I guess this way you'll only have to spend half as much time to hear
>everything you want. I did run into one individual who used to do this
>but he was listen to four receivers and could keep up with our

Ten years ago or so, I bought a set of "quadraphonic" headphones
on a close-out from a surplus electronics catalog. I don't know how
much they would have cost originally, but they were pretty cheap as
a close-out.

Anyway, it was my intent to wire them for four (4) different inputs.
But, as so often happens, I never got around to the project. They
are around here somewhere, and perhaps someday I *will*!?! :-)

Seriously (more or less), one pretty easy way to keep up with
three audio sources is to split the inputs to a pair of "open air"
(walk-man) type headphones. That gives you two inputs, and you can
still listen to a third source in the background via a loudspeaker.
I've done it.

Hey, life is short... I believe in "multi-tasking". :-)

========== Opinions expressed are solely those of the author ==========
Curt Phillips, CEM KD4YU (ex-WB4LHI) | They that can give up essential
Chairman, Tar Heel Scanner/SWL Group | liberty to obtain a little
ARRL Life; QCWA; Raleigh ARS; NRA; AEE| temporary safety deserve neither
Energy/Recycling BBS 704-547-3114 |liberty nor safety. -Ben Franklin
===== cphillips@pobox.com ==== [Copyright 1996 All rights reserved]=====

229. Re: Roanoke Doppler DF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Randy Smith <smithr@cfw.com>
Message-ID: <320AD338.1355@cfw.com>
Source record: 103405

Tom Bratton wrote:

Has anyone out there built the Roanoke Doppler DF unit described in "Transmitter Hunting ..etc." by J Moell and T Curlee ? If so, can they confirm that there are no errors in the schematic diagram (Fig 9-5) , please. I am having trouble with what should be the easy bit, the audio amp/ low pass filter. With the component values shown I am not getting the signal levels quoted in the text. DC voltages are close to spec. The digital bit works fine, so far. Whilst I check my wiring (again!) I would appreciate some reassurance from any successful constructors.
Thanks.
Tom

Hello Tom,
I have built that unit (etched my own pcb) and it seems to work okay on the bench. I am NOT impressed with the performance in the real world though... Introduce some noise on the signal and the filter doesn't seem to work quite right. I know this doesn't answer your question, but it is all I know about it from personal experence. I do know someone else who built and currently uses his. It seems to work okay for him, although I have not looked at it with any test equipment... for all I know it could be doing the same thing mine is. Good luck!
Randy Smith

230. Re: Ham-Homebrew Digest V96 #334

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: aa6eg@tmx.COM
Message-ID: <Pine.LNX.3.91.960808224831.21483A-100000@tmx.com>
Source record: 103406

Re:

4-1000 Schematics: You can contact the Eimac Distributor in your country
and ask for a Amateur Application notes index. Within that index, there are
several App Notes that pertain to the 4-1000A tube. Complete schematics
and details on how to build that amp, and also dozens of other, related
hands on topics on amp building, in general. My recollection of the
4-1000A in Grounded grid, is that it will put out GOBS of power, uses
quite high Plate voltages, and requires lots of drive, maybe 150 watts
drive at HF. I run a pair of 4-400A's on CW which put out about 800 to
1000 watts (output) when driven with 100 watt exciter. This is with
about 2700 volts on the plate, under load, and 550 ma plate current. I
would like to add a third tube, sometime, as they are cheap, sometimes free
if you know a friendly Radio Engineer, who is a ham. Three 4-400As
should easily loaf along at a full 1500 watts output. Make sure you also get
the App Notes that apply to cooling requirements to these tubes. The
4-1000A tube has a ceramic surround at the base, with metal ring that
adds a fair amount of backpressure when combined with the glass chimney.
Use a squirrel cage fan (NOT A "MUFFIN" FAN) for cooling.
In the U.S. Eimac has 2 toll free numbers that info can be obtained from:
San Carlos (CA) office: (800) 423-4622, Utah: (800) 453-9428.
BTW, I have no connection, or commercial interests in Eimac.
73, and QRO to you.... Best DX, de Pat, AA6EG, aa6eg@tmx.com

231. Re: CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <320AD026.7AE7@flinet.com>
Source record: 103407

Bill C. wrote:
>
> Hi Duane,
>
> Discussions like this tend to move to flames. I'll take my chance and
> exit if flames erupt. I regard flamers as dwelling in the depth of
> ignorance. Will not respond to any.
>
> CW is not gone from non-amateur services and is not used solely for
> repeater IDs, either. Actual messages are sent and received daily using
> cw. It appears that will be the case for a long time to come. People who
> would deny this have only to tune across the spectrum. So... CW isn't
> really dead.
>
> I held my extra class ticket all during the the no-code modifications to
> our rules. There were hot discussions about all the "dingbats" who would
> invade the ham bands. It was believed that cw was an infallible dingbat
> filter, keeping undesirable people out. I had to point out all those
> articles about FCC actions against jammers and other ne'er do wells in
> the ham ranks. Almost all of them were.... extra class licensees!! It
> seems the cw filter didn't actually work, either.
>
> I *KNOW* we have more yoyo's with ham licenses, but there are also many
> more hams. Probably about the same percentage of dingbats as always. I
> have observed many new no-code licensees take the initiative to learn the
> code so they could have more priveleges (nobody has "rights") and many
> who were happy to live on the FM repeaters forever. Most are good people.
>
> So... why should those who want more priveleges be required to learn CW?
> I had to learn about building and operating satellites (not just using
> them) and how to build and operate a repeater and other things that I
> intend *NEVER* to do when I wanted to upgrade to Extra. I have no
> complaint. I had to demonstrate knowledge of things I never intend to do
> as part of the "package" of priveleges I wanted. It didn't hurt a bit.
> Those techniques (satllites and repeaters) are current, but, as we have
> seen, so is CW. If you're happy with no-code priveleges (nobody has
> rights) then I'll see you on the repeaters. If you want more priveleges,
> then buckle down, meet the requirements (more than just CW) and I'll see
> you in even more places.
>
> There are as many varied interests in ham radio as there are hams. I'd
> never "waste my time" linking a lot of FM repeaters to increase the
> coverage area. But... I think it is a cool idea and applaud those who do
> it. I'd also defend their "privelege" to do so. I might even use the

> system some time. Enjoy your priveleges. Earn more if you want them. Take
> some time to appreciate what all those other cool people are doing.
> You'll get even more pleasure from the hobby.
>
> Bill KU8H

Hi Bill, your right these things do turn unto flames...Bill I think you mis read what I said. I am an extra Class and have been so for 10 years running. What I was saying is , it seems like it is the no code hams who want to do away with the code all together. I feel they would like to remove the code portion of the bands all together to add more voice FREQs. I don't think, there are that many people who learn the code to 13 wpm and upgraded to general who really want to do away with all code. I truly believe if they did away with the code completely, the code portion of the bands would also go too. Hey I like CODE ! And I really think more people would too if they truly gave it a try. Not too many kids like learning another Lang in high school either, but if they do truly learn one, then it is of great help and you know it really isn't all that bad once it is learn.

so 73's
Duane AB4BE
http://www.flinet.com/~duane

232. Re: CW or not CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <320AD6C0.1709@flinet.com>
Source record: 103408

Bill C. wrote:
>
> Hi Duane,
>
> Discussions like this tend to move to flames. I'll take my chance and
> exit if flames erupt. I regard flamers as dwelling in the depth of
> ignorance. Will not respond to any.
>
> CW is not gone from non-amateur services and is not used solely for
> repeater IDs, either. Actual messages are sent and received daily using
> cw. It appears that will be the case for a long time to come. People who
> would deny this have only to tune across the spectrum. So... CW isn't
> really dead.
>
> I held my extra class ticket all during the the no-code modifications to
> our rules. There were hot discussions about all the "dingbats" who would
> invade the ham bands. It was believed that cw was an infallible dingbat
> filter, keeping undesirable people out. I had to point out all those
> articles about FCC actions against jammers and other ne'er do wells in
> the ham ranks. Almost all of them were.... extra class licensees!! It
> seems the cw filter didn't actually work, either.
>
> I *KNOW* we have more yoyo's with ham licenses, but there are also many
> more hams. Probably about the same percentage of dingbats as always. I
> have observed many new no-code licensees take the initiative to learn the
> code so they could have more priveleges (nobody has "rights") and many
> who were happy to live on the FM repeaters forever. Most are good people.
>
> So... why should those who want more priveleges be required to learn CW?
> I had to learn about building and operating satellites (not just using
> them) and how to build and operate a repeater and other things that I
> intend *NEVER* to do when I wanted to upgrade to Extra. I have no
> complaint. I had to demonstrate knowledge of things I never intend to do
> as part of the "package" of priveleges I wanted. It didn't hurt a bit.
> Those techniques (satllites and repeaters) are current, but, as we have
> seen, so is CW. If you're happy with no-code priveleges (nobody has
> rights) then I'll see you on the repeaters. If you want more priveleges,
> then buckle down, meet the requirements (more than just CW) and I'll see
> you in even more places.
>
> There are as many varied interests in ham radio as there are hams. I'd
> never "waste my time" linking a lot of FM repeaters to increase the
> coverage area. But... I think it is a cool idea and applaud those who do
> it. I'd also defend their "privelege" to do so. I might even use the

> system some time. Enjoy your priveleges. Earn more if you want them. Take
> some time to appreciate what all those other cool people are doing.
> You'll get even more pleasure from the hobby.
>
> Bill KU8H

By the way Bill ref to the other aspects of ham radio.
I built my repeater on 2 meters, I'm linked with 3 other sites, I built my own voter board, a few QRP low band gear, a kilo watt amp home brew using 813's, a 2 meter transmitter 1&1/2" x 1&1/2"using a 9 volt battery,
I'm now playing with an IR transmitter. All this because I became a ham and wanted to explore all I could. I'm not an electronics wizard but I know how to read , research, and apply. By the Way I'm also a V.E. and have lic. Many no code hams, but did you know the ARRL as stated that 90% of the no code ticket holders have never upgraded, that means they never even tried to learn the 5 W.P.M. code. Now Bill, is 5 wpm really that hard to learn ? Or is it a lack of trying ? That would give them 10 meter privileges and 10 meters is a great band when it's open. I'll admit though, the 6 meter band is a lot busier now because no code is required. I feel they are really missing out on a lot, you know ,low band gear is a lot easier to build than VHF gear, and a lot of fun to use too.

73
duane

233. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: domonkos@access5.digex.net
Message-ID: <4uf8fk$o2a@news3.digex.net>
Source record: 103409
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Screw it then, I'll sell my ham gear, buy me a 'big CB' out a kilowatt on it fire it up with an echo mic, noise toy on it ;-)

I wouldn't sweat it guys. How friggin enforceable is this kin d of crap. Look/listen around.

Andy

234. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: domonkos@access5.digex.net
Message-ID: <4uf8pm$o2a@news3.digex.net>
Source record: 103410
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Peter A. Klein (pklein@news.seattleu.edu) wrote:
:
: I'm sure the ARRL, not to mention many commercial organizations, would
: raise quite a squawk if every user of a 50+ watt transmitter in the U.S.
: had to file Love Canal-style paperwork. This would involve every police
: and fire department in the country, for starters.
:
: 73,
: Peter - KD7MW

Exactly! What about hospitals (where one goes to get healed supposedly) and their 5 kilowatt ERP pager antennas? I'm serious, I've seen the specs required by some hospitals here in Md for their paging network. Not to mention commercial pagers.

Like the new bogus stricter vehicle emmissions laws, if you don't meet EPA requirement you have to pay waiver penalty (in Maryland, $150 for 2 years).

Sounds like another money-grubbing scam from Washington.

Andy N3LCW

235. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <4ufchm$net@news.halcyon.com>
Source record: 103411
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

n1ist@netcom.com (Michael L. Ardai) wrote:

>In article <4uacqb$km3@mgate.arrl.org> Ed Hare <ehare@arrl.org> writes:
>-The VAST majority of amateur stations are already in compliance with
>-these rules.

>Does it include those (MANY) of us who *CANT* put up a tower; who operate
>with apartment balcony antennas or wires attached to houses? I can just
>see all the city boards gleefully getting rid of ham radio with the
>"We won't allow a tall tower, and the FCC won't allow power with a low
>antenna" opinions. I guess it is time to dust off the HW-8.

>We are trying to promote ham radio other than 2M thru repeaters, and now
>we get socked with this. Or will it be like all those 300 watt Italian
>stations...

>/mike
>(Does the negative gain from my windowsill-mounted hamstick reduce my
>100W to a safe level :-)

>--
>\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
>-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
>/|\ or send "info barc-list" to listserv@netcom.com /|\

In this thread there has been mentioned of the FCC study on this issue. A number of months ago I downloaded this " article " for work it prints out to be over 70 pages. We have nbeen looking at this issue for a while now casually. It was worth the time to download , lots of information was surprized to see how many typre of antennas the FCC used for testing and the tables and charts with test results included..
Download and print it today. Take a few nights to read and digest it.

Gary

236. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Chris Davis <cdavis@ptel.net>
Message-ID: <01bb85b0$252d88a0$195c09ce@chris>
Source record: 103412
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

Robert,

It may sound fun (when I was in college, we tried to do the same thing, but were unsuccessful, luckily.) If you do succeed, you WILL most likely be caught, unless you are in an area with almost no radio stations. As an assistant engineer at an FM station with several translators, we regularly monitor the band with a spectrum analyzer and would most likely find a 'pirate' station within a few days of it's debut. I'm sure you've read the posts from others outlining the fines.

Radio is an appealing hobby. I'm sure your intent is not to break the law. Why not go about it through the existing channels? If your desire is to communicate, try amateur radio, it's lots of fun! If your goal is to get your music 'on the air', seek out a local college or technical school radio station. I'm involved in both amateur radio and broadcast radio, a rewarding hobby and career. Good luck!

--
<><--><>
Chris Davis KB0WWP
cdavis@ptel.net
Asst. Engineer KJLY - Christian Radio
Blue Earth, MN
<><--><>

237. Re: fft ANALYZER INFO NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4ufeu1$2ib@service3.uky.edu>
Source record: 103413

In article <4ucq9ppeo3@mhafc.production.compuserve.com>, viny Coppola
<76103.723@CompuServe.COM> says:
>
>Need an FFT analyzer program that runs on a PC/soundcard that will not average
>
>and entire waveform, but allow the observance of the spectra of a part of the w
>
>aveform. Does anybody know if such software exists as shareware or commercially
>
>?
>
>Thanks beforehand
>
>
>
>Viny Coppola N1VC
>
Cooledit allows you to highlight any given part of a wav file and
do a fft on it. It has another mode where you can either move the
cursor along and fft a given point or highlight a given area and
"scan" it and get an averaged fft.
Syntrillium(spelling?) has a web site and Cooledit is also at many of
the ftp archives. You can use any two of its many features as an
unregistered user. For $50(us) you can register it and use all of the
effects at once. Nice program but I use WAVE by Turtle Beach. Wave
gives you a 3D plot of signal/frequency/time as a "topographic" map
type display. There is a freeware program that allows FFT called
(I think)Spectogram. It is up to version 2.3 and will play, record and
fft a wav file.
If you ned real time FFT, there are some programs that use a Sound
Blaster. FFT4 comes to mind. I grabbed it at the OAK.OAKLAND ftp site,
but that site might be gone now.
If you can not find FFT4 or Spectrum let me know and I will try and look
thru my notes and find where I got them.
Good luck.
.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky, the State
of Kentucky, or any agency of any government. If you do not like my
opinion, just get on with your life. I will not change your mind and
you can not change mine."

238. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.839578801@bauv111>
Source record: 103414

claude@bauv.unibw-muenchen.de (Claude Frantz) writes:

>nitro@aloha.net (Del Packard) writes:

>> Desperately looking for any help I can get on building an amplifier
>>out of my 4-1000a tube that I picked up at a hamfest. Thanks... WH6EQ

>You can use the schematics of a lower power amplifier and you have to adapt
>the components. There is no fundamental difference to ampliers using a
>4-125A or a 4-400A or such a tube.

There is additional data according to Varian:

Heater: 7.5 V, 21 A

Class C CW
Va= 4 kV, Vg2= 500 V, Vg1= -150 V
Ia= 700 mA, Ig2= 137 mA, Ig1= 39 mA
Wdrive= 12 W, Wout= 2100 W

Class B SSB GG (g1 and g2 grounded)
Va= 4 kV
Ia= 120 to 670 mA, Ig2= 0 to 80 mA, Ig1= 0 to 150 mA
Wdrive= 105 W, Wout= 1870 W

Class AB1 SSB
Va= 4 kV, Vg2= 1 kV, Vg1= -130 V
Ia= 170 to 480 mA, Ig2= 0 to 40 mA
Wout= 1130 W
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

239. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <320B7481.459B@erols.com>
Source record: 103415
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

You'll get a T1 connection which you could attach to your router.

I hope you don't consider the school application too critical.
Remember, part 15 devices must put up with any interference they
receive. Not only that, if you happen to interfere with anyone
else, you can be requested to shut down.

I have looked at the early lynx receivers. What they do is add
their own PN code at about eight times the data rate. That in
itself wouldn't be a big deal, except that the receive side is
wide open. They use a very wideband discriminator to receive
the whole FSK PN+signal mess. Then they digitally xor
themselves with the incoming PN signal. It will work, until
some stronger signal appears anywhere in the passband. Then
the discriminator goes in to capture and you're screwed.

Lynx is relying on the very low activity in the 2 GHz band to get
away with this stupid trick. That situation is likely to change
soon. If you expect PCS to show up anytime soon, you had best
avoid this stuff...

73,
Jake Brodsky, mailto:frussle@erols.com
PP-ASEL-IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

240. WTB Selective Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <4ufk8o$n5s@alpha.pcix.com>
Source record: 103416

Am looking for Selective Receiver hz to khz.. for Lowfer Project

Tnx de Dave AA1A

241. Digital Microwave Radio [SS]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: mfraser@vanbc.wimsey.com
Message-ID: <4ufijm$1u2@wolfe.wimsey.com>
Source record: 103417

The Lynx, like many other products, uses that military favorite
for stealth and robustness, Spread Spectrum, which was just described
accurately in a technical sense [modulating/multiplying the data
signal with a pn code N-times faster....].

I agree that PCS landing on your receiver will probably mean
kaput, but SS is really intended to overcome the impairments
of single-frequency interferers, and to "despread" any kind of
un-correlated interference.

Rules permit some very small amount of single-frequency power to be
transmitted in these bands, or if spread spectrum, up to [please correct
me] a WATT!, so long as the signal density [megavolts per cubic furlong
or something] is kept low enough - that's done with the pn spreading code.

Now, SOME makers lie thru their teeth about spreading gain. Can't say
for sure about W. Multiplex, but they're a reputable outfit. If the
gain figures hold up [as stated in the FCC rules] then this will be
BETTER than that narrow front end at a milliwatt etc....

flame away....
/mark

242. Re: Ring diode mixes and spurious signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <320B7D5B.5AE8@crpl.cedar-rapids.lib.ia.us>
Source record: 103418

Lars Moell wrote:
>
> Hi
> while starting a design for a fairly wide-band converter using a
> ring-diode mixer, all the usual unwanted signals appeared. One signal
> that is really a pain-in-the-a** is 2*RF-LO. Data sheets shows
> supression of 55-60 dB w r t input signal. Filtering will not help as
> this spur is generated within the mixer. Changing IF is no option as
> this is fixed.
>
>

Here are a few suggestions:

1) A 23 dBm mixer such as Mini-Circuits RAY-3 (23 dBm LO) lists 63 dB for the 2RF-LO spur for an input RF level of 0 dBm. This is pretty good.

2) If you can reduce the gain (or the signal level) ahead of the mixer by X dB, the rejection of this spur will improve by 2X dB.

3) The harmonic intermodulation spurs for mixers are specified for some particular RF signal level such as 0 dBm or -10 dBm etc. 0 dBm is a *very* strong signal.

4) If some particular local station is causing trouble, consider a trap circuit to reject that frequency

Bill W0IYH

243. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4ufml6$1d44@newsgate.sps.mot.com>
Source record: 103419

The ARRL handbook from a few years back featured a 160M amp based
on the 4-1000A. (I think it was 1991.) It's trivial to scale
the tank circuit for the higher frequencies, based on information
in other projects and handbooks.

As frequently as hams ask for schematics and information contained in
older editions of the ARRL Handbook, you wonder why the ARRL doesn't
publish these on CD-ROM.

League, are you listening?

244. Re: 2m Allmode Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Randy Smith <smithr@cfw.com>
Message-ID: <320B7488.77F9@cfw.com>
Source record: 103420

> I wonder if someone can help me, I have a Yaesu FT-290R1 that is doing
> a great job on ssb. I would like a bit more power (it only runs 2.5 w PEP)
> and as I like building I wonder if there is a circuit available for
> an amp that will work with only 2.5w input and run 50+ w out.

Hello Rudi,
This can be done with a single transistor, although it would be better to use a pair of them for class ab operation. The only problem with this type of circuit is that the PCB requires special track widths and such to properly match the output impedance of the transistor(s) to the line load. Something MUCH simpler to do is get one of the class ab hybrid amps and go from there. All you will need is a TR switch and power supply. They sell for $50 to $100 depending on frequency, bandwidth, gain, and power handling capacity. I have used these before in ATV equipment, it couldn't be any easier!
Randy Smith
KN4KB

245. Re: homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <320B7DC7.41C6@pactitle.com>
Source record: 103421
Cross-posted to: rec.ham-radio.swap,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

```
chris bloxsom wrote:
>
> Bernie McClenny, WR3E wrote:
> >
> > Ken Bessler wrote:
> > >
> > > Dave Booth wrote:
> > > >
> > > > I just revised my homepage if you want to check it out.
> > > > new stuff!
> > > > --
> > > > Dave Booth
> > > > kc6wfs
> > >
> > > I am always ready to surf....However I do need a URL....:-)
> >
> > This is my first reply to a news group. What does this have to do with
> > DX. I have been reading the rec.radio.amateur.dx stuff for about a week
> > now and notice little DX info is reported here. Is this intended to be a
> > source for DX? If not let me know so I can stop wasting my time. de
> > Bernie, WR3E.
>
> hey bernie ,stop your bitching.

Well it was to funny. forgot to put my URL in there. hehe
http://www.geocities.com/Hollywood/5860
--
Dave Booth
kc6wfs
```

246. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Dave Lance <nf8r@imperium.net>
Message-ID: <320B4FF8.449B@imperium.net>
Source record: 103422
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jeffrey Herman wrote:
>
> Dan Morisseau <dpm3@seanet.com> wrote:
> > Thanks, Bill! Thanks, Hillary!, Thanks, (the late) Ron Brown! Thanks,
> >Daschle and Gephardt! Thanks psuedo-science enviro-hystricals! You gotta love
> >it don't you, folks?
>
> I do! Imagine if everyone voluntarily kept their output power limited to
> under 50W. Remember, we're supposed to run the minimal power necessary for
> reliable communication. Since folks don't self-police themselves in follow-
> ing this regulation, we'll now have the government carry out those duties.
> But we can thank the FCC for *raising* the cutoff to 50W; the original
> proposal was for a lower power level.
>
> As long at that is 50W output and not 50W ERP, just think of the more
> efficient antennas that are going to be sprouting from each shack now.
>
> KH2PZ

Yeh right, what planet are you from ? As somebody who has been through
many zoning restriction tower "battles" this whole EPA bull will be used
as just another tool to prevent us from putting up efficient antennas.
Been there done that. If I didnt have a decent tower now (which probably
is worthless with these new restrictions) I would NEVER go through the
hassles again.

Dave NF8R

247. Re: PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ufu80$7hr@hpcvsnz.cv.hp.com>
Source record: 103423

In an earlier followup, I wrote:
: Todd Owen (ke4udn@amsat.org) wrote:
: : How many microseconds does it take for a PIN diode to switch?

: Depends on the diode and the forward and reverse currents. It can
: be well under a microsecond for some diodes. Seems to me there is an
: application note that covers things like this in the HP Microwave
: and RF Designer's Catalog.

I looked up some HP PIN diodes and note that the reverse recovery time is very similar to the minimum carrier lifetime, which shouldn't be any big surprise. In particular I didn't find ANY PIN diodes that we make that list carrier lifetimes as long at a microsecond. They are mostly in the range of 30nS or so to about 400nS. The reverse recovery test is with 20mA forward current, and 10 volts reverse, with recovery to "90%" (of what?? It appears from the test circuit to be to 10% of the initial forward current. And the 10 volts reverse is through 100 ohms of external resistance, so it's maximum 100mA.) With fast-switching PIN diodes, switching times in the 10nS region are possible, but of course it wouldn't make much sense to use a diode with such low carrier lifetime to switch a 30MHz signal... gotta use a diode appropriate to the application.

--
Cheers,
Tom
tomb@lsid.hp.com

248. Re: Ring diode mixes and spurious signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: sutin@sol.ucolick.org
Message-ID: <4ug9jg$2km@darkstar.ucsc.edu>
Source record: 103424

rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <4uenl1$ng9@mercur.foa.se>, Lars Moell <larsm@lin.foa.se> wrote:
>>Hi
>>while starting a design for a fairly wide-band converter using a
>>ring-diode mixer, all the usual unwanted signals appeared. One signal
>>that is really a pain-in-the-a** is 2*RF-LO. Data sheets shows
>>supression of 55-60 dB w r t input signal. Filtering will not help as

>Fourth, it is extremely important to filter out of the LO drive
>signal all harmonics, especially the even ones and in particular the
>2nd harmonic. Failure to do so will seriously degrade IM performance.

This will add amplitude noise sidebands and add heating losses in the diodes.
Better is to suppress only the even harmonics, and drive the diode ring with
a saturated square wave. This is, of course, a matter of opinion, as there
are arguments for both ways.

Brian Sutin *** UCO/Lick Observatory *** Santa Cruz, CA 95064 *** KD6TLA
Boruch bn Michael bn Lion bn Benjamin bn Moishe bn Nachum Sutin Ha'Levi
Fred: "May I rescue you?" `Top Hat'
Ginger: "No, thank you. I prefer being in distress." RKO 1935

249. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug9.161125.608@main03>
Source record: 103425

In article <4uaqu1$hkn@nuhou.aloha.net>, nitro@aloha.net (Del Packard) writes:
> Desperately looking for any help I can get on building an amplifier
> out of my 4-1000a tube that I picked up at a hamfest. Thanks... WH6EQ
>
> nitro@aloha.net

I think I remember seeing a 4-1000A amp plan in some old 60s or 70s handbook.
I'll take a look tonight and see if I can find it.

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

250. Ring diode mixes and spurious signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <4uenl1$ng9@mercur.foa.se>
Source record: 103426

Hi
while starting a design for a fairly wide-band converter using a ring-diode mixer, all the usual unwanted signals appeared. One signal that is really a pain-in-the-a** is 2*RF-LO. Data sheets shows supression of 55-60 dB w r t input signal. Filtering will not help as this spur is generated within the mixer. Changing IF is no option as this is fixed.

Well while discussing this problem with a friend, he thold me he have had similar problems while designing a s/w receiver.
Example: assume RF 5 MHz and a IF of 40 MF. This leads to a LO of 45 MHz. Apply a 2.5 MHz unwanted signal and presto this shows up only 60 dB down.

OK, in this example the use of a sub-octave pre-selector would solve the problem, but there seems to be other solutions....

Doing this test with a Watkins Johnsson WJ-8711 with only a lp-filter ahead of the first mixer shows excellent rejection.
Is there a smart way of getting this "second -order" spurs to be supressed 90-100 dB? Is it possible to acheive this kind of balance over any temperature range and component drift?

Suggestions and/or comments are really wellcome!
73 Lasse SM5GLC

251. Filament Choke info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Mitch Kobierowski <mskobier@3-cities.com>
Message-ID: <320BF3EA.4211@3-cities.com>
Source record: 103427

Hello all,
I am trying to find some specific information about the filament choke that I am installing in my home brew (4) 811A amplifer. I inhertied the partially completed unit a couple of years ago. I repaired, re-designed, and put on the air this amp. It worked great. I have recently decided to ad the WARC bands and 160M to the amp. I discovered that the filament choke didn't have enough reactance for 160M. The choke measured approx. 20 micro/h. I have looked back through all of my available reference material and haven't found any info on the mod I am doing. I purchased a 7.5 inch /.5 inch diameter #61 ferite rod. the number of turns that are required seem to be between 25 and 35 bifilar wound turns. I haven't been able to find a specific design that has been proven to be adequate. If anyone has any information on this particular subject, I would really apreciate it. you can e-mail me at mskobier@3-cities.com or post back to this newsgroup. thanks in advance.
Mitch (KJ7JA)

252. Re: fft ANALYZER INFO NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <320B8873.51D8@odyssee.net>
Source record: 103428

viny Coppola wrote:
>
> Need an FFT analyzer program that runs on a PC/soundcard that will not average
>
> and entire waveform, but allow the observance of the spectra of a part of the w
>
> aveform. Does anybody know if such software exists as shareware or commercially
>
> ?
>
> Thanks beforehand
>
> Viny Coppola N1VC

If my memory is good the program below is
an FFT using a sound blaster card:
arrl ftp server bbs.programs

http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/programs/fftmorse.zip

253. Re: FS Parts, Parts. (updated) [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <320B8A1B.45D2@odyssee.net>
Source record: 103429

UUDecoded

Homebrew parts;
(2) 3CX1200 D-7 tubes, 1 with 20 hours use, 1 with 0 hours NIB $400
each
(1) 35-500pf 5KV jennings vacum variable cap. with turns counter, (good
for C-1) $100
(1) 15-2000pf 3KV jennings vacum variable cap. with turns counter, (good
for C-2) $100
(1) Peter Dahl plate transformer 220-240vac primary, 2000-2400-3040 sec.
@ 1 amp. CCS
nearly new, great condx, 46 lbs. $220
(1)Peter Dahl filiment tranformer 6.3vac with center tap @ 30 amps. CCS
(good for 3CX1200 D-7 tubes) $60
(2) Jennings vacum relays 26.5vdc SPST, (use in tandem for T/R relay) $50
each.
(11) Mallory 800mf 450vdc eletrolitic caps. nearly new, $10 each or $100
for all with 73k bleeder resistors.
(1) Dayton "squirrel cage" blower, 100cfm 110vac, .75 amp. $10.
(2) EIMAC SK-410 tubes sockets (slightly modified) $10 each.
(1) filement choke can handle 30 amps. ac 160-10mtrs $10.
(4) band switches single pole, single gang, very lagre, handle lots of
power, 5 positions, $10 each.
(many) "Doorknob" caps. of various values & voltages, E-mail with your
needs, I'll see if I have it. $3 each.
(Many) air variable caps. of various voltage & capatitance values. Tell
me what you need, and I'll see if I have it, and tell you how much for
it.
(Several) roller inductors of differant sizes, turns counter available.
Tell me what you need.
(Several) Cabinets, all metal large and small. E-mail for more info and
pricing.
(TONS) of ceramic disc caps, new & used. 10 cents each
(lots) of power resistors.
(assortted) reciver tubes(used, condition unknown) ask for specific types
& prices.

I have years of parts accumulations, and I want to clean out the shack &
the shed.
Don't be afraid to ask for wierd, or hard to find parts, you never know,
I might have it.
It may take me some time to find it though.

E-mail me if you need more info on any item, ALL prices includes
shipping.

ALL PRICES ARE FIRM !! NO TRADES !

254. Re: 7591 tube needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: geiger@usit.net
Message-ID: <320b878f.752472@news>
Source record: 103430

On Thu, 8 Aug 1996 09:01:05 -0700, "Yuri Yulaev."
<yuriyal@microsoft.com> wrote:
>any pointers will be appreciated

Try the following:

#1 E. S. R. C.
P O Box 1192
Delray Beach , FL 33447-1192

Phone 561 735 3397
Fax 561 737 3541

#2 Typetronics
P O Box 8873
Ft Lauderdale , FL 33310

He had them for $50/each at the Dallas Hamcom in June.
We needed 6 but could not afford the $300.

Ed Geiger, KD4AB, geiger@usit.net

255. Need-HEATH schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: Tom Kutz <tkutz@Skypoint.com>
Message-ID: <320C2B59.132E@Skypoint.com>
Source record: 103431

I am in need of a schematic for a HEATH power supply model IP-27
If anybody has one I would be glad to pay for the costs incurred

Thanks

Tom Kutz
WA0LRE
5510 Underwood Ln N
Plymouth, MN 55442

tkutz @ skypoint.com

256. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: kd1nr@anomaly.ideamation.com
Message-ID: <4ugspd$qct@anomaly.ideamation.com>
Source record: 103432
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

In article <01bb85b0$252d88a0$195c09ce@chris>,
Chris Davis <cdavis@ptel.net> wrote:
>Robert,
>
>It may sound fun (when I was in college, we tried to do the same thing, but
>were unsuccessful, luckily.) If you do succeed, you WILL most likely be
>caught, unless you are in an area with almost no radio stations. As an
>assistant engineer at an FM station with several translators, we regularly
>monitor the band with a spectrum analyzer and would most likely find a
>'pirate' station within a few days of it's debut. I'm sure you've read the
>posts from others outlining the fines.

Hmmmm.. why do you look at the whole band?
>
>Radio is an appealing hobby. I'm sure your intent is not to break the law.
> Why not go about it through the existing channels? If your desire is to
>communicate, try amateur radio, it's lots of fun! If your goal is to get
>your music 'on the air', seek out a local college or technical school radio
>station. I'm involved in both amateur radio and broadcast radio, a
>rewarding hobby and career. Good luck!

The problem is that the FCC and big business have a virtual lock on all
RF spectrum. For example - to setup a small radio station is beyond the
fiscal abilities of most people and communities because the big guys
suck up spectrum. The perfect example of that is WDGE here in Providence
that broadcasts on both 99.7 and 100.3 which is a complete waste of
spectrum.

BTW - Christian Radio? Like there aren't enough churches and bible thumpers
around?

Tony (Who remembers that Christians are responsible for the best and
bloodiest of wars.)

--
== Tony Pelliccio, KD1NR
== As offensive as I wanna be.
== kd1nr@anomaly.ideamation.com

257. Re: Ring diode mixes and spurious signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-09 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ug85o$fkr@hpscit.sc.hp.com>
Source record: 103433

In article <4uenl1$ng9@mercur.foa.se>, Lars Moell <larsm@lin.foa.se> wrote:
>Hi
>while starting a design for a fairly wide-band converter using a
>ring-diode mixer, all the usual unwanted signals appeared. One signal
>that is really a pain-in-the-a** is 2*RF-LO. Data sheets shows
>supression of 55-60 dB w r t input signal. Filtering will not help as
>
>Well while discussing this problem with a friend, he thold me he have
>had similar problems while designing a s/w receiver.
>Example: assume RF 5 MHz and a IF of 40 MF. This leads to a LO of 45
>MHz. Apply a 2.5 MHz unwanted signal and presto this shows up only 60
>dB down.

First a correction. The example you give is not 2*RF-LO but
rather LO-2*RF.

Second, have you measured the rate of change of the spurious IF
signal with respect to the rate of change of the 2.5 MHz
interfering signal? If it is LO-2*RF, the ratio should be -2.
But what if it was actually the 16th harmonic of the 2.5 MHz.
input blowing into the IF? Then it would have a ratio
of +16.

If it was an IF harmonic, then you may be able to filter out only
the high order harmonics of 2.5 MHz. and let 5 MHz. go through.

Third, did you carefully filter the 2.5 MHz. unwanted signal to
guarantee that the 2.5 MHz. source did not have harmonics at
5 MHz.? You probably did, but just wanted to make sure.

Fourth, it is extremely important to filter out of the LO drive
signal all harmonics, especially the even ones and in particular the
2nd harmonic. Failure to do so will seriously degrade IM performance.

Fifth, regarding your sub-harmonic filter: if you have any
RF amplifiers in front of the mixer, you'll have to put the
filter between the amplifier and the mixer, unless the amplifier
distortion is negligible.

>Doing this test with a Watkins Johnsson WJ-8711 with only a lp-filter
>ahead of the first mixer shows excellent rejection.
>Is there a smart way of getting this "second -order" spurs to be
>supressed 90-100 dB? Is it possible to acheive this kind of balance
>over any temperature range and component drift?

I have been experimenting with the WJ M9E, which is the best
HF mixer (with DC coupled IF, at least) that I have found.

The diodes should all drift together, so temperature shouldn't
be super important for distortion, although it can affect
isolation.

>
>Suggestions and/or comments are really wellcome!
>73 Lasse SM5GLC
>

Rick Karlquist
rkarlqu@scd.hp.com

258. Re: 4CX250C/F Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <320BDC28.48D0@fyi.net>
Source record: 103288

rudix@atlas.infopta.co.za wrote:
>
> Hello everyone,
>
> I have been planning on building a 6m and a 2m amp using 4CX250B tubes,
> I managed to get hold of some new 4CX250C/F tubes and I wonder if I can
> use them. Are the different from the B's and if they are what is the
> difference ?
>
> Thanks for the info!
>
> Cheers
>
> Rudi
>
> e-mail : rudix@atlas.infopta.co.za
> Packet : ZR6VE@ZS0DLD.TVL.ZAF.AF26 v filament...Will work fine...Wire it so you can
switch
fil xfmrs and use any of the series.....

259. Radar Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4uh1ju$414@newsbf02.news.aol.com>
Source record: 103289

Can anyone tell me the operating frequencies and power levels of speed type radar systems used by Law Enforcement?

Thanks, Tom

260. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4uh23c$4dq@newsbf02.news.aol.com>
Source record: 103290

In article <839448385snz@lfheller.demon.co.uk>, Leon Heller
<Leon@lfheller.demon.co.uk> writes:

>I think there probably are some lead vapour and particles in the smoke,
>but the resin fumes are probably more harmful.

That's what OSHA tells us. All they require is proper ventilation,
handling instructions, and labeling.

>cases. Someone I know recommended blowing from the mouth over the joint
>whilst soldering, ensuring that the fumes aren't breathed in, and are
>blown away at the same time.

That's called giving a "Shotgun". I've held solder in my mouth all my
life, and I'm perfectly normal. As a matter of fact, I've NEVER met a
crazy Ham. Think about it.

73 Tom

261. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4uh49a$crl@synthemesc.insync.net>
Source record: 103291
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

domonkos@access5.digex.net (Andy Domonkos) wrote:

>>|Screw it then, I'll sell my ham gear, buy me a 'big CB' out a kilowatt on
>>|it fire it up with an echo mic, noise toy on it ;-)

>>|I wouldn't sweat it guys. How friggin enforceable is this kin d of crap.
>>|Look/listen around.

>>|Andy

I think the idea in so far as enforceability is concerned is so the powers-that-be can have one more thing to hang over your head just in case you do something to displease them.

I am not completely prepared to debate this, nor do I think this is the proper forum(s) to do so in, but I have come to the conclusion that the government has decided that the normal legal / legislative process has become ineffective in dealing with the issues (read: percieved *threats*)

Our politicians spend so much time preening and posturing before the American people, rather than dealing with substantiative issues, that the entire political process has become more of a circus side show, than an exercise in effective government. I am not altogether convinced that the people we elect to office are even qualified to understand the issues, much less deal with them.

So they sidestep the whole issue by creating a multitude of agencies with administrative (read dictatorial) authority over just about every aspect of our lives. These agencies rule by fiat, and in many cases are not accountable to anybody. (Canonical example: The I.R.S.) There are so many rules and regulations, so haphazardly written, and in some cases, mutually contradictory, that I suspect that no matter what you do, you are going to be in violation or one or more. Period. This sets the stage for selective enforcement, which means that if you attract thier (agency) attention, you get stomped on.

This flap over environmental impact statements is just another example of a government spinning wildly out of control.

Unfortunately, I am not a politician, just a humble electronics enthusiast, so what can I do?

Erikc

Religious fundamentalists are a plague sent by God to
punish us for our joys. -- me

262. 3-Phase AC question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: ccsys@interport.net
Message-ID: <320c05bf.6850931@news.interport.net>
Source record: 103292

I have a Lambda switch-mode power supply with a 3-phase input requirement. Being a switch-mode supply would this work acceptably using both sides (and the neutral) of the 220 line (and leaving one input disconnected?)

From a brief examination the three inputs appear to be in the standard 4-diode "full-wave" rectifier configuration. The outputs of the bridges appear to be connected together and to filter caps. I assume that the ripple will be increased which may require greater capacitance.

Any ideas or suggestions?

Andrew
N2CBU

263. Re: PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4uh2gv$4kr@newsbf02.news.aol.com>
Source record: 103293

In article <4ubor0$pfa@uruguay.earthlink.net>, ke4udn@amsat.org (Todd Owen) writes:

>
>How many microseconds does it take for a PIN diode to switch?
>
>
>--73, Todd KE4UDN
>
>

Common PIN diodes have carrier lifetimes between 1 and 40 microseconds, but these are by no means the technical limits.

As a general rule..the larger the junction, the slower the diode. Slow diodes are necessary on low frequencies. Long carrier lifetimes prevent the diode from acting like a conventional rectifier.

Use a diode with a carrier lifetime of five to ten times the period of the operating frequency. That requires a 2.5 - 5 uS diode for 1.8 MHz.

73 Tom

264. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4uhfsb$h5t@synthemesc.insync.net>
Source record: 103294

stevem@best.com (Stephen Muther) wrote:

>>|In article <01bb8598.fe59c5c0$fb99389d@DISCUS>,
>>|Tom Kreyche <tomkr@microsoft.com> wrote:
>>|>I'm planning to build a detector for bats (the flying mammals!) probably
>>|>for dumping into a laptop for some kind of spectral analysis. Anyone have
>>|>recommendations for ultrasonic sensors? Different bat species use
>>|>different frequencies, typically 40 kHz to 60 kHz, audio.
>>|>
>>|>BTW, I've seen some standalone commercial detectors for about $250 but
>>|>it's no fun just buying one!
>>|>
>>|>Thanks, Tom KG6YJ

>>|I looked around for sendors for the same reason about a year ago. About
>>|the best reasonable priced devices I could find are the ultrasonic
>>|emitter/detectors used for motion detectors. I have seen them in a
>>|number of surplus stores that have ads in hobby magazines. The only
>>|problem is that these have a somewhat limited frequency response.
>>|Ideally, I would have wanted something that was reasonably flat from
>>|20KHz to 80KHz or so.

>>|The plan was to use a balanced modulator like the LM1496 to translate
>>|the ultrasonics down to the range of human hearing and drive a pair
>>|of headphones. Just one of those projects I never got around to.

>>|Good Luck

>>|Steve Muther WF6R

Several ideas come to mind.

First, if you look around, it might be possible to find several
different kinds of these ultrasonic emitter/detectors. Determine
their frequency responses, and pick a set whose combined requency
response spans the range of interest.

I don't think you can effectively parallel these transducers, so I'd
suggest building a simple emitter follower preamp for each sensor, and
combine the outputs. A pot in the output of each preamp would allow
you to compensate for varying sensitivities of each sensor.

Another possibility would to be get an extended range piezo tweeter
and try to use it as a microphone. However, I believe these cut off
around 50 KHz or so.

I have no idea how much a commercial microphone for this range would cost, or even if they are available.

Just some ideas....

Erikc

Religious fundamentalists are a plague sent by God to punish us for our joys. -- me

265. Compact UHF Repeaters For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <320c1620.3548168@nntp.ix.netcom.com>
Source record: 103295
Cross-posted to: rec.radio.amateur.equipment,rec.radio,amateur.misc,rec.radio.amateur.homebrew

I have a limited number of EF Johnson Fleetcom II UHF rigs for sale.

These are easily converted to repeaters. I can provide the unit 2 ways.

As-Is - $50.00 + $10.00 s&h You do all of the conversion, alignment, recrystaling, etc. I will provide instructions for the conversion & a copy of service manual.

Ready-To-Go Repeater $300.00 + $10.00 s&h Fleetcom II converted to repeater use, crystaled to your freqs, tuned and aligned, simple controler w/id. You still need to provide a duplexer, and antenna. w/manual

These units are all pulled from service and tested & aligned on 468mhz.

I also have a limited number of service manuals for older commercial equipment. E-Mial your needs and I'll see what I can do.

Other Services available: (All prices + s&h)

Reprogramming of commercial equipment to Amatuer freqs - $35.00
Equipment Repair - $60.00/hr + parts (1/2 hr min, estimate if repair will take more than 2 hr.)
Custom Cables
'Most anything else your rig might need.

E-mail your needs to:
kproctor@ix.netcom.com

Kevin B. Proctor N0OAS/AAR8GF
"Let us all be gentlmen, for as it has been said,Blondes prefer gentlemen."

266. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <320c169d.3673229@nntp.ix.netcom.com>
Source record: 103296

On Fri, 09 Aug 1996 01:15:32 -0500, Randy Smith <smithr@cfw.com>
wrote:

>There are 3 dangers to soldering...
> 1) Being burnt!
> 2) Melting solder with an iron temperature above 800-850 degrees F
>(depending on tin/lead ratio), will cause the lead to be liberated in
>gaseous form. Not healthy to breathe!
> 3) Handling solder, then touching food that you eat. This will transfer
>lead from the solder to your fingers then on to your food... resulting in
>the direct ingestion of lead.
>
> Randy Smith
> KN4KB

Personally, I would worry more about the RF in the shack! The average
Ham does not get enough exposure to flux fumes to cause much harm.

When you blow your nose, and the residue works well for flux, start
worrying :-)

Kevin N0OAS
"Let us all be gentlmen, for as it has been said,Blondes prefer gentlemen."

267. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: graham@southlin.demon.co.uk
Message-ID: <19960810.001314.99@southlin.demon.co.uk>
Source record: 103297

> In article <4u83g4$6al@esgadm.esg.mk.com>, tim_shearer@mk.com says...
> >
> >I always find myself with my face right down near a circuit board trying to
> >solder or un-solder some microsized surface mount part or something. I
> >therefore breath a lot of solder/rosin smoke. Is this bad for your health?
> >Is there lead in the smoke?
>

Yes - there are some problems if you get it full into the lung. Alan's advice is good, and if you use a small fan the danger from tox is low. Handling lead will in time cause a cumulative buildup in you, again at a low level. DON'T put it in your mouth!! - ever. The most common problem is a strange tightness in the top of the chest, and a shortness of breath that is very like asthma, but happens to everyone. It can also trigger true asthmatics into fairly severe attacks. The symptom goes away after a couple of hours in the fresh air.

Beware the toxic products if you are tinning coil wire. If you can smell it strong enough to identify it as decomposing varnish, you are several times over the top.

Hope this helps..

G4WNT

--
Graham

268. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <IcH59EA$6FDyEw9o@ifwtech.demon.co.uk>
Source record: 103298

W8JI Tom wrote:
>I've held solder in my mouth all my
>life, and I'm perfectly normal.

Bet he strips wire with his teeth, too, and can spit the insulation into the waste basket from clear across the room.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

269. VA3ARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: nipeders@online.no
Message-ID: <4uhs3a$jk1@o.online.no>
Source record: 103299

Does anybody know the email adress of VA3ARE , Are Barstad? His last known QTH was : 36 Beatty street, Parry sound, Ontario Canada.
His wife is VE3TSZ.

They are good old friends of me, but we have lost contact. Telephone number or current QTH would of course also be great.

Yes, I know this is not a missing persons group, but this article is posted in differen amateur-radio groups for obvious reasons :-)

Thank you for your cooperation and best 73 de LA7SL.

email me at nipeders@online.no.

270. NVI antennas..Any one here used one...???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: Gary Robison <axxon@srvr.third-wave.com>
Message-ID: <4uhrr2$ps8@news.third-wave.com>
Source record: 103300

If you have used a NVIA let me know how it worked for you....I am in
RACES and need only to cover Western PA this type of antenna looks like
what I need....

tnx
Gary
K3SJX

271. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: delaney@j51.com
Message-ID: <4ui5rk$4jt@tzlink.j51.com>
Source record: 103301
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

n7ory@primenet.com in article ve <4u7qbl$ml6@nnrp1.news.primenet.com> on 6 Aug 1996 09:03:01 -0700 wrote:
: gfiber@halcyon.com (Gary Fiber) wrote:
:
: New Surgeon Generals warning label:
:
: "The Surgeon General has determined that prolonged brain usage may
: cause cancer, premature aging and death. Try not to think, live
: longer."
:
: Rob Neff (N7ORY)
:
Hah. I'm waiting for the day when I buy a new HT with the following:

"Surgeon General Warning: Use of this radio within proximy to your
head may cause soft tissue damage. For safe use hold radio at least 3 feet
from head"

--
Matthew Delaney N2MDB delaney@j51.com ax.25: n2mdb@k2sk.#eny.ny.usa.na
Technical Engineer - @North. Head IMP - Quasar MUD (delaney.j51.com:4000)
Personal - http://www.j51.com/~delaney @North Group - http://www.chsn.org
New York City Metro Skywarn Observer
"As the most participatory form of mass speech yet developed,
the Internet deserves the highest protection from governmental
intrusion." -- Judge Stewart Dalzell, ACLU v Reno

272. Looking to build a Multiplex system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: Todd Daugherty <daughert@cnmnet.com>
Message-ID: <320D083C.5E00@cnmnet.com>
Source record: 103302

Hello I'm looking to experiment in Multiplex systems and was wondering
where i could get some information. If know pleases let me know. thanks

Todd
N9OGL

273. Re: Ring diode mixes and spurious signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <4ui09o$qnu@mercur.foa.se>
Source record: 103303

rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>In article <4uenl1$ng9@mercur.foa.se>, Lars Moell <larsm@lin.foa.se> wrote:
>>Hi
>>while starting a design for a fairly wide-band converter using a
>>ring-diode mixer, all the usual unwanted signals appeared. One signal
>>that is really a pain-in-the-a** is 2*RF-LO. Data sheets shows
>>supression of 55-60 dB w r t input signal. Filtering will not help as
>>
>>Well while discussing this problem with a friend, he thold me he have
>>had similar problems while designing a s/w receiver.
>>Example: assume RF 5 MHz and a IF of 40 MF. This leads to a LO of 45
>>MHz. Apply a 2.5 MHz unwanted signal and presto this shows up only 60
>>dB down.

>First a correction. The example you give is not 2*RF-LO but
=======
>rather LO-2*RF.
Sorry it was friday afternoon when writing.....

>Second, have you measured the rate of change of the spurious IF
>signal with respect to the rate of change of the 2.5 MHz
>interfering signal? If it is LO-2*RF, the ratio should be -2.
>But what if it was actually the 16th harmonic of the 2.5 MHz.
>input blowing into the IF? Then it would have a ratio
>of +16.

Yes I did check the ratio, and the numbers given are not really this
nice in the acutal design!

>If it was an IF harmonic, then you may be able to filter out only
>the high order harmonics of 2.5 MHz. and let 5 MHz. go through.

>Third, did you carefully filter the 2.5 MHz. unwanted signal to
>guarantee that the 2.5 MHz. source did not have harmonics at
>5 MHz.? You probably did, but just wanted to make sure.
Yes lots of filtering

>Fourth, it is extremely important to filter out of the LO drive
>signal all harmonics, especially the even ones and in particular the
>2nd harmonic. Failure to do so will seriously degrade IM performance.
I guess it is common knowledge that a squrare-wave is giving better
mixer performance than a ordinary sinus-wave with both even and odd
harmonics.....

>Fifth, regarding your sub-harmonic filter: if you have any
>RF amplifiers in front of the mixer, you'll have to put the

>filter between the amplifier and the mixer, unless the amplifier
>distortion is negligible.

>>Doing this test with a Watkins Johnsson WJ-8711 with only a lp-filter
>>ahead of the first mixer shows excellent rejection.
>>Is there a smart way of getting this "second -order" spurs to be
>>supressed 90-100 dB? Is it possible to acheive this kind of balance
>>over any temperature range and component drift?

This is reallly the experiment to comment on. This receiver using a
quad FET switching mixer SD5400 (or something, equvialent to the
SI8900 stuff, never seem to remember the exact part numbers). Anyway
our W/J rx shows very good rejection of half-frequecy of the wanted
signal.
How come???

>I have been experimenting with the WJ M9E, which is the best
>HF mixer (with DC coupled IF, at least) that I have found.
>The diodes should all drift together, so temperature shouldn't
>be super important for distortion, although it can affect
>isolation.

Hmmm, numbers shows a clear improvement on the Mini-Circuits
high-levle mixers 2RF-LO 83 dB down compared to TFM2H (data on the
TFM3H shows 77 dB, this I have to confirm). But then the price and
availability is a 10 dB advantage for Mini Circuits

What I'm actually wants to do is to down-convert a wide-band IF to a
lower freq and then A/D-convert it. The A/D needs +4 dBm FS and the
max sig power at the high IF is -18 dBm. I must have at least 65-70 dB
of spur-free dynamic range! Usually one can lessen the problem
associated with harmonics by changing IF's an LO but not here.
If the mixing is sorted out with enough DR, the next thing is
harmonics in the low IF. With this wide-band low freq IF, the lowest
IF will generate a secon harmonic within the pass-band. I will
probably be forced to use a balanced amplifier to get enough
supression.

IF is 40 +/-5 MHz and down-converted to 12.8+/- 5 MHz, LO is fixed
52.8 MHz.

>>
>>Suggestions and/or comments are really wellcome!
^^^^^^

>>73 Lasse SM5GLC
>>

>Rick Karlquist
>rkarlqu@scd.hp.com

274. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: muphaus@cris.com
Message-ID: <ODPDyM82cqFF085yn@cris.com>
Source record: 103304

On Wed, 07 Aug 1996 03:46:36 GMT firewevr@insync.net (erikc) wrote:
> I use a 12v fan out of an old PC power supply, and
>run it on 5v. It is quiet and the airflow is such that the fumes are
>blown away, but the soldering iron is not cooled off by the airflow.

Turn the fan around and suck the vapors away from the work area and the
soldering iron will not cool as readily...

Marv, K4BVG...

Even when the experts all agree, they may well be mistaken.
--Bertrand Russell
PGP PUBLIC KEY posted at pgp.mit.edu
---

275. 2M repeater project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: radiocc@ionsys.com
Message-ID: <4uiqjq$am0@tor-nn1-hb0.netcom.ca>
Source record: 103305

Well, I am going to starting a college project soon, for my
Electonics Technologist Course. What I am proposing to build is a VHF
repeater. To start off with just a very basic system. Then as time
permits, to continue to enhance it, with higher power, phone patch, and
voice messaging.
What I am looking for, is any information on building a system,
Transiever, and power supply, maybe a kit, or documentation. Anything
that might help me get the basic system done quickly, to try and dedicate
more time to the features.
I have just started to preform my research, so any information
that you have would be appreciated, anything at all. I have 6 months to
complete this project, PCB'ed, documented, and functioning within this
time limit, so time is of the essence.
Thanks in advance to all!
Mike Russell

276. Re: PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4uj0ml$qud@hpscit.sc.hp.com>
Source record: 103306

In article <4uh2gv$4kr@newsbf02.news.aol.com>,
W8JI Tom <w8jitom@aol.com> wrote:
>
>Common PIN diodes have carrier lifetimes between 1 and 40 microseconds,
>but these are by no means the technical limits.
>
>73 Tom

Thanks for the info, Tom. Can you give us a specific example of
a 40 microsecond diode? We didn't know they were available.
Does Microsemi make them? I thought the technical limit on
the carrier lifetime had to do with how pure they can make the
silicon in the "intrinsic" region. Anyway, a 40 microsecond
diode would be quite interesting to experiment with.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

277. Re: WTB Selective Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.960810152932.26698E-100000@spork.callamer.com>
Source record: 103307

Atta boy Dave, join us LOWFERS on the 1750 meter band! Cliff K7RR ex W6HDO

On 9 Aug 1996 daveaa1a@pcix.com wrote:

> Am looking for Selective Receiver hz to khz.. for Lowfer Project
>
> Tnx de Dave AA1A
>
>
>
>

278. 4-1000A Amp Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: "Alan Gray, W3BV" <agray@voicenet.com>
Message-ID: <320D2DF2.6D53@voicenet.com>
Source record: 103308

nitro@aloha.net (Del Packard) writes:

Desperately looking for any help I can get on building an amplifier out
of my 4-1000a tube that I picked up at a hamfest. Thanks... WH6EQ

____
Call/write Eimac and ask for Amateur Service Bulletin 10 (AS-10). This
is a reprint of Larry Kleber's (K9LKA) July 1963 QST article "The
4-1000A in Grounded Grid".

If you can't get it from them, e-mail me and I'll be happy to fax or
mail you a copy. Also, you may want to research back issues of Ham Radio
magazine as they had a number of excellent articles in the 70's on
improved 4-1000A designs.

Good luck with the amp!

Alan, W3BV

279. Please!! Schematics for Hayden 75 Watt Amp Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-10 00:00:00 UTC
From: Ken or Nathan Lundgren <pilot@northernnet.com>
Message-ID: <320D4460.2F50@northernnet.com>
Source record: 103309

I have a Hayden Sidewinder 75 watt linear amp that works from 3-30 Mhz.
It has preamp and SSB/AM mode capability. The power LED lights up
but does no good as far as power output. Any help will be greatly
appreciated.
Thanks Much
Nathan
pilot@northernnet.com

280. Cobra 138 XLR (a) - 10 Mtr Conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: Glenville Sawyer <gsawyer@dove.mtx.net.au>
Message-ID: <320D92EE.57DF@dove.mtx.net.au>
Source record: 103310

Hello out there .....

Before I set about re-inventing the wheel ..

Has anyone already succesfully converteda Cobra 138-XLR (A) (the PLL version - NOT the early rock bound block) to the UPPER part of 10 Metres ?

I did shift one up to the bottom end of the band - but here in Australia that is no quite high enough for my class of licence.

Once converted I will FM it and add some digital stuff for repeater offset control etc - THAT part is easy !

O.k off you go - look in your "Mods" file for me - Please !!

Thank for reading this, hear from you soon ?

Glen

VK5ZCF (+ A number of other licences on LOTSA frequencies)

281. TECH. REF. NEEDED FOR HEATHKIT DX40 TRANSMITTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: chasteen@juno.COM
Message-ID: <19960810.201341.18654.21.chasteen@juno.com>
Source record: 103311

Hello all

I Just become the proud owner of a /heathkit DX40 Transmitter and need
all the technical info I can get. I dont have anything. Min. essential ..
a schamentic and parts list.

Any assistance will be appreciated.

Thank You,

John

St. John of Wood Dale ====================================
John Chasteen (Near the center of the Universe...)
1 Thes 5:16 (Near Chicago, Illinois.. USA)
voice 630-860-2580 chasteen@juno.com
==

282. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: carl@ais.net
Message-ID: <4ujen8$6sl@news.ais.net>
Source record: 103312
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <320B7481.459B@erols.com>, Jake Brodsky <frussle@erols.com> writes:
>I have looked at the early lynx receivers. What they do is add
>their own PN code at about eight times the data rate. That in
>itself wouldn't be a big deal, except that the receive side is
>wide open. They use a very wideband discriminator to receive
>the whole FSK PN+signal mess. Then they digitally xor
>themselves with the incoming PN signal. It will work, until
>some stronger signal appears anywhere in the passband. Then
>the discriminator goes in to capture and you're screwed.

Most of the existing 900 MHz DS SS systems in use today use 10-12 bit spreading sequences which are symbol-synchronous. These codes are barely capable of providing the FCC-required 10 dB processing gain (under ideal circumstances).

Most are despreading at baseband (broadband all the way down) so they are subject to interference ... some are, as you relate, actually wideband digital FM with limiter-discriminator type receivers, others are BPSK/QPSK with linear receive chains and AGC ... however they are still subject to strong interferors.

Carl Stevenson
carl@ais.net

283. FFT with Soundblaster Clone cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: af389@lafn.ORG
Message-ID: <320D4686.704B@lafn.org>
Source record: 103313

Hi,

Sound Blaster cards are used in many different Ham Radio applications.
My question concerns if clones of Sound Blaster 16 bit cards can be used
or must real Sound Blaster cards be used for these Ham Applications?

Is there something unique about the real 16 bit Sound Blaster cards that
would prevent software like you are discussing from working with clone
cards of the 16bit Sound Blaster?

In a system I am buying they propose to install a sound card, called an
"OPTI" card rather than a true 16 bit Sound Blaster card. I am not sure
if this is a clone of the SB 16, but they say the OPTI is superior to the
real SB 16 card.

Thanks for any thoughts.

>> Need an FFT analyzer program that runs on a PC/soundcard that will not average

>> and entire waveform, but allow the observance of the spectra of a part of the w
>
> aveform. Does anybody know if such software exists as shareware or commercially
>

Regards, W6MIK
--

_____
Dave Shalita, af389@lafn.org

284. Pi- and T-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: Peter_Janssen <pjanssen@cuci.nl>
Message-ID: <320DE630.646F@cuci.nl>
Source record: 103314

I want to construct some High-Pass and Band-Pass filters for HF/VHF-freq.
For the caLculations I use the shareware-program FILTRY20.
In the program I can choose between a Pi- and a T-filter configuration. Both give the same function (for example High-Pass), freq., impedance, etc.
Generally T-filters are easier to build: less L's, more C's. Can I choose between Pi- and T-configurations on this practical ground or is there a difference in performance between Pi- and T-filters which is not mentioned by the program?
wkr Peter Janssen

285. Re: Need data: Anzac MD-112-3

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199608111904.OAA27885@tri.net>
Source record: 103315

I posted this several months ago, but will try again.

Picked up an Anzac MD-112-3 mixer at Dayton this year. .01 to 12 GHz

Schematic on case, but requires diode bias thru 10 ohm resistors coupled to
an SMA connector. Anyone have a data sheet or bias ideas?

Thanks

Lawrence E. Stoskopf, M.D.
N0UU

286. Weather radio data service

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: tomash@airmail.net
Message-ID: <4ul5di$i62@library.airnews.net>
Source record: 103316

Hello,

Does anyone know anything about the data format that preceeds severe weather bulletins on the standard national weather service weather radio freq (e.g. 162.550 et al) ??? When the old style 1050 Hz tone is issued here in Dallas there is also a serial data stream issued both before and after the voice announcement.

The weather service callas this SAME for Specific Area Message Encoding but I have yet to be able to find anyone who knows specific details such that I could build a decoder. Any help ?????

Thanks in advance.
tomash@airmail.net

287. Re: 3-Phase AC question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <IiaZ9YAB7hDyEwbP@briano.demon.co.uk>
Source record: 103317

In article <320c05bf.6850931@news.interport.net>, CCSys
<ccsys@interport.net> writes
>I have a Lambda switch-mode power supply with a 3-phase input
>requirement. Being a switch-mode supply would this work acceptably
-hello
i did this very thing with a frequency convertor for ac motor control
i had to change the xfmr for the low volts of the logic
and replaced the three phase rec. with a single bridge
there was also a phase fail detector that i had to fool
but i now run a three phase miller on my household supply
-
Brian Olliver May i appologies for being english but i didn't
have a choice

288. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <320e47cf.0@mothra.westworld.com>
Source record: 103318

Hello All Concerned:

I worked as a bench technican for about a year straight. I was a technican Friday, I would catch all types of repair and assembly work, which meant the I was soldering all day long. At first the smoke from the soldering iron did not bother me, but after afew days, I could tell that I shouldn't being breathing the fumes and smoke from the soldering iron.

So I asked my supervisor for a small equipement fan to blow the fumes and smoke away from my face. I finnialy ended up with two fans, one to blow the smoke away from my face, and the other fan mounted up one the top of the work bench, blowing upwards. This worked great, even when I used a high wattage soldering iron, 100 & 250 watt irons.

This kept me from feeling better, and as if I smoked two packs of Camels a day.

Jay.

289. Re: Compact UHF Repeaters For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: Joe Sartori <JSARTORI@PAXTON.ISHUB.COM>
Message-ID: <320E27B0.2C43@PAXTON.ISHUB.COM>
Source record: 103319
Cross-posted to: rec.radio.amateur.equipment,rec.radio,amateur.misc,rec.radio.amateur.homebrew

How about Some specs....

Joe Sartori WB3IUT

290. Need help Identifying Micor .mobile?. repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: sidener@saucer.cc.umr.edu
Message-ID: <4ulm0b$2m7@hptemp1.cc.umr.edu>
Source record: 103320

Hi, I just got hold of a Motorola Micor which I need help identifying.

It's model number is: Q2033A SN# 539CNW0006

It is a UHF (462 MHz) radio with 10 reciever channel elements.
There isn't any place for TX elements so I assume it derrives the TX freq
from the RX channel elements.

On the end of the radio there is n extension aout 5 inches long. In that
extension there is a duplexer! It is set up on a 5MHz split.

The radio has two RF connectors on top 1 UHF and 1 BNC.

The radio also has a tone board.

This looks like a perfect candidate for making a 440MHz repeater.

Can anyone give me more info on this radio? I have a VHF Micor mobile
manual and a 50MHz Micor repeater manual, but nothing I have comes close
to this. I need to find someone with a manual.

Also, why does it have two RF connectors at the top and can I use a
regular Micor control head with it?

Any help would be appreciated.

Thanks,

Scott Sidener
N0WFL

291. Homebrew Screwdriver Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: Bill Gilmore <willygil@pacbell.net>
Message-ID: <320E5D05.FE9@pacbell.net>
Source record: 103321
Body handling: Binary attachment payload not displayed: Scrwdrv1.gif, Scrwdrv2.gif

Here are a couple of drawings. I hope they are useful.

Bill Gilmore (KO6HL)
e-mail:
willygil@pacbell.net

[One or more binary attachments are retained only in the source text.]

292. Computer Interface for Icom IC-707

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: "J. Miner" <richard@j51.com>
Message-ID: <320E86A1.31EF@j51.com>
Source record: 103322

Hello,

I have the Icom IC-707 HF Rig. It has an option of hooking it up to the computer for changing freq., memories, and ect. I wanted to know if it is possible to Home brew the Interface needed between the computer and the radio. If so where can I find the information.

73, Jon

--

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______ / ___ |/ /___(_)_______ _____ ________
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Email: richard@j51.com WWW: http://www.j51.com/~richard
Amateur Packet: N2XFZ@W2DMC.#eny.ny.usa.noam
Finger miner@j51.com for PGP Public Key and Info

293. Ham Radio Online web site is still "on the air"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4ulm2f$8rc@news.accessone.com>
Source record: 103323
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

The Ham Radio Online web is still "on the air." However, our new web server located in California's Silicon Valley lost power during the massive west coast power outage this weekend and as of Sunday morning (U.S.) 11 August the http web server is still not functioning. Our ftp access to the web site came back up this morning so we've updated the files. We assume the web server will be brought back online by Monday.

You can access the Ham Radio Online web site at:
http://206.13.40.11/
(www.hamradio-online.com when InterNIC gets their directory updated.) You can also check for updates at our backup web address:
http://www.accessone.com/~vbook/hronline.htm

We've completely redesigned the "List of Other Ham Radio web sites", "Commercial Products Directory" and the Ham Radio Online Library for easier access to all the information that is stored online. It really looks cool and we had a lot of fun learning how to use "frames" for the web pages.

Thanks!
Ed, KF7VY

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

294. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4uls18$ig1@cc.iu.net>
Source record: 103324
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In <4uapth$d8c@mmlab15.mm>, pecampbe@mtu.edu (Paul E. Campbell) writes:
>n7ory@primenet.com wrote:
>: gfiber@halcyon.com (Gary Fiber) wrote:
>:
>: It won't be long before our stools must be tested to comply with EPA

>Uhh..you do realize that rainwater does not meet EPA regulations for discharge
>into public bodies of water? EPA rules say pH MUST be 6-8. The fact that
>absorbed carbon dioxide makes it pH 5.5 makes rainwater a violation of EPA
>regulations.

kewl.

>Also spring floods due to particulates. To say nothing of natural background
>radiation, mercury, lead, etc., in areas that have that stuff.

supposed to be a place in alaska that had to dump fishing waste into a stream upstream of a water treatment plant so it could be shown that the addition of the waste treatment plant water would improve the water's quality (had to do with EPA rule requiring treatment plant to improve water quality x%, without taking into account the initial condition of the water or what the water would be like if the treatment plant were not there....). anyone got the exact info on this one?

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

295. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4ulrpr$ig1@cc.iu.net>
Source record: 103325
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

In <320A8CEE.2C0A@csra.net>, "James F. Boehner, MD" <jboehner@csra.net> writes:
>Bill Sohl wrote:
>> vbook@vbook.com (Ed Mitchell) wrote:
>> >In a major ruling, the FCC declared void local laws prohibiting
..
>> >must be allowed to install TV antennas. Longer term this ruling may
>> >have important ramifications for eliminating restrictions on Amateur
>> >Radio antennas.
>>
>> Wow, do I have a couple of ideas for some QST articles
>> that begin with a title: How to build a (enter your
>> favorite band here) meter antenna that looks like a TV
>> antenna :-)

actually, wouldn't a TV antenna work for 6 and 220 without too much effort?
and 2m might just work on an LP type antenna...will have to see if it's possible
to do some measurements....wouldn't expect there to be too much modification
needed for the use of an existing TV antenna as a transmitting antenna in
the amateur service -- short of adding a balun (6:1 for 300:50 transformation) and
maybe doing some minor changes to the element lengths.

>>
>> Bill Sohl K2UNK
>> ARRL Local Gov't Liaison, Mt. Olive Township, NJ
>
>How about a sky of aluminum with a $40 Radio Shack Antenna on top?
>YES!!!!!
>73 de JIM N2ZZ

i wouldn't push it too much as first until things become established for joe sixpack
to have antennas up again.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

296. Kenwood Ts 50s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-11 00:00:00 UTC
From: L=?iso-8859-2?Q?=E1szl=F3?= Aranyos <n9fmr@interaccess.com>
Message-ID: <320E9647.6741@interaccess.com>
Source record: 103326

Hi....
Has anyone out there ever coverted a Ts/50s to all freq xmit? I have
been lokking for this mod in ham file ftp sites... so far no luck.
If this info is available out there on the net let me know
Thanks
Laszlo Aranyos

297. Free Eimac 304TL Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: k8na@ix.netcom.com
Message-ID: <4ulsn1$a5v@sjx-ixn4.ix.netcom.com>
Source record: 103327

I have three brand new, in the box, Eimac 304TL tubes. I am looking for someone who has a working amplifier using those tubes. I want to give the tubes away free, except for the shipping costs via UPS from Michigan. You must not resell the tubes, they are to be used by the person I give the tubes to.

Please reply by E-mail if you want the tubes and qualify as stated above ....

73 Ted K8NA k8na@ix.netcom.com

*

298. HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: ehoffman@total.net
Message-ID: <4ulu2o$mcs@faith.total.net>
Source record: 103328
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have a old crap 8088 'tole box' as you can say! With the power supply. It's rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile (used as a base) 13.8V tranceiver unit. I dont know much of switching power supply technology and i want to know if it's safe. The problem may be when i switch from RX to TX and from TX to RX... could there be a fatal burst of voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control those peek?

Unfortunately, i dont have an scope to make charge test.

E-mail me on that please...

Thanks and 73 to all readers

"640K will be ok for everyone..."

Bill Gates '82

The Big Boy

299. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4um163$lqj@cc.iu.net>
Source record: 103329

In <320AD52F.4451@cfw.com>, Randy Smith <smithr@cfw.com> writes:
>Mark,
> At one time that was the case. There was NO study guide at ALL. Then

that would have been way before 1970...

>blah.blah.blah...snipped

>The FCC mandated that all the question pools be published.
>Sounds kind of like the no-code license story to me.
> Randy Smith
> KN4KB

your history's defective. go back and read the mags in the libraries. study guides have been around probably "forever" and the FCC requiring public question pools is a fall out of the freedom of information acts...

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

300. NEED MODS FOR KENWOOD TH28A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: miqyliksit@postoffice.worldnet.att.net
Message-ID: <4um558$opj@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 103330

I need all mods the the Kenwood th28a. Please post or email.

Thanks

Mike

301. 20,40 meter band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: ermira@pl.jaring.my
Message-ID: <4um5bc$atd@jaring.my>
Source record: 103331

can anyone give me information on how to homebrew the smallest 40,20 meter band antenna, thank in advance,
9m2me

302. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: radiop@ix.netcom.com
Message-ID: <4um4co$lro@sjx-ixn2.ix.netcom.com>
Source record: 103332
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

In <3206BCE1.4324@gate.net> robert <nix@gate.net> writes:
>
>Could someone point towards info on how to broadcast on FM radio.
>I've heard it called free radio or pirate radio. Does that mean it's
>illegal (how illegal:)? What makes it illegal (in florida)? Where can
I
>buy the equipment? What would I need to buy? I just want to transmit 5
>to 10 miles and just music (mostly my own and my friends music so as
not
>to violate copyrights or whatever).
>
>-- you would first have to apply to the fcc for a license,, otherwise
it is illegal!! first apply and then take it from there,,there are
hundreds of guidelines that must be followed,,good luck,,youll need
it!! (and money too!!)
>_____________________
>robert mailto:nix@gate.net

303. TCM2912DJ PCM Line Filter ICs-Info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: jah@ois.com.au
Message-ID: <4um56e$8au@news.mel.aone.net.au>
Source record: 103333

I picked up some TCM2912DJ PCM Line Filter ICs by Texas Instruments
but can't find any info. on them in TI catalogues or on the TI www
database. These are 16 pin DIL chips made in Japan. Can anyone help
with specs and pinouts. Many thanks.
--
John.A.Hassell VK6JAH
jah@ois.com.au

304. Re: Radar Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: gbostick@luna
Message-ID: <4um61f$4aq@mother.usf.edu>
Source record: 103334

W8JI Tom (w8jitom@aol.com) wrote:
: Can anyone tell me the operating frequencies and power levels of speed
: type radar systems used by Law Enforcement?

: Thanks, Tom

X-band: 10.500 to 10.550 GHz
K-band: 24.050 to 24.250 GHz, considered to be more accurate than X-band.
Ka-band: 34.200 to 35.200 GHz, as originally authorized by FCC in 1982.
Ka-band: 33.400 to 36.000, after the 1992 expansion. This is the wide Ka.

The X-band has a greater range than the others, but all are in the low
milliwatt range.

Lidar: 904 nanometer wavelength.

Gary

305. Re: Cheap CW Transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4um51g$bl8@excelsior.flash.net>
Source record: 103335
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

Rick Miller <rick@DigalogSys.com> wrote:

>
>Some ham catalogs came in the mail and struck price-shock into Bonnie,
>my wife. If I can show her that a homebrew rig built out of cheap parts
>and/or salvaged junk is all I require, her relief would be immeasurable.

>Any help would be much appreciated...

>"Rigless" Rick Miller (kb9obn) rdmiller@execpc.com

To "Rigless" from Kerry in Texas,

Man, I feel like I'm answering a personal ad or something! My wife
has been pretty much dulled by the catalogs. She got her ticket and
now she gets the catalogs!

More to the point, I just built a NorCal 40A, from Wilderness Radio.
I think the kit is $135 or so, do a web search for NorCal or
Wilderness Radio. It is a qrp transceiver, about 2-3 watts, covers a
40-50 KHz segment of 40 meters, has a superhet rx and a great 400 Hz
4-pole xtal filter.

I've had mine for about 2 months now and am having a ball with it. It
took me about 5 hrs to build, although some people take 15 hrs. It
has excellent instructions, similar to Heathkit. If you are handy
with a soldering iron, you won't have any problems. Sorry, I read the
engineer part, but some of my EE friends don't know which end of the
iron to hold until it has been plugged in for a while!

73 es good luck with the project and the wife!
Kerry Miller, WD5ABC
kmiller@flash.net

306. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4umklb$75u@newsbf02.news.aol.com>
Source record: 103336

Hi All,

Whatever book thiss data is from, it is not correct:

>Class B SSB GG (g1 and g2 grounded)
>Va= 4 kV
>Ia= 120 to 670 mA, Ig2= 0 to 80 mA, Ig1= 0 to 150 mA
>Wdrive= 105 W, Wout= 1870 W

The 4-1000 would be in AB2, not B. Conduction angle would be more than 180 degrees and less than 360 (AB), the 2 would indicate grid current.

At 4000 volts of full load anode voltage, expect to make 1500 watts output with 115-130 watts of drive. The exact value will vary with circuit influences and the cathode driving impedance of the particular 4-1000A you have.

The 4-1000A also suffers from stability problems at high anode voltages. Long grid leads are the primary cause of instability. Sometimes builders get lucky, but many times a 4-1000A gives the builder "fits".

A 4-1000A's greatest tendency to oscillate is, depending on the circuit layout, between 50 and 100 MHz. Since the self-oscillation frequency is relatively close to ten meters, conventional single reactance parasitic suppressors often cause problems above fifteen meters. The best way to stabilize the 4-1000A is with a RLC or RLCL type suppression circuit resonant at the low end of the FM broadcast band.

IMD performance will not be nearly as good as most tubes designed with SSB in mind, but should be acceptable in most Amateur service if the amplifier is loaded heavily enough.

73 Tom

307. Re: Pi- and T-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: pa0ez@bbs.hacom.nl
Message-ID: <8C64028.02950000D3.uuout@bbs.hacom.nl>
Source record: 103337

PN>>Path: hacom.nl!Utrecht.NL.net!sun4nl!cuci.nl!usenet
>>From: Peter_Janssen <pjanssen@cuci.nl>
>>Newsgroups: rec.radio.amateur.homebrew
>>Subject: Pi- and T-filters
>>Date: Sun, 11 Aug 1996 15:54:56 +0200
>>Organization: Cubic Circle
>>Lines: 9
>>Message-ID: <320DE630.646F@cuci.nl>
>>NNTP-Posting-Host: d09.din.cuci.nl
>>Mime-Version: 1.0
>>Content-Type: text/plain; charset=us-ascii
>>Content-Transfer-Encoding: 7bit
>>X-Mailer: Mozilla 2.0 (Win95; I)

PN>>I want to construct some High-Pass and Band-Pass filters for HF/VHF-freq.
>>For the caLculations I use the shareware-program FILTRY20.
>>In the program I can choose between a Pi- and a T-filter configuration. Both
>>give the same function (for example High-Pass), freq., impedance, etc.
>>Generally T-filters are easier to build: less L's, more C's. Can I choose
>>between Pi- and T-configurations on this practical ground or is there a
>>difference in performance between Pi- and T-filters which is not mentioned by
>>the program?
>>wkr Peter Janssen

Peter,

There is no difference but practical considerations will determine your
choice.
For a LP on VHF two c's and one L is easier for example

regards

Arie Dogterom

groeten, Arie

* 1st 2.00 #8976 *

308. ** FLEA at MIT ** Sunday 18 August Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <4umqt8$kj8@senator-bedfellow.MIT.EDU>
Source record: 103338
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

This comming Sunday...

*** !!!! WE ARE BACK IN THE GARAGE !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
August 18th, 1996
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >1000 cars!

Buyers admission is $4 (you get $1 off if
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The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
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!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 146.52 and W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ***********

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

309. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.839850002@bauv111>
Source record: 103339

w8jitom@aol.com (W8JI Tom) writes:

>Hi All,

>Whatever book thiss data is from, it is not correct:

It is from a table published in an ad from Varian, in QST, some years ago.

>>Class B SSB GG (g1 and g2 grounded)
>>Va= 4 kV
>>Ia= 120 to 670 mA, Ig2= 0 to 80 mA, Ig1= 0 to 150 mA
>>Wdrive= 105 W, Wout= 1870 W

--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

310. Kenwood Ts-50s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: L=?iso-8859-2?Q?=E1szl=F3?= Aranyos <n9fmr@interaccess.com>
Message-ID: <320F124D.FB0@interaccess.com>
Source record: 103340

Nedd all mods for Kenwwod Ts-50s please post or e-mail Tnx....

311. postings vanish

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: L=?iso-8859-2?Q?=E1szl=F3?= Aranyos <n9fmr@interaccess.com>
Message-ID: <320F165E.46C7@interaccess.com>
Source record: 103341

Am I doing somthing wrong I post an item it appears than it vanishes .
Is there cecorship on this group?

312. It was me sorry

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: L=?iso-8859-2?Q?=E1szl=F3?= Aranyos <n9fmr@interaccess.com>
Message-ID: <320F1BB2.3AD7@interaccess.com>
Source record: 103342

I figured this Newsreader out problem was here sorry

313. Re: Pi- and T-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <320F464D.7B63@crpl.cedar-rapids.lib.ia.us>
Source record: 103343

PA0EZ wrote:
>
> PN>>I want to construct some High-Pass and Band-Pass filters for HF/VHF-freq.
> >>For the caLculations I use the shareware-program FILTRY20.
> >>In the program I can choose between a Pi- and a T-filter configuration. Both
> >>give the same function (for example High-Pass), freq., impedance, etc.
> >>Generally T-filters are easier to build: less L's, more C's. Can I choose
> >>between Pi- and T-configurations on this practical ground or is there a
> >>difference in performance between Pi- and T-filters which is not mentioned by
> >>the program?
> >>wkr Peter Janssen
>

The PI network can "absorb" stray capacitances to ground that are present
in the output of the driving circuit and the input of the following
circuit. The TEE network does not do this.

Bill W0IYH

314. Re: Cheap CW Transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: Larry or David Gibbs <gibbsl@libertynet.org>
Message-ID: <320F5AA9.1C89@libertynet.org>
Source record: 103344
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

Kerry Miller wrote:
>
> Rick Miller <rick@DigalogSys.com> wrote:
>
> >
> >Some ham catalogs came in the mail and struck price-shock into Bonnie,
> >my wife. If I can show her that a homebrew rig built out of cheap parts
> >and/or salvaged junk is all I require, her relief would be immeasurable.
>
> >Any help would be much appreciated...
>
> >"Rigless" Rick Miller (kb9obn) rdmiller@execpc.com
>
>See June 1996 QST for review of several QRP CW rigs.

Larry, W3UIO

315. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: zawodny@primenet.com
Message-ID: <320ddb36.6266173@news.primenet.com>
Source record: 103345

"Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> wrote:

>W8JI Tom wrote:
>>I've held solder in my mouth all my
>>life, and I'm perfectly normal.
>
>Bet he strips wire with his teeth, too, and can spit the insulation into
>the waste basket from clear across the room.
>
>
>73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
>Professionally:
>IFW Technical Services Clear technical English - world-wide.

Ian,

Are you saying that everybody does'nt do that?

I thought that's why we have gaps between our teeth :)

WD8DZB Dave

316. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: maddix@dawn.icd.teradyne.com
Message-ID: <4uniqt$rl5@steadfast.teradyne.com>
Source record: 103346

MBTA radios in Boston (a trunked system, I think) use MCW to ID regularly. Sit near the front of almost any subway car, bus, or train and it can be clearly heard. Sounds like it is about 25 wpm.

Anyone know of any commercial uses of CW other than automated IDs?

317. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <320F7E69.EE2@erols.com>
Source record: 103347
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

I'm just curious Gary, did you use a speaker mike all the time? And
did you transmit with the radio on your belt?
--
Jake Brodsky, mailto:frussle@erols.com
PP-ASEL-IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

318. Re: PIN diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4unmu6$gvm@newsbf02.news.aol.com>
Source record: 103348

In article <4uj0ml$qud@hpscit.sc.hp.com>, rkarlqu@scd.hp.com (Richard Karlquist) writes:

>
>Thanks for the info, Tom. Can you give us a specific example of
>a 40 microsecond diode?

>We didn't know they were available.
>Does Microsemi make them?

The longest carrier lifetime Microsemi diode has a typical lifetime of 25 uS, such as a 2001 diode. We used to order 40 uS diodes from a defunct manufacturer on the east coast, I'm sure someone else could or does make one. We used it in a VLF medical application. Maybe they went out of business because the parts weren't really what they said, like those Russian 3-500's that are really made in China, hi.

>I thought the technical limit on
>the carrier lifetime had to do with how pure they can make the
>silicon in the "intrinsic" region. Anyway, a 40 microsecond
>diode would be quite interesting to experiment with.

The manufacturers told me it also has a lot to do with junction size, so be prepared to spend some money...we paid ~ $25 a diode. As I recall, the chip size was around 200 mils. The capacitance was rather high at low frequencies.

Unless you're doing low VLF work, the 2000 series would be a $10 solution that would get you in the 25 uS carrier lifetime range with an off the shelf part.

73 Tom

319. Re: fft ANALYZER INFO NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: mds@lexis-nexis.com
Message-ID: <4unolr$5kr@mailgate.lexis-nexis.com>
Source record: 103349

In article <320B8873.51D8@odyssee.net>, orion@odyssee.net says...
>
>viny Coppola wrote:
>>
>> Need an FFT analyzer program that runs on a PC/soundcard that will not
average
>>
>> and entire waveform, but allow the observance of the spectra of a part of
the
>w
>>
>> aveform. Does anybody know if such software exists as shareware or
commerciall
>y
>>
>> ?
>>
>> Thanks beforehand
>>
>> Viny Coppola N1VC
>
>If my memory is good the program below is
>an FFT using a sound blaster card:
>arrl ftp server bbs.programs
>
>http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/programs/fftmorse.zip
Try AF9Y's FFTDSP software. You can download a demo from his web site. His
web site is: www.webcom.com:80/~af9y

Mike, WB8GXB

320. Re: Pi- and T-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <320F8236.1AE6@crpl.cedar-rapids.lib.ia.us>
Source record: 103350

William E. Sabin wrote:
>
> PA0EZ wrote:
> >
> > PN>>I want to construct some High-Pass and Band-Pass filters for HF/VHF-freq.
> > >>For the caLculations I use the shareware-program FILTRY20.
> > >>In the program I can choose between a Pi- and a T-filter configuration. Both
> > >>give the same function (for example High-Pass), freq., impedance, etc.
> > >>Generally T-filters are easier to build: less L's, more C's. Can I choose
> > >>between Pi- and T-configurations on this practical ground or is there a
> > >>difference in performance between Pi- and T-filters which is not mentioned by
> > >>the program?
> > >>wkr Peter Janssen
> >
>
> The PI network can "absorb" stray capacitances to ground that are present
> in the output of the driving circuit and the input of the following
> circuit. The TEE network does not do this.
>
> Bill W0IYH

On second thought this may not be true. The TEE network can make the
stray C part of the TEE network. For example, if we start with a PI
network, decrease the C values to "absorb" the stray C, then we do a PI
to TEE transformation of the *remaining* PI network, everything works OK
if the TEE components L and C are positive values.

Bill W0IYH

321. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4unsi7$jek@newsbf02.news.aol.com>
Source record: 103351

In article <claude.839850002@bauv111>, claude@bauv.unibw-muenchen.de (Claude Frantz) writes:

>>Whatever book thiss data is from, it is not correct:
>
>It is from a table published in an ad from Varian, in QST, some years ago.
>
>>>Class B SSB GG (g1 and g2 grounded)
>>>Va= 4 kV
>>>Ia= 120 to 670 mA, Ig2= 0 to 80 mA, Ig1= 0 to 150 mA
>>>Wdrive= 105 W, Wout= 1870 W

Hi Claude,

They could have been more careful in that ad, hi.

But the error is understandable since the 4-1000A was never designed to be used in grounded grid service. I doubt the ad source was the Varian engineering department, and I think I might know the source of the ad data.

The fact remains class B is a conduction angle of exactly 180 degrees (zero plate current under no signal operating conditions). If the tube has any zero signal plate current, it is class AB. Class B amplifiers do not offer noticably better efficiency over class AB, but they do have noticably poorer IMD performance and somewhat lower gain.

Eimac data sheets, and I believe I have all the sheets published, do not list grounded grid operation of the 4-1000A. It certainly can be done (I've done it several times myself) but it isn't the best tube for GG service. The 3-1000Z and 3CX1200A and D7 triodes are of the same general family but have more gain and better IMD performance.

Because the internal strucing is very similar, all of these tubes offer stability problems to the builder. They all share low self-neutralizing frequencies, caused by the long grid structure and internal grid leads.

The 4-1000A has the lowest GG power gain of all these tubes, because the driving impedance is so high. A typical 3CX1200, with higher gain (lower driving impedance), will barely make 1500 watts with 100 watts of drive at 3600 volts. A 4-1000 will do much worse.

I'm not trying to discourage a builder, just make him aware that gain is limited without high anode voltages....and if high anode voltages are used, stability almost always becomes a difficult issue. A GG 4-1000A would not make the top ten list of lowest IMD performance tubes either,

but they are pretty to look at and inexpensive (when used) to buy.

73 Tom

322. Re: NVI antennas..Any one here used one...???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <320F8172.3901@rrgroup.com>
Source record: 103352

Gary Robison wrote:
>
> If you have used a NVIA let me know how it worked for you....I am in
> RACES and need only to cover Western PA this type of antenna looks like
> what I need....
>

Yes, the famous "low dipoles" work great for NVIS propagation. In
the military, this is done frequently with whips tied over into a
semicircle. For good, short- to medium-range communications with
no skip zone, they can't be beat, as long as the guy you're trying
to talk to doesn't have a vertical! ;-)

-Will Flor willf@rrgroup.com

323. Re: Weather radio data service

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <320F81F8.2168@rrgroup.com>
Source record: 103353

Tom Aschenbrenner wrote:
>
> Hello,
>
> Does anyone know anything about the data format that preceeds severe
> weather bulletins on the standard national weather service weather
> radio freq (e.g. 162.550 et al) ??? When the old style 1050 Hz tone
> is issued here in Dallas there is also a serial data stream issued
> both before and after the voice announcement.
>
> The weather service callas this SAME for Specific Area Message
> Encoding but I have yet to be able to find anyone who knows specific
> details such that I could build a decoder. Any help ?????
>

The specifics of the WRSAME or SAME protocol have not been made
public, and probably never will be, at least not if the NWS has
anything to say about it - they don't want hackers broadcasting
bogus severe weather warnings!

73 de KB9JTT

324. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <320F82D8.465F@rrgroup.com>
Source record: 103354

Nick Maddix wrote:
>
> MBTA radios in Boston (a trunked system, I think) use MCW to ID regularly.
> Sit near the front of almost any subway car, bus, or train and it can be
> clearly heard. Sounds like it is about 25 wpm.
>
> Anyone know of any commercial uses of CW other than automated IDs?

Sure - there's still commercial CW on the maritime HF bands, even
though the Coast Guard doesn't monitor for CW SOSs any more.

73 de KB9JTT

325. Re: Pi- and T-filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4unvnb$bej@hpcvsnz.cv.hp.com>
Source record: 103355

Peter_Janssen (pjanssen@cuci.nl) wrote:
: Generally T-filters are easier to build: less L's, more C's. Can I choose
: between Pi- and T-configurations on this practical ground or is there a
: difference in performance between Pi- and T-filters which is not mentioned by
: the program?

Such filters assume particular source and load impedances. It may be that
your source and/or load are not the design impedance, and one or the other
of the two configurations may be more tolerant of that that the other.

In addition, the impedance presented by the filter to out-of-band energry
is very different in the two cases: the pi highpass will look like a very
low impedance at low frequencies, but the T highpass will look like a very
high impedance at low frequencies. That may or may not be important to
you.

--
Cheers,
Tom
tomb@lsid.hp.com

326. Re: Roanoke Doppler DF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: thb@thegle.demon.co.uk
Message-ID: <839877582.9381.0@thegle.demon.co.uk>
Source record: 103356

Randy Smith <smithr@cfw.com> wrote:

> Hello Tom,
> I have built that unit (etched my own pcb) and it seems to work okay on
>the bench. I am NOT impressed with the performance in the real world
>though... Introduce some noise on the signal and the filter doesn't seem
>to work quite right. I know this doesn't answer your question, but it is
>all I know about it from personal experence. I do know someone else who
>built and currently uses his. It seems to work okay for him, although I
>have not looked at it with any test equipment... for all I know it could
>be doing the same thing mine is. Good luck!
> Randy Smith

Thanks for your response, Randy.

I have not had chance to do much since I posted my question, but I suspect R9 in the circuit diagram should perhaps be 22k, not 22 ohms. 22 ohms would only give a gain of about one in the passband.

I have a Dopler DF circuit that originated in "73" Magazine in the mid 80's that I might try instead, if all else fails. It is very similar to the Roanoke circuit but uses 300Hz instead of 500Hz. Also it used an RF summer instead of hard diode switching of the antennas - unfortunately there was no listing of the PROM used to give the correct bias to the FETs. I don't suppose it would be available now, so I might end up with a mixture of the two circuits.

Cheers.

Tom.

327. Re:Repeater College Project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9607128398.AA839889168@mails.imed.com>
Source record: 103357

Mike Russel asked about a "simple" VHF repeater.
Mike:
The hardest part of a repeater is going to be getting an official repeater pair on any frequency below 450MHz. Most places those frequencies are full. You might look at doing a 6 meter repeater, since most places probably don't already have more than 1 or 2 repeaters on that band.

The simplest way to do a repeater is to buy an inexpensive separate tx board and rx board. Probably the hardest RF part of a repeater system design is getting the transmitter not to clobber the receiver. I would suggest that you look at ways to keep the 2 antennas separated both vertically and horizontally. Since this is *primarily* a learning experience and I suspect that cost is as much a problem as anything, you want to stay away from things like cavities and other things necessary when using one antenna. That way you can concentrate your design efforts on the controller. The *magic* of repeaters is in the controller and the duplexor (that I just suggested you not use).

If you have specific questions as your project proceeds, there will be plenty here with opinions for you.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

328. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <4uof7v$qj7@vixen.cso.uiuc.edu>
Source record: 103358

In a previous article, maddix@dawn.icd.teradyne.com (Nick Maddix) says:

>MBTA radios in Boston (a trunked system, I think) use MCW to ID regularly.
>Sit near the front of almost any subway car, bus, or train and it can be
>clearly heard. Sounds like it is about 25 wpm.
>
>Anyone know of any commercial uses of CW other than automated IDs?
>
>

There are quite a few still active around 4, 6, 8, 12, 16 MHz. Several
can be heard even sending CW traffic around 8600 kHz each evening.

Zack W9SZ

--

329. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <320F789C.7C0@odyssee.net>
Source record: 103359

Tom Kreyche wrote:
>
> I'm planning to build a detector for bats (the flying mammals!) probably
> for dumping into a laptop for some kind of spectral analysis. Anyone have
> recommendations for ultrasonic sensors? Different bat species use
> different frequencies, typically 40 kHz to 60 kHz, audio.
>
> BTW, I've seen some standalone commercial detectors for about $250 but
> it's no fun just buying one!
>
> Thanks, Tom KG6YJ

I buit one some years ago to detect sparks from Hydro poles
using a salvaged piezo cell from an old Jerrold cable converter.
You can also use a Piezo tweeter RS 40-1382.

There was an interesting circuit in the 1990 "Electronic
Hobbyist handbook" (Pop. Elect) using a 4066 quad bilateral
switch as a balanced mixer, 2 2N3904, 1 TL082, 1 LM386.
I think there was a mistake in one of the pinout in the
schematic the magazine gave.

330. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <320FE964.68FC@flinet.com>
Source record: 103360
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Bill Newkirk wrote:
>
> In <320A8CEE.2C0A@csra.net>, "James F. Boehner, MD" <jboehner@csra.net> writes:
> >Bill Sohl wrote:
> >> vbook@vbook.com (Ed Mitchell) wrote:
> >> >In a major ruling, the FCC declared void local laws prohibiting
> ..
> >> >must be allowed to install TV antennas. Longer term this ruling may
> >> >have important ramifications for eliminating restrictions on Amateur
> >> >Radio antennas.
> >>
> >> Wow, do I have a couple of ideas for some QST articles
> >> that begin with a title: How to build a (enter your
> >> favorite band here) meter antenna that looks like a TV
> >> antenna :-)
>
> actually, wouldn't a TV antenna work for 6 and 220 without too much effort?
> and 2m might just work on an LP type antenna...will have to see if it's possible
> to do some measurements....wouldn't expect there to be too much modification
> needed for the use of an existing TV antenna as a transmitting antenna in
> the amateur service -- short of adding a balun (6:1 for 300:50 transformation) and
> maybe doing some minor changes to the element lengths.
>
> >>
> >> Bill Sohl K2UNK
> >> ARRL Local Gov't Liaison, Mt. Olive Township, NJ
> >>
> >How about a sky of aluminum with a $40 Radio Shack Antenna on top?
> >YES!!!!!
> >73 de JIM N2ZZ
>
> i wouldn't push it too much as first until things become established for joe sixpack
> to have antennas up again.
>
> Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
> Melbourne, FL duty now for the future of amateur radio
> Lombardi's 1st Law of Business:
> Companies succeed in spite of their best effort. If they succeed at all.
let me ask you something bill if i work ssTV on the hf freqs does that
make it a tv antenna ? After all Iam receiving T.V.!

331. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-12 00:00:00 UTC
From: erskinej@cuug.ab.ca
Message-ID: <4up0v2$ggb@dec.cuug.ab.ca>
Source record: 103361
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Sounds like a nifty piece of legislation we have up here now called
EMCAB-2. Part of the reality of it is the necessary tests involve taking
measurments every metre in a cubed grid about the station! Wonder how
much that one is going to cost. It's been stressed at a few meetings that
it's not likely to get to that stage and might only be applied in the
event of an otherwise unresolvable EMI problem, not exactly with you have
to put up with. 73 John VE6OTC

erskinej@cuug.ab.ca
ve6otc@ve6ipg.ampr.org
VE6OTC@VE6YYC.#SAB.AB.CAN.NOAM

NO UNSOLICITED COMMERCIAL MAIL/COMMUNICATIONS PLEASE

332. Attenuating tx output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: lawspear@cbm.co.uk
Message-ID: <4unqpl$j3t@cave.hiway.co.uk>
Source record: 103362

I have a 2 metre handy that on low power produces 0.5 of a watt and on high power 3 or 5 watts depending on whether it is run with batteries or from a power supply.

I also have a linear amplifier for 2 metres use that produces 80 watts or more with 2 watts of drive which is too much for me. You are supposed to be able to drive the amp with a min of 0.5 watt and get 30 out but mine will not work properly at that power and the automatic switching flutters in and out.

I want to drive it with 1 watt but my rig does not produce that .
To cut a long story short is it possible to attenuate the signal between the transceiver and amp down 1 watt .

Any suggestions/comments will be gratefully received.
--
Stephen G7UXL
lawspear@cbm.co.uk

333. Re: Inductance meter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.272.0009DC0B@TRL.OZ.AU>
Source record: 103363

>In article <4ua61i$r07@Steinlager.tip.net> jorgen.jonsson@uddeholm.se writes:
>>From: jorgen.jonsson@uddeholm.se>Subject: Inductance meter schematic
>>Date: Wed, 07 Aug 1996 13:35:10 GMT> Do anyone out there have a shematic for
>an easy build and good>working inductance meter !?>

If you only need to measure in the microhenry range, see

"The Handy Inductance Bridge" by KB4ZGC, in 73 Amateur Radio, May '91.

Remembered two more inductance articles (and which may be easier to build than the one above);

"Easy to Build Inductance Meter" by Ed Marriner W6XM in Ham Radio (USA); Apr '82. Uses discrete components, with no fancy parts,

and

"Simple Inductance Meter" by Frank Brumbaugh KB4ZGC in 73 Amateur Radio; June '96. Again, no fancy parts.

73, Drew, VK3XU.

334. FS Parts & tubes (latest update) (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4uoijp$k6d@anarchy.io.com>
Source record: 103364

See attachment, UUdecoding required.

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
REQUIRED, to listen to it !"

335. FS Parts & tubes (latest update) [hombrw.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4uoika$k6d@anarchy.io.com>
Source record: 103365
Body handling: Inline uuencoded payload not displayed: HOMBRW.TXT

```
[Inline uuencoded payload not displayed: HOMBRW.TXT]
```

336. Amateur Radio Plaques & Engraving

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: ASPW25E@prodigy.com
Message-ID: <4uomc9$1sf8@usenetp1.news.prodigy.com>
Source record: 103366

http://members.gnn.com/kn3a/plaques.htm

337. New Ham Radio Discussion Area on the Web!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: James Van Houten <jdvh@jdvh.com>
Message-ID: <01bb88d0$b49bb8e0$81a4b1cd@me.xxx.com>
Source record: 103367
Cross-posted to: rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,rec.radio,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec

Hello All,

Will keep it short and to the point. There is a new resource for Ham radio topics. It is on the web. Come on over and visit http://www.coronetsec.com/hamradio. All hamradio topics welcome. Hope to see you there soon.

Jim
KA3TTU

ps. Don't forget to tell all of your non-newsgroup readin' friends!! :-)
--

James Van Houten http://www.coronetsec.com/hamradio
---

338. 10mW to 250mW ATV Amp needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199608130738.RAA18408@oznet02.ozemail.com.au>
Source record: 103368

Hello,

I have a HILLS RF Video Exciter unit. apparently these units where used as distrubution units in hotels/motels
etc. It is up and running on 444.250 MHz, one of our VK ATV frequencies. However the output is only around
10mW.

What I would like to get is a CCT (pcb artwork etc) for a little CLASS AB 10mW to 250mW amplifier that I could
build and then fire that output into my existing ATV AMP (M57716 brick).

If you can assist me with anything please drop me a email either personally at my reply address of via the
newsgroups I have posted this to.

Thankyou

Mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

339. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.839921976@bauv111>
Source record: 103369

w8jitom@aol.com (W8JI Tom) writes:

>The 4-1000A has the lowest GG power gain of all these tubes, because the
>driving impedance is so high. A typical 3CX1200, with higher gain (lower
>driving impedance), will barely make 1500 watts with 100 watts of drive at
>3600 volts. A 4-1000 will do much worse.

>I'm not trying to discourage a builder, just make him aware that gain is
>limited without high anode voltages....and if high anode voltages are
>used, stability almost always becomes a difficult issue. A GG 4-1000A
>would not make the top ten list of lowest IMD performance tubes either,
>but they are pretty to look at and inexpensive (when used) to buy.

I agree, Tom. If I'm informed well, the 4-1000A was largely used in many
broadcast transmitters, many of which are still in use today. Considering
that the PA tubes are usually replaced after a given number of hours of
service, there are many such used tubes in the world which are often
available for few money. There is probably where the idea starts to
use them in an amateur radio transmitter. You can have some ones in
stock in order to replace the defective ones when necessary. The service
duty of the amateur radio service is not as severe as the broadcasting
service. I ignore if there is now another better tube which has become
a standard and which will become commonly available as used tube after
a given number of hours of commercial service.

Do you have such an information, Tom ?
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

340. FS Precision Reference for Synthesiser/Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <jl2NtCAvFEEyEw1f@ddwyer.demon.co.uk>
Source record: 103370

RE : Precision Ovened Crystal Oscillators.

I have a number of unused OCXOs 16.384 MHz.
Dimensions 75X50X30mm
These divide by 2 to the power 14 to give 1 kHz to function as the
reference for frequency synthesisers as used in instruments, radio,
cellular, TV Transmitters..
Oscillators are stable to 1 part in ten to the nine i.e. 0.001ppm.
Excellent spectral purity, measurement repeats to 0.0001ppm per second.
Will operate over -40+70C
12 V supply 500mA on warm up
150mA when running@23C
Built in 8V reference so that fine frequency adjustment can be carried
out with external potentiometer.
These units are latest technology incorporating SC cut low ageing
crystals < 1 part in 1 million / year.
Manufacturers one off price approx $500.
Supplied tested with connection diagram.

1 off price from FP Ltd. $75
discount for quantity.

Email for further details.

--
Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,
TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_precision

341. Re: Cheap CW Transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <4upsr5$246@sf18.dseg.ti.com>
Source record: 103371
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

Rick,

I suggest trying the SW-1 (sold by its designer, Dave Benson NN1G) for about $55 postpaid (he's good in the callbook, write him directly), or the earlier NN1G Mark II transceiver (sold by Dan's Small Parts & Kits, 1-406-258-2782) for $59.95 plus postage.

Both of these are superhet receivers with crystal i-f filters, full QSK, VFO on tx/rx, about 1.5 Watts output, easy to build, and perform well. I have one of each and I like them very much (SW-1 on 40m, NN1G on 20m).

Give 'em a try!

73 / 72 de KC5NG/QRP

342. OHR-100 QRP Set

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: rhynek@aol.com
Message-ID: <4uq5fq$huv@newsbf02.news.aol.com>
Source record: 103372

The Oak Hills Research OHR-100 QRP set is now available.
See Radio Devices Web Page at http://www.raddev.com/biz/raddev/.

343. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: bb@tisc.com
Message-ID: <4uqdg7$clg@taxis.corp.titan.com>
Source record: 103373
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

It will become like contests!!!

UR 599 OM MISSED UR CALL
RUNNING 50 WATTS HERE
TO U KC6YOX KN

344. Re: 3-Phase AC question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: "Craig A. McCarter" <cam7@pipeline.com>
Message-ID: <3210C65C.1686@pipeline.com>
Source record: 103374

CCSys wrote:
>
> I have a Lambda switch-mode power supply with a 3-phase input
> requirement. Being a switch-mode supply would this work acceptably
> using both sides (and the neutral) of the 220 line (and leaving one
> input disconnected?)
>
> From a brief examination the three inputs appear to be in the standard
> 4-diode "full-wave" rectifier configuration. The outputs of the
> bridges appear to be connected together and to filter caps. I assume
> that the ripple will be increased which may require greater
> capacitance.
>
> Any ideas or suggestions?
>
> Andrew
> N2CBU

Hi Andrew

I doubt you could get the rated power performance from the supply. The input would certainly suffer from a greater p-p ripple. It would be like loosing power for 1/3 of the time going into the input capacitors, relative to the design ripple parameters. It might work satisfactorily at a de-rated load though.

Craig
K1LFX

345. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: bb@tisc.com
Message-ID: <4uql8o$gfa@taxis.corp.titan.com>
Source record: 103375

zawodny@primenet.com (Dave Zawodny) wrote:

>"Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> wrote:

>>W8JI Tom wrote:
>>>I've held solder in my mouth all my
>>>life, and I'm perfectly normal.
>>
>>Bet he strips wire with his teeth, too, and can spit the insulation into
>>the waste basket from clear across the room.
>>
>>
>>73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
>> 'In Practice' columnist for RadCom (RSGB)
>>Professionally:
>>IFW Technical Services Clear technical English - world-wide.

>Ian,

>Are you saying that everybody does'nt do that?

>I thought that's why we have gaps between our teeth :)

>WD8DZB Dave
YOU COULD BE A REDNECK IF:
YOU CAN ONLY STRIP 18 GAGE OR LARGER WITH YOUR TEETH!!

346. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug13.140953.611@main03>
Source record: 103376

In article <01bb8598.fe59c5c0$fb99389d@DISCUS>, "Tom Kreyche" <tomkr@microsoft.com>
writes:
> I'm planning to build a detector for bats (the flying mammals!) probably
> for dumping into a laptop for some kind of spectral analysis. Anyone have
> recommendations for ultrasonic sensors? Different bat species use
> different frequencies, typically 40 kHz to 60 kHz, audio.
>
> BTW, I've seen some standalone commercial detectors for about $250 but
> it's no fun just buying one!
>
> Thanks, Tom KG6YJ

Marlin P. Jones sells several different types of ultrasonic transducers,
for about 5 bucks. They're good for the old style TV remotes, etc...
Don't have his number here but I could get it for you later if interested -
let me know.

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

347. Variable Cap Source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: "Chris Smith, NR3O" <csmith1@ccgate.hac.com>
Message-ID: <4uqpd0$oo8@newsroom.gsfc.nasa.gov>
Source record: 103377

I am building a VHF tuner and need Millen-type variable caps. They are in the 30-50 pF range with one being a dual type. Who carries this ilk of beasty?

Thanks, Chris (please email response--news servers not always up to date here)

348. How to build 6 meter RC Rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: go0ga@voicenet.com
Message-ID: <go0ga.3.0012C120@voicenet.com>
Source record: 103378

I'm just wondering if there's anywhere on the 'net I could find info on build a 6 meter RC reciever and X-mitter. If not, where to get info via snail mail would be appreciated. TNX in advance to all of you!

73,
Lawrence Weinstein, N3STR

349. FS : Cablewave Hardline Connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: paulc@esslink.com
Message-ID: <4ur8g4$s2f@news.esslink.com>
Source record: 103379

Hello All,

I have the following list of hardline connectors for sale
All connectors are used but in good condition.

(1) of HCC-78-50NM for 7/8" air

(2) of HCC-78-50NF for 7/8" air

(2) of FLC-78- 50NF for7/8" foam

(3) of FLC-12-50NM for 1/2" foam

All 7/8" connectors are $20.00 and the 1/2" are $10.00

PaulC@esslink.com

350. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4urbov$4e2@newsbf02.news.aol.com>
Source record: 103380

In article <claude.839921976@bauv111>, claude@bauv.unibw-muenchen.de (Claude Frantz) writes:

>available for few money. There is probably where the idea starts to
>use them in an amateur radio transmitter. You can have some ones in
>stock in order to replace the defective ones when necessary. The service
>duty of the amateur radio service is not as severe as the broadcasting
>service. I ignore if there is now another better tube which has become
>a standard and which will become commonly available as used tube after
>a given number of hours of commercial service.
>
>Do you have such an information, Tom ?

Unfortunately no, there are some tubes available as medical pull outs that are better to use but have shorter life....the 8877 comes to mind.

It is almost unconditionally stable, and has very high gain and good IMD performance....but has been subject to internal structure failures over the years.

The 3CPX5000 and 3CX3000A and F7 are good and very reliable SSB tubes, but a bit big for most Hams.

The catch 22 is this....

A tube with larger elements (ie 4-1000A, 3-500, 3CX1200A or D7, 811A, 572, 833) is easier to build. The internal dimensions are large and the tube is less subject to internal shorts. The thoriated tungsten filaments these tubes often use offer very long life, and are not subject to permanent stripping from overcurrent or low temperature operation. The emission life is a function of filament hours, more than mild abuse. They make good Ham tubes EXCEPT they are less stable, harder to drive, and have poorer IMD performance.

A tube with small elements (ie 8877, 4CX1000, 3CX800, etc) is harder to build. It has close element spacing with very small elements. They are more subject to overload damage (less thermal mass and closer spaced elements) but have higher gain and better IMD performance. They are more stable, and operate better at higher frequencies. But they also, with indirectly heated oxide cathodes, can be ruined by low filament voltage or excessive emission.

IMHO, the best amateur SSB tube is the 3CX1200Z7 or 3CX3000A or F7. They combine the best of all worlds, long life, stable, and good to excellent IMD performance. The best pull out tube is probably the 8877 for performance, and 4-1000A for cost.

Someday the Russians may make a good triode, that may be a future source.

73 Tom

351. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: cj@hth.com
Message-ID: <3210be8b.0@news.buller.se>
Source record: 103381
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something (big or small) with the BASIC Stamp
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
```

```
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
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352. AM radio Noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-13 00:00:00 UTC
From: Trent Howard <tmhoward@dirac.cca.rockwell.com>
Message-ID: <32110624.938@dirac.cca.rockwell.com>
Source record: 103382

I have a little radio in my office and evertime I use it with my
computer
monitor on I get a high pitched whine. is there anyway to filter this
out?
any ideas will be greatly apprecitated

you can mail me at tmhoward@icaen.uiowa.edu
or reply in news

Thanks
Trent

353. Re: 10mW to 250mW ATV Amp needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32118E4F.3FE1@worldnet.att.net>
Source record: 103234

Mark Aitken wrote:
>
> Hello,
>
> I have a HILLS RF Video Exciter unit. apparently these units where used as
> distrubution units in hotels/motels
> etc. It is up and running on 444.250 MHz, one of our VK ATV frequencies.
> However the output is only around
> 10mW.
>
> What I would like to get is a CCT (pcb artwork etc) for a little CLASS AB
> 10mW to 250mW amplifier that I could
> build and then fire that output into my existing ATV AMP (M57716 brick).
>
> If you can assist me with anything please drop me a email either personally
> at my reply address of via the
> newsgroups I have posted this to.
>
> Thankyou
>
> Mark

An easy approach is to use monolithic microwave intergrated circuits...
They are available from MiniCircuits (New York) or from Hewlet Packard /
Avantek. My data is a bit old but for example...
Avantek MSA-0404, ~8 db gain from 100-1000 MHz, +11.5 dbm, 50 ohm out.
Avantek MSA-0520, ~8 db gain from 100-1000 MHz, +23 dbm out.
... Only other parts are a couple of chip in/out blocking capacitors, Vcc
choke (~10 turns, 3-4 mm dia), current limit resistor (depends on part
and supply voltage).

Have Fun! 73,

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

354. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: gbostick@luna
Message-ID: <4urmo7$62g@mother.usf.edu>
Source record: 103235

w8jitom@aol.com (W8JI Tom) writes:

>The 4-1000A has the lowest GG power gain of all these tubes, because the
>driving impedance is so high. A typical 3CX1200, with higher gain (lower
>driving impedance), will barely make 1500 watts with 100 watts of drive at
>3600 volts. A 4-1000 will do much worse.

>I'm not trying to discourage a builder, just make him aware that gain is
>limited without high anode voltages....and if high anode voltages are
>used, stability almost always becomes a difficult issue. A GG 4-1000A
>would not make the top ten list of lowest IMD performance tubes either,
>but they are pretty to look at and inexpensive (when used) to buy.

In respect to the above characteristics, how would the 3-1000Z compare.
This is also a impressive tube to look at and a great room warmer for
those cold shacks.

Gary

355. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Gary Sanders <gsanders@midwest.net>
Message-ID: <32117217.7D93@midwest.net>
Source record: 103236
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Jake Brodsky wrote:
>
> I'm just curious Gary, did you use a speaker mike all the time? And
> did you transmit with the radio on your belt?
> --Yes, I used a speaker mike with both radios, and transmitted with the radios on my belt. Usually, the radio was sitting either at the small of my back or pretty far back on my right hip (due to other junk that I had to carry on my belt at the same time!).

Gary

356. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <3211665A.7D70@millcomm.com>
Source record: 103237

Tim Shearer wrote:
>
> I always find myself with my face right down near a circuit board trying to
> solder or un-solder some microsized surface mount part or something. I
> therefore breath a lot of solder/rosin smoke. Is this bad for your health?
> Is there lead in the smoke?

YES.

Seriously, there IS lead vapor in the smoke, and it IS bad for you. As I recall, lead -collects- in the body, year after year. Lead affects the nervous system, i.e., poisons your brain and makes you stupid, gives you headaches, etc..

Rosin's bad for you too.

At work we use little muffin fans with guards on both sides. We just set 'em on edge on the bench, right behind the board we're working on, and blowing towards the back of the bench. Then the vent fan above the bench picks it up from there. Works great, costs $10.

Richard

--

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

357. Re: Protecting tubes with thyratrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <3211656D.3375@millcomm.com>
Source record: 103238

Dave Kirkby wrote:
>
> Hi,
> has anyone any experience of protecting tubes agains flashovers, by using a
> thyratron to cut the HT off rapidly in the event of a flashover ? I've seen such
> a scheme mentioned in some Burle (formally RCA) application notes and are
> considering it. Suffice it to say, I think I can lay my hands on a thryatron
> cheaply - the leftovers of an old PhD project here.
>
> I dont suppose I would bother if the tube is cheap/plentiful, but if one has
> an expensive tube that is pretty much irreplacable on cost grounds, this
> might be worth considering.
>
> ---

Um, I may be way off here, but why don't you just put a fuse in the line, and crowbar it? The below may -sound- complicated, but it's really not. A handful of parts, with the advantage of being cheap and off the shelf (read: replaceable).

This is just off the top of my head, but if you're only talking a few KV, you could put a few 1KV SCR's in series, using optocoupler drive on each.

You'll have a series resistor string in parallel with the SCR's for static equalizing anyway, so you can easily derive the trigger circuit power from that.

Sense the current with a series resistor, plus a comparator circuit driving the opto LED's.

You might even get away with using cheap low-current SCR's. They almost always fail 'shorted' (read: melted! the chip, not the package). And who cares if they fail on first use? They're cheap right? I'm assuming here that you're trying to protect against infrequent inadvertent faults.

If you're expecting frequent faults, then of course it'd be worth using SCR's rated for the application (pulse service SCR's). Then you'd just hit reset and replace the fuse. If you have a current-limited supply then you may not even need a fuse. Just crowbar it, and have the detector circuit shut off a primary relay also.

Heck, now that I think about it, why not use a current-limited supply in the first place? If your tube can stand a couple tenths of a second of high current, you could just put a big inductor in series with the plate supply, and use the current detector circuit to shut off the supply. Size the inductor to prevent the current from rising too far within the period it takes to shutoff the supply.

By the way, the old GE SCR Manual, and I think their Opto Handbook, both had circuit examples of how to stack high voltage strings of SCR's.

Good luck with it,

Richard

--

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

358. FS:KPC-3 Upgrade Kits.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: CompSerPlus@worldnet.att.net
Message-ID: <4urthl$1k7@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 103239

I have posted this earlier and got some response and sold a few of these kits. I still have about 6 of them for sale.

These kits contain the 128K X 8 Memory upgrade for the KPC-3 along with the DS1215 Clock/Calendar and the 32.768KHz Crystal needed for the clock. I am selling these kits for $15 which includes postage.

I will guarantee the parts to work. If interested please reply via E-Mail.

73, Jim N7XTY (I am good in the callbook)

359. I want made an interface to receive weather satellites. Can you help me?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: alfonsog@lander.es
Message-ID: <4us67s$s2v@lince.lander.es>
Source record: 103240

Hello,

I'm are interested in made an interface to receive the weather
satellites, I have the receiver and the PC, You have the scheme ?

Thanks very much for your help

Alfons EB3FYJ

360. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: ignacy@num.ads.uga.edu
Message-ID: <4usnqo$i0o@hobbes.cc.uga.edu>
Source record: 103241
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <4ulu2o$mcs@faith.total.net>, ehoffman@total.net (Big Boy) writes:
>I have a old crap 8088 'tole box' as you can say! With the power supply. It's
>rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
>(used as a base) 13.8V tranceiver unit. I dont know much of switching power
>supply technology and i want to know if it's safe. The problem may be when i
>switch from RX to TX and from TX to RX... could there be a fatal burst of
>voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
>those peek?

One problem with switching powel supplies is wideband noise. I used a
stock Yaesu switching PS a while ago, and with low and
shortened antennas the noise was overwhelming. It was OK with high
full-sized antennas.

That PS once gave up at a thunderstorm, something that has never
happend with the conventional PS.

Ignacy Misztal Ham radio: NO9E, SP8FWB
E-mail: ignacy@uga.cc.uga.edu
University Of Georgia, 203 L-P Bldg., Athens, GA 30602
tel. (706) 542-0951

361. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: "Merv Stump"
Message-ID: <4usopq$jqi@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 103242
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I tried a switching supply with a Kenwood 2530 on 2 meters. Consistently
got lousy audio reports. Regards, Merv

362. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4usqut$lhh@newsbf02.news.aol.com>
Source record: 103243

In article <4urmo7$62g@mother.usf.edu>, gbostick@luna (Gary Bostick (POS)) writes:

>In respect to the above characteristics, how would the 3-1000Z compare.
>This is also a impressive tube to look at and a great room warmer for
>those cold shacks.
>
> Gary

Problem is they are rare and expensive. At the same anode voltage they have more gain than the 4-1000A in GG (due to lower driving impedance). They also have much better GG IMD performance.

They are very unstable compared to tubes like the 8877 or 3CX1200Z7 due to long internal grid leads. This causes the self-neutralizing frequency to be very low and complicates parasitic suppression if ten or 15 meter operation is desired.

All of the problems can be handled, except the expense. Last one I saw at a flea market was in the early 80's.

73 Tom

363. 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199608141633.MAA24332@service1.cc.uky.edu>
Source record: 103244

>IMD performance will not be nearly as good as most tubes designed with SSB
>in mind, but should be acceptable in most Amateur service if the amplifier
>is loaded heavily enough.

>73 Tom

Here is some info from the 1972 Radio Handbook page 7.22 fig.22..

TUBE Eb Ibo Ib(max) Po 3D ORDER IM DIST.
VOLTS ma ma WATTS db

3-1000z/8164 2500 162 800 1250 -38
3000 175 670 1250 -35
3500 200 750 1770 -30

4-1000A (GG) 3000 60 700 1475 -34
4000 90 675 1870 -34
5000 no IM distortion figure given

INTERESTING INFO. THE 4-1000A IS NOT SO BAD IN GG CONFIGURATION.

73
BILL WA4LAV was ko4ww

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

364. Vacuum tube design question: Cathode followers grid running positive?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDw551y.E5o@netcom.com>
Source record: 103245

Been playing with vacuum tubes in audio amps, and built a "cathode follower" (kinda like an emitter follower) to provide lower impedance (have plenty of signal voltage, 4V p-p of audio from the CD player's current -to - voltage converter op-amp, the DACs generate current outputs). Tried "self bias" (cathode resistor from neg supply to cathode, grid has large value resistor to neg supply) but the input signal was too big and I got clipping. So, I figured that if I bias the grid to a higher voltage, the cathode would follow (pass enough more current to raise its voltage to make the grid look negative to it again). Got a nice clean undistorted output, but I found the grid was POSITIVE with respect to the cathode by about 1.2 volts, and the grid is drawing about 0.25 ma of current. (measured a DC voltage drop across the grid resistor and ohm's law yields 0.25 ma). The cathode current is about 4.5 ma (again Ohms law deduction).

Am I operating this tube (a 6111 sub-mini triode) in a reasonable environment, or will I burn it up like this? It seems to be acting like a bipolar transistor (positive grid voltage of 1.2 V seems constant, and sucking a little current). I thought tubes want their grids negative compared to the cathode. Tube I'm using (6111) has a gm about 5000, amp factor around 17, medium mu triode, plate current max 8ma, plate resistance something like 3000 ohms (this is from memory, I don't have the manual here at work right now (dont tell the boss!), it's at home).

Multiplying the grid current of 0.00025 A * 1.2 V = 0.0003 watts seems small, is this reasonable calculation, and can the tube take it?

365. Need info on a good tuner design.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@joule.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.960814061608.6098C-100000@joule.elee.calpoly.edu>
Source record: 103246

Hello all:
I'm trying to figure a good design for a 1000W continuous (AM service) antenna tuner that will have capabilites for balanced, unbalanced, and random wire antennas. Roller inductor tuning is tops but not necessary. Good harmonic suppression is (which rules out the old "pi net" for me). I plan to build the thing in a cabinet that is about half the height of a Collins 75-A2 rcvr. Yes, I'm into the classic stuff so I'll probably finish the tuner in St. James Grey wrinkle also. Any ideas? Cal, N6KYR.

366. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: cphillips@interpath.com
Message-ID: <4uth60$6s2@redstone.interpath.net>
Source record: 103247
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

gfiber@halcyon.com (Gary Fiber) wrote:
>mike_luther@ziplog.com wrote:
>>>>The FCC has issued new rules regarding the evaluation of RF Emissions and
>>>>health effects from all transmitters. As always, the devil is in the details
[snip]
>>Oh knowledge of the affair isn't really required! Product liability, for example
>>transcends all reasonable sane limits for time elapsed on that, with or without
>>knowledge.
[snip]
>It might be the manufacturers will have to apply a warning label on equipment
>to remind the installer / user of the possiable electromagnetic radiation
>problems of improperly installed equipment.
[snip]
>I would guess this might also be a good case for antenna heighth. The higher
>the radiating element the less signal affects the immediate surrounding area

YEAH!!!!! That's the ticket. Not only can they NOT restrict you
from having a tower, you MUST have at least, say, a 100 foot tower.

If you can't afford one, the government must assist you in getting
one... today FOOD STAMPS, tomorrow TOWER STAMPS!! :-)

========== Opinions expressed are solely those of the author =========
Curt Phillips, CEM KD4YU (ex-WB4LHI) | Hey, cut me some slack!
Engineer/Writer/Adventurer/Raconteur | This is just the
Chairman, Tar Heel Scanner/SWL Group | BETA-TEST
ARRL Life; QCWA; Raleigh ARS; NRA; AEE| version of me.
== cphillips@interpath.com ==== [Copyright 1996 All rights reserved]==

367. Re: AM radio Noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: stevem@best.com
Message-ID: <4utg64$ool@shellx.best.com>
Source record: 103248

In article <32110624.938@dirac.cca.rockwell.com>,
Trent Howard <tmhoward@dirac.cca.rockwell.com> wrote:
>I have a little radio in my office and evertime I use it with my
>computer
>monitor on I get a high pitched whine. is there anyway to filter this
>out?
>any ideas will be greatly apprecitated
>
>you can mail me at tmhoward@icaen.uiowa.edu
>or reply in news
>
>Thanks
>Trent

You can try moving the radio away from the monitor and try different orientations of the radio with respect to the monitor to null out the noise. If possible, an outside antenna would be your best bet. You can also try wrapping the power and video cords around some ferrite bars or torroids. Unfortunatly, office machines are not required to meet the the more stringent EMI standards that consumber devices are, consequently, the office is a pretty noisy radio environment.

Good Luck

Steve Muther WF6R

368. Re: 4-1000A Amp Schematics Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4utvu6$816@newsbf02.news.aol.com>
Source record: 103249

In article <199608141633.MAA24332@service1.cc.uky.edu>,
wlfuqu00@service1.UKy.EDU (William L. Fuqua III) writes:

> Here is some info from the 1972 Radio Handbook page 7.22 fig.22..
>
> TUBE Eb Ibo Ib(max) Po 3D ORDER IM DIST.
> VOLTS ma ma WATTS db
>
> 3-1000z/8164 2500 162 800 1250 -38
> 3000 175 670 1250 -35
> 3500 200 750 1770 -30
>
> 4-1000A (GG) 3000 60 700 1475 -34
> 4000 90 675 1870 -34
> 5000 no IM distortion figure given
>
> INTERESTING INFO. THE 4-1000A IS NOT SO BAD IN GG CONFIGURATION.
>
>73
>BILL WA4LAV was ko4ww

Hi Bill,

Be cautious of the source and how the test was made! At times errorrs creep in (catch that Ian?). The 4-1000A was never speced by Eimac for grounded grid operation.

Eimac measures tubes against one tone of a two tone test, this makes the tube look 6 dB poorer than the PEP method other manufacturers and most Amateurs seem to use.

Also keep in mind the 3-1000Z in not an exceptionally clean GG tube. Compare its data against a 3CX1500.. A 3CX1500 has better than -40 dB IMD performance at the same power level by the same measurement method.

Data taken here on a 4-1000A amplifier I helped a friend build showed the following:

7 MHz with 1500 PEP output at 4700V HV

3rd order -26, fifth order -28

If I used the PEP method the figures would have been -32 and -34 dB, pretty close to the Radio Handbook data. Sometimes data gets a bit jumbled up when it's from multiple sources.

Personally, I consider the 3-1000Z a marginal IMD performance SSB tube for todays congested bands. IMD can sometimes be improved a little by adding a non-bypassed resistor in the RF lead at the tube, but efficiency will also drop and drive power requirements increase.

73 Tom

369. WTB: FREE AMP OR AMP PARTS FOR HIGH SCHOOL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Adam Naiman <adamn1qbk@juno.com>
Message-ID: <32128310.54D3@juno.com>
Source record: 103250

We want broken or working amps; or amp parts; rigs (broken or working)
or rig parts for an amateur radio club in the Ashland High School.
Please e-mail me if you can help at adamn1qbk@juno.com.

Thanks.
73
-ADAM

370. =ATV=COLOR VIDEO CAMERAS== for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Keith Riehl <kriehl@europa.com>
Message-ID: <3212ACAA.57A@europa.com>
Source record: 103251
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

```
==COLOR VIDEO CAMERAS== for sale

Check out these cameras, they are priced to sell, new in the box intel
cameras. CHECK OUT THE WEB PAGE FOR SAMPLES

http://www.europa.com/~kriehl/camera

""""""" Cameras for sale """""""""
http://www.europa.com/~kriehl/camera
```

371. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: "Bill Turner, WB4ALM" <wb4alm@gte.net>
Message-ID: <3212825C.449@gte.net>
Source record: 103252
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Gary Sanders wrote:
>

> Cancer isn't any fun.
>
> Sure, I know I'll get flamed, because I don't _know_ that the cancer
> was caused by the HT's, but then again, I don't _know_ that thay
> _didn't_ cause it.

Hopefully it WASN'T caused by the HT's...
...but even much more important, hopefully you recover. FULLY!
(and quickly.)

73's Bill Turner, WB4ALM

372. ==COLOR VIDEO CAMERAS== for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: Keith Riehl <kriehl@europa.com>
Message-ID: <3212AE31.525A@europa.com>
Source record: 103253
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

==COLOR VIDEO CAMERAS== for sale

Check out these cameras, they are priced to sell, new in the box intel cameras. CHECK OUT THE WEB PAGE FOR SAMPLES

http://www.europa.com/~kriehl/camera

"""""" Cameras for sale """""""""
http://www.europa.com/~kriehl/camera

373. RCA7586 tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: fbures@alchemy.chem.utoronto.ca
Message-ID: <Dw4nq7.AoG@alchemy.chem.utoronto.ca>
Source record: 103254
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

I am looking for a data sheet on RCA7586 tube.

Any help or advice as to where to turn to would be greatly
appreciated.

Thank you

Frank Bures, Dept. of Chemistry, University of Toronto, ON, M5S 3H6
fbures@alchemy.chem.utoronto.ca

374. Brantford Flea Market August 17

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: jthomas@wat.hookup.net
Message-ID: <4usqv6$rpd@nic.wat.hookup.net>
Source record: 103255
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap,rec.radio.scanner,alt.radio.scanner,alt.radio.pirate

BRANTFORD AMATEUR RADIO CLUB'S

FLEA MARKET

At Burford Fairgrounds, Burford, Ontario
On Highway 53 - 15 km West of Brantford

SATURDAY AUGUST 17th, 1996

From 9:00 am.....Admission $5.00
Vendors 7:30 am.....$8.00/table plus admission
Tailgaters Welcome.....$4.00 plus admission
Expanded: 2 buildings this year.....Acres of free parking
Major Door Prize: $700 gift certificate from Norham Radio Inc.
Talk-in on VE3TCR 147.150+

For more info and table reservations, phone or write:
Richard La Rose, VE3RLX Brantford Amateur Radio Club
153 Dunsdon St. P.O. Box 25036
Brantford, ON. N3R 6N3 Brantford, ON. N3T 6K5
519-752-2437

375. Re: postings vanish

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-14 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn51294o.9m0.mulveyr@ll.aa2ys.ampr.org>
Source record: 103383

On Mon, 12 Aug 1996 06:32:46 -0500, Lï¿½szlï¿½ Aranyos <n9fmr@interaccess.com> wrote:
>Am I doing somthing wrong I post an item it appears than it vanishes .
>Is there cecorship on this group?

It depends on how your newsreader is set up. It probably doesn't show
any postings that you've already read, the next time you use it.

And in spite of the CDA, no, this group is not censored.

- Rich

--
My mailer has the unfortunate tendency to bounce 10,000 copies of any
junk mail I receive back to the sender. Be warned.

376. Updated WWW DX Notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: tejas@applink.net
Message-ID: <4v317n$hpa@news2.nkn.net>
Source record: 103184

WA5YKO's DX Notebook has been update with some great new links.
Check it out!

http://www.applink.net/tejas

73 es gud dx
de WA5YKO

377. HF Amplifier Notebook Web Page Updated

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: tejas@applink.net
Message-ID: <4v2gc0$aof@news2.nkn.net>
Source record: 103185

The HF Amplifier Notebook Webpage has been updated with some new links.

http://www.applink.net/tejas/amp.html

378. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <Dw79nv.388@news.hawaii.edu>
Source record: 103186
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Rob Neff <n7ory@primenet.com> wrote:
>Perhaps the use of an HT helped keep the cancer cells at lower level
>than they would have been without it?
>
>Just a thought.

More like a fantasy. I am *very* sorry to read of your loss; statistics show 1 in 4 women will suffer from that form of cancer. But let's please keep emotion out of this ruling. Self-denial that RF cannot cause illness will only hurt yourself, but coming on here and stating that to hundreds of thousands of folks is irresponsible.

Keep your HT at its lowest power setting (not only for health reasons but also to comply with Part 97). Use a speaker mic and hold the HT at arm's length when transmitting (who cares what that will look like - you'll be setting a good example).

Be safe,
Jeff KH2PZ

379. Looking for dx with homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: adriaan <adpe1khp@pi.net>
Message-ID: <3212EBA8.4068@pi.net>
Source record: 103256

My name is Adriaan, my age is 32 years old. I live in Apeldoorn. That is a city with 150.000 inhabitant. In the Netherlands live 14 million people. Apeldoorn is a green place in the hart of the Veluwe, what is in the centre-east of the Netherlands.

I'm a member of the dutch radioclub the VERON (IARU), the VERON is in 1995 50 years old. I'm also a member of the VHF-committee of the VERON. Of the local-club i am the chair-man. All this its a lot of work, but its a lot of fun to.

Every month i write a column in the VERON magazine Electron about VHF dx-ing in mode CW and SSB. For that i'm looking for dx-ers in other country's, let me know if you work dx.

Have you work something in Tropo, Aurora, Es or MS, please tell me your story. Haw did you like the conditions on the band ? Did you work some nice new locators ?

Let me know, see my page on www.
http://www.pi.net/~adpe1khp/dx.html

Or see me on my home page
http://www.pi.net/~adpe1khp/home.html

Thanks for sending your dx-information.

Greetings from the Netherlands, Adriaan PE1KHP.

380. Help with ASDEN PCS 2000 repair.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: rclayton@csc.umd.edu
Message-ID: <4utud3$af0@hecate.umd.edu>
Source record: 103257

My ASDEN PCS-2000 appears to put out less power unless I de-tune the antenna. I have measured the antenna with an swr meter and when it shows a low SWR the power indicator LEDs on the from of the unit show a reduction in power. If the tune the antenna for max indication on the LEDs then receive performance is affected. The unit has a final amp. module labeled VP-15E 13LF on the schematic. I am not sure if this module has the crowbar circuit internally or if I have a problem some place else.
Any help appreciated.
Rod
KA3BHY
rclayton@umd5.umd.edu

381. SSC harware and test equipment listings

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32127faf.17348231@news.santafe.edu>
Source record: 103258

Hardware and test equipment from the Superconcucting Super Collider is
being offered for sale. The equipment is listed at URL:
http://www.io.com/~aipc/.

Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

382. Tektronics Manuals Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: dturner@pacbell.net
Message-ID: <4uttuq$r57@news2.snfc21.pacbell.net>
Source record: 103259

I just purchased a 7504 scope with two 7A15's and one 7B51 timebase.
The thing is need of troubleshooting and I need manuals for any and
all mentioned above. Can someone turn me on to a source for these,
or maybe you might have some? Thanks WA6WRX

383. Microdot Coax Connectors?? Where Available??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: acampane@postbox.acs.ohio-state.edu
Message-ID: <acampane.93.3212CBF4@postbox.acs.ohio-state.edu>
Source record: 103260

Dear HR'rs:

I'm looking for a source of waht we used to call "Microdot" connectors and possibly cable also. It's TINY stuff! I think it's smaller than the SMA variety. I came across MDPT out of the UK, but they are pricey, and I could only view one product (a vacuum feed-through) with my web crawler. So, I'm back into the QSO mode for info.

These connectors have a 10-32 thread, (3/16" O.D.), and the cable is about 0.075" O.D.

I use them on accelerometers. They are issued by B&K and also Wilcoxon.

At the moment, the main thing I need is a 90 degree male connector.

But if anyone knows whatever happened to the Microdot Company, and who took over their product line, I'd sure appreciate it.

Please answer to my OSU E-Mail address, since I may not look here very often.

Thanks,

Ang., W8EDR

384. Wanna to win A CD player ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: kelvin@k.com.hk
Message-ID: <4uucj2$mi6@news.asiaonline.net>
Source record: 103261

Wanna to win A CD player ?
If you are interesting in a Philippines Radio Show, try :
http://www.corjam.com/

385. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: ia514@cleveland.Freenet.Edu
Message-ID: <4uuefd$gvj@madeline.INS.CWRU.Edu>
Source record: 103262
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

buy a "Mr. Microphone"
--
Dave Bryndal ============= Save the Chagrin Falls and Southern RR
ia514@po.cwru.edu====================================
dbryndal@gilmour.pvt.k12.oh.us=======================
knuckle@railnet.nshore.com===========================

386. 3-500Z/G

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: Claude PIOT <aube1540@eurobretagne.fr>
Message-ID: <3212B9B8.51B7@eurobretagne.fr>
Source record: 103263

Did somebody knows the admissible grid current for a vacuum tube
3-500Z/GRAPHITE (3-500Z/8802) in a class AB2 grounded grid linear
amplifier?
Thanks from Claude PIOT, F3PZ.

387. 3-500Z/G

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: Claude PIOT <aube1540@eurobretagne.fr>
Message-ID: <3212D642.2E80@eurobretagne.fr>
Source record: 103264

Did somebody knows the admisible grid current in a vacuum tube
3-500Z/GRAPHITE (3-500Z/8802) in a class AB2 grid grouded linear
amplifier?
Thanks from Claude PIOT, F3PZ.

388. Re: Attenuating tx output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960815110117704 32@zetnet.co.uk>
Source record: 103265

> I want to drive it with 1 watt but my rig does not produce that .
> To cut a long story short is it possible to attenuate the signal
> between the transceiver and amp down 1 watt .
> Any suggestions/comments will be gratefully received.
> Stephen G7UXL
==========
Stephen , You can easily construct a 5dB attenuator by means of 3pcs
2 Watt carbon composition - or metal film resistors in a small metal
container eg aluminium cylinder packing (35 mm film roll) or in a
home made box from double sided PCB material. Keep the component
leads of minimal length,just to solder them together. In the PI
configuration the 2 resistors across signal input and signal output
are 200 Ohms ; the 3rd resistor between in- and output is 33 Ohms.
With this attennuator, 5 Watts is reduced to about 1.5 Watts which
(if the poweramp input/ouput transfer is linear over its range) will
give you an output to the feeder of about 60 Watts.
The above attenuator is based on 50 Ohms input /output impedence.

Although a standard resistor is 220 Ohms ,you might be able to select
a low value from a 10 percent accuracy batch. The value won't be all
that critical for this application.
If you can find some 2 Watts carbon-composition resistors of 180 Ohms
or about ,you could try to remove bit by bit with a grinding stone
,checking the resistance frequently as the resistor value increases.
Success !
Frank Dinger , Inver by Tain , Ross-shire IV20 1RX - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

389. Re: 10mW to 250mW ATV Amp needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: pa0ez@bbs.hacom.nl
Message-ID: <8C67321.0295000120.uuout@bbs.hacom.nl>
Source record: 103266

MA>>Path: hacom.nl!Utrecht.NL.net!sun4nl!EU.net!newsfeed.internetmci.com!swrinde!ih
>>np4.ucsd.edu!news1.ucsd.edu!news-mail-gateway
>>From: vk3jma@ozemail.COM.AU (Mark Aitken)
>>Newsgroups: rec.radio.amateur.homebrew
>>Subject: 10mW to 250mW ATV Amp needed.
>>Date: 13 Aug 96 06:39:57 GMT
>>Organization: ucsd usenet gateway
>>Lines: 38
>>Message-ID: <199608130738.RAA18408@oznet02.ozemail.com.au>
>>NNTP-Posting-Host: mail.ucsd.edu
>>Originator: daemon@ucsd.edu

MA>>Hello,

MA>>I have a HILLS RF Video Exciter unit. apparently these units where used as
>>distrubution units in hotels/motels
>>etc. It is up and running on 444.250 MHz, one of our VK ATV frequencies.
>>However the output is only around
>>10mW.

MA>>What I would like to get is a CCT (pcb artwork etc) for a little CLASS AB
>>10mW to 250mW amplifier that I could
>>build and then fire that output into my existing ATV AMP (M57716 brick).

MA>>If you can assist me with anything please drop me a email either personally
>>at my reply address of via the
>>newsgroups I have posted this to.

MA>>Thankyou

MA>>Mark

Dr OM,

In your case I would look after one of these japanese (Mitsubishi?)
power amplifier modules. There are several for the 435 MHz band and
when not driven too hard they have a good IM performance for ATV
73
PAoEZ

groeten, Arie

* 1st 2.00 #8976 *

390. Re: Microdot Coax Connectors?? Where Available??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-1508960824450001@tom-dunn.caltech.edu>
Source record: 103267

I Dear HR'rs:
> I'm looking for a source of waht we used to call "Microdot" connectors and
> possibly cable also. It's TINY stuff! I think it's smaller than the SMA
> variety. I came across MDPT out of the UK, but they are pricey, and I could
> only view one product (a vacuum feed-through) with my web crawler. So, I'm
> back into the QSO mode for info.
Snip
> But if anyone knows whatever happened to the Microdot Company, and who took
> over their product line, I'd sure appreciate it.
>
>
> Thanks,
>
> Ang., W8EDR

They seem to still be around.

Microdot Div.
Kaynar Technology
714 524-5854 Good hunting. 73 Tom WB6IQD dunnt@starbase1.caltech.edu

391. Re: Tektronics Manuals Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4uvn31$40p@nadine.teleport.com>
Source record: 103268

In article <4uttuq$r57@news2.snfc21.pacbell.net>,
dturner@pacbell.net (Donald E. Turner) wrote:
>I just purchased a 7504 scope with two 7A15's and one 7B51 timebase.
>The thing is need of troubleshooting and I need manuals for any and
>all mentioned above. Can someone turn me on to a source for these,
>or maybe you might have some? Thanks WA6WRX

Contact Deane Kidd, (503) 625-7363. He has a large selection of Tek manuals
for sale.

Roy Lewallen, W7EL

392. Re: Tektronics Manuals Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: sutin@sol.ucolick.org
Message-ID: <4uvnav$nlr@darkstar.ucsc.edu>
Source record: 103269

In article <4uttuq$r57@news2.snfc21.pacbell.net>,
dturner@pacbell.net (Donald E. Turner) wrote:
>I just purchased a 7504 scope with two 7A15's and one 7B51 timebase.
>The thing is need of troubleshooting and I need manuals for any and
>all mentioned above. Can someone turn me on to a source for these,
>or maybe you might have some? Thanks WA6WRX

Tektronix has manuals for almost everything. Unfortunately, many
of these are only available on microfiche.

Brian Sutin *** UCO/Lick Observatory *** Santa Cruz, CA 95064 *** KD6TLA
Boruch bn Michael bn Lion bn Benjamin bn Moishe bn Nachum Sutin Ha'Levi
Fred: "May I rescue you?" `Top Hat'
Ginger: "No, thank you. I prefer being in distress." RKO 1935

393. Got my audio tube cathode follower grid negative, in CD player

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDw6w3A.4po@netcom.com>
Source record: 103270

Posted about my bafflement of why I was getting positive grid to cathode voltage bias in a cathode follower tube circuit. Someone (thank you) e-mailed a suggestion that the amount of plate current I was passing would make the grid bias do this. So I increased the cathode resistance from 1K to 10K, and used a bench power supply to find a suitable bias voltage for the grid, so I would get a decent output on the cathode. The audio amplitude is around 4V p-p. Now the plate current is about 1/2 mA, and the grid sits about 0.2V below the cathode. And only a few microamps of grid current.

Sounds pretty good. I have a test CD, and played an intermodulation test tones track, and it seems clean.

Find a picture and diagram of this in alt.binaries.pictures.misc & 12hr

394. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <4v021c$hq7@canyon.sr.hp.com>
Source record: 103271

Will Flor (willf@rrgroup.com) wrote:

> though the Coast Guard doesn't monitor for CW SOSs any more.

I found this hard to believe - that the one agency that should monitor
for CW distress signals doesn't. I called the USCG monitoring station
in Point Reyes, CA., and confirmed that they do not.

I wonder if CW will be dead after this generation, like landline morse?

73 Don K6LTS
donrm@sr.hp.com

395. Re: AM radio Noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: Yvon Roy <rextel@sympatico.ca>
Message-ID: <3213E836.4A57@sympatico.ca>
Source record: 103272

Trent Howard wrote:
>
> I have a little radio in my office and evertime I use it with my
> computer
> monitor on I get a high pitched whine. is there anyway to filter this
> out?
> any ideas will be greatly apprecitated
>
> you can mail me at tmhoward@icaen.uiowa.edu
> or reply in news
>
> Thanks
> Trent

You may try to locate your radio farther away from your computer. Also try to turn the radio for maximum pick-up of the station and minimum pick-up of the noise from the computer.If you are an electronics expe-rimenter, I can suggest an idea, but you will have to open your radio and do a little bit of extras. Yvon Roy

396. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4uvhre$4m6@nnrp1.news.primenet.com>
Source record: 103273
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Gary Sanders <gsanders@midwest.net> wrote:

>Cancer isn't any fun.

>Sure, I know I'll get flamed, because I don't _know_ that the cancer
>was caused by the HT's, but then again, I don't _know_ that thay
>_didn't_ cause it.

Well, I just lost my mother 2 months ago to breast cancer. She was not a ham, and you could not get her to even pick up a mic. It came on suddenly and ended suddenly. Started with a small lump in Jan 95, ended in death June 96. Cancer isn't funny, nor is blaming something for causing it without proof.

I saw what my mother went through, and wouldn't wish that on anyone. I hope you have much better luck, which I'm sure you will.

Perhaps the use of an HT helped keep the cancer cells at lower level than they would have been without it?

Just a thought.

Take care..

Rob Neff (N7ORY)

397. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: bstroupe@neosoft.com
Message-ID: <bstroupe.34.01382803@neosoft.com>
Source record: 103274
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

In article <4u8u23$c39@news.accessone.com> vbook@vbook.com (Ed Mitchell) writes:
>From: vbook@vbook.com (Ed Mitchell)
>Subject: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas
>Date: 7 Aug 1996 02:12:19 GMT

>***** Breaking News Story *****
>FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas
>by Ham Radio Online, 7 August 1996

>In a major ruling, the FCC declared void local laws prohibiting
>or restricting the use of small wireless dish antennas.
>More significantly, the FCC declared that use of small dish
>antennas and television receiving antennas can not be restricted
>by "any private covenant, homeowners' association rule or similar
>restriction on property within the exclusive use or control of
>the antenna user". Under the federal pre-emption, all homeowners
>must be allowed to install TV antennas. Longer term this ruling may
>have important ramifications for eliminating restrictions on Amateur
>Radio antennas.

>Ed (KF7VY) and Kim (N7VPL) Mitchell
>email to vbook@vbook.com
>Visit Ham Radio Online, it's free! at
>http://www.hamradio-online.com

Nice try guys, but I might wait a while before starting construction of that
favorite "look alike" antenna. This one is DEFINITELY going to end up in
court as has been discussed on several broadcasting list severs because the
FCC is trying to preempt deed restrictions and every homeowners association
is against this. Just waiting for the fireworks to begin.

Bob Stroupe
WB5JWN
Chief Engineer
KKBQ AM/FM

398. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: n9jig@TheRamp.net
Message-ID: <n9jig-1508962030430001@0.0.0.0>
Source record: 103275
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Does anyone have the text of this ruling? I am trying to get my townhouse association to allow a DBS dish and a discone for scanning on my roof, and this may help push me over the edge as it were...

--
Rich Carlson, N9JIG (n9jig@TheRamp.Net)

ScannerMaster Illinois Communications Guide (800) 722-6701

CARMA (Chicago Area Radio Monitoring Association) BBS (630) 852-1292
PO Box 2681, Glenview IL 60025 SASE for sample newsletter.

399. READ THIS NOW!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: pmcdaddy@usit.net
Message-ID: <4v18h4$l35@news.usit.net>
Source record: 103276

Turn a measly $5 into $50,000!

Taking 5 minutes to read this text may be one of the best decisions you

ever made.

I could make $50 000 within 4 weeks for an investment of only $5. I

thought it was a huge joke! I spoke to my friends about it

and they thought likewise. But after three days of desperate struggle

I decided I had nothing to lose.

My family and I sent $1 by snail mail to each of 5 names and addresses

specified in the article. We then

placed our own name and address in the article and posted it in 200

other newsgroups.

Two weeks later, I started receiving money in the mail! I could not

believe it! Hundreds of dollars turned into thousands, and in the 4

weeks,

I received a total of $53,654. It came from all over the world.

If you follow the 3 steps below, there is no reason whatsoever why the

same shouldn't happen to you. This is a perfectly legitimate investment

opportunity. You invest $5 and you receive a return on your investment.

So does the next investor. NOT ILLEGAL, NOT A CHAIN LETTER - PERFECTLY

LEGITIMATE!

OBVIOUSLY, IF YOU ARE NOT INTERESTED, THEN DON'T PARTICIPATE. BUT

PLEASE

PRINT THIS ARTICLE AND GIVE IT TO SOMEONE WHO MAY WISH TO TAKE

ADVANTAGE.

The procedure is very simple.

STEP 1. Write your name and address on 5 separate pieces of paper with

the words "PLEASE ADD ME TO YOUR MAILING LIST". Fold a $1 note or money

order or bank draft in each of the pieces of paper and mail them to the

following five addresses:

****

1. Qunwei Yu, 11405 Tiverton Court , St.Louis, MO 63146

2. Nat Heatwole, 7550 Damascus Rd., Gaithersburg, MD 20882

3. Jeff Katz, 7 Seir Hill Rd, #41, Norwalk, CT 06850

4. Eric Johnson 14817 Holden Circle, Horizon TX, 79927

5. Patrick McElroy 818 Hollow Creek Dr. Newbern, TN. 38059

****

STEP 2. Now remove the 1st name on the list, move the other 4 names up

(5 becomes 4, 4 becomes 3 etc) and put your name and address as number

5 on the list. You can do this by re-typing this article or simply

editing and re-posting it in this or another newsgroup.

STEP 3. Post your amended article to at least 200 new groups (there are

17 000 of them).

You are now in the Mail Order Investment Business and you will start

receiving $1 returns by mail within a week or two. The more newsgroups

you post to, the bigger your return will be. You may want to rent a

Post

Office Box to handle the volume of mail you are likely to receive.

If you wish to remain anonymous, you can use a pseudonym such as

"The Manager" or "The Investor", but make sure your address is correct!

NOW LET ME TELL YOU WHY THIS SYSTEM WORKS!

Of every 200 postings I made, I received an average of 5 replies, YES -

ONLY 5, each with a $1 bill enclosed. You make $5 for every 200

postings WITH YOUR NAME AT NUMBER 5.

Each person who sent you $1, now also makes let's say,only 200

additional postings WITH YOUR NAME AT NUMBER 4, i.e. 1000 postings.

On average therefore, 50 people will send you $1 with your name at

number 4. You make $50.

Your 50 new agents make 200 posting each WITH YOUR NAME AT NUMBER 3

or 10 000 postings - average return 500 at $1 each is $500. They

make 200 postings each WITH YOUR NAME AT NUMBER 2 = 100 000 postings

= 5 000 returns at $1 each = $5 000.

Finally, 5 000 people make 200 postings each WITH YOUR NAME AT NUMBER 1

and you get a return of $50 000 before you name drops off the list.

AND THAT'S IF EVERYONE DOWN THE LINE ONLY MAKES 200 POSTINGS! Total

income in one cycle = $55 500.

From time to time, when your name is no longer on the list, you take

the latest posting that is appearing in the newsgroups, SEND OUT

ANOTHER $5 TO THE NAMES THAT ARE ON THE LIST, PUT YOUR NAME IN

AT NUMBER 5 AND START POSTING AGAIN. Remember, 200 postings is only

a guideline. The more you post, the greater the return.

Let's review the reasons why you should do this: THE ONLY COST FACTORS

ARE 5 STAMPS, 5 ENVELOPES, AND 5 $1 BILLS. Anyone can afford five

dollars to put into such an effortless investment with SPECTACULAR

RETURNS.

Some people have said to me "What happens if the scheme is 'played

out' and no one sends me any money"? Big deal! So you lose $5 - but

what are the chances of that happening?

Do you realise how many Internet Users there are? Do you realise how

many times this scheme can be utilised over and over again - with COMPLETELY NEW people participating?

There are not HUNDREDS, NOT EVEN THOUSANDS, BUT HUNDREDS OF THOUSANDS OF NEW INTERNET USERS EVERY MONTH!

Remember, read the instructions carefully and play FAIRLY...that's the only way this will work. Get a printout so you can refer back to this article easily.

Try to keep a list of everyone that sends you money and always keep an eye on the newsgroup postings to make sure everyone is playing fairly. You know where your name should be.

400. Re: Are vapors from solde

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8C67282.03670007B4.uuout@sourcebbs.com>
Source record: 103277

>-But Gary, it's so tasty! Seriously, the above is a dumb stunt from my
>-youth that I now avoid.

DC>-OSHA must have something to say on this topic. Anybody know that they
>-recommend in industrial situations?

Hi Dave,

I have work in a couple of machine shops where lead was handled and worked. If you are just moving a piece of lead from place to place by hand you have to wear gloves and coveralls which must be properly diposed of. When machining lead you must wear gloves, coveralls, and a respirator. Given all this I think I would keep the solder out of my mouth. It always has a layer of lead oxide (poison) on the outside. It would also probalbly be a good idea to wear gloves like surgical gloves or something similar. Having said all that I also ask my doctor about lead levels in the body because I had noticed some lead testing being done a my place of employment. He said that if I had had dangerous lead exposure that there would be noticable symptoms. I suppose that the symptoms might be mistake for something else, but at least it is nice to know there is a warning of some kind before you keel over. If it was me I think I would keep the stuff out of my mouth and at the very least wash my hands real well after each session.

Hold the iron in your mouth. :-)

73 de KE4QOK
Bob

* SLMR 2.1a * bob.roach@sourcebbs.com KE4QOK@K4VJB.VA.USA.NOAM

401. Re: 7591 tube needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <4v00o6$ru3@sf18.dseg.ti.com>
Source record: 103278

In article <01bb8542.ce26b6c0$0d71389d@yuriyal>, yuriyal@microsoft.com says...
>
>any pointers will be appreciated

7591 tube, $50.00 each
Antique Electronics Supply
Tempe, AZ
(602) 820-5411

73 de KC5NG

402. TenTek 2-6 Transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: bb@tisc.com
Message-ID: <4v047h$6fp@taxis.corp.titan.com>
Source record: 103279

Wanted 2m-6m Transverter schematic
I am thinking of building a 144-440 transverter i was thinking of
using a 144-50 mhz tentek transverter as a starting point, pwb/tx
switch/chassis......
Is there any one outthere that has the schematics?
kc6yox
bb@tisc.com

403. 11 meter to 10 meter transverter.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: v-ntxes <v-ntxes@microsoft.com>
Message-ID: <01bb8ae3$21d46ec0$ed15369d@wokka>
Source record: 103280

Hi,

I would like to make my 11 meter Uniden pc-244 transmit and receive on the 10 meter amateur radio band. It would also be neat if I can make it transmit and recieve on the 2 meter and 70 cm band as well. I heard that transverters will do just that. Does anyone know where I can get plans or the general theroy to make this work?

Thanks

Eric E. Scott
KC7KLZ
--
The opinions expressed in this message are my own personal views
and do not reflect the official views of Microsoft Corporation.

404. Re: Computer Interface for Icom IC-707

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: sday@unicorn.it.wsu.edu
Message-ID: <Dw7Cyx.8wp@serval.net.wsu.edu>
Source record: 103281

J. Miner (richard@j51.com) wrote:
: Hello,

: I have the Icom IC-707 HF Rig. It has an option of hooking it up to the
: computer for changing freq., memories, and ect. I wanted to know if it
: is possible to Home brew the Interface needed between the computer and
: the radio. If so where can I find the information.

Check QST, March '95. It has a very simple interface circuit. I've
built this circuit and it works great.

Also if you want to write your own programs to control the radio, Icom's
control codes are available on the Web, but I forget where I found them.

--
Steve Day | This signature made with
N7VHY | 75% recycled pixels
Internet: sday@wsu.edu |
WWW: http://www.eecs.wsu.edu/~sday |

405. Re: Tektronics Manuals Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: "Mitch Kobierowski (KJ7JA)" <mskobier@3-cities.com>
Message-ID: <32140193.2C54@3-cities.com>
Source record: 103282

Brian Sutin wrote:
>
> In article <4uttuq$r57@news2.snfc21.pacbell.net>,
> dturner@pacbell.net (Donald E. Turner) wrote:
> >I just purchased a 7504 scope with two 7A15's and one 7B51 timebase.
> >The thing is need of troubleshooting and I need manuals for any and
> >all mentioned above. Can someone turn me on to a source for these,
> >or maybe you might have some? Thanks WA6WRX
>
> Tektronix has manuals for almost everything. Unfortunately, many
> of these are only available on microfiche.
>
> Brian Sutin *** UCO/Lick Observatory *** Santa Cruz, CA 95064 *** KD6TLA
> Boruch bn Michael bn Lion bn Benjamin bn Moishe bn Nachum Sutin Ha'Levi
> Fred: "May I rescue you?" `Top Hat'
> Ginger: "No, thank you. I prefer being in distress." RKO 1935

Brian,
If you contact Mr. Dean Kidd (W7TYR), He can supply you with
just about any manual you want. If you can find a copy of the book by
Stan Griffiths called Oscilloscopes, selecting and restoring a classic,
you will find his address and telephone number in the back. This book is
all about tektronix oscilloscopes(vacumm tube types).
73's
Mitch (KJ7JA)

406. FCC Antenna Doc on WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-15 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <3213EA74.60A8@ix.netcom.com>
Source record: 103283
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Rich Carlson wrote:
>
> Does anyone have the text of this ruling? I am trying to get my townhouse
> association to allow a DBS dish and a discone for scanning on my roof, and
> this may help push me over the edge as it were...
>
> --
> Rich Carlson, N9JIG (n9jig@TheRamp.Net)

Hi Rich, all 30 pages of the FCC text are to be found at URL:

http://www.fcc.gov/Bureaus/Cable/Orders/fcc96328.txt

Part of the FCC page at URL:
http://www.fcc.gov/

Lets all hope they extend this ruling to the Amateur Radio Service.

Good Luck with the HOA -- mine is hopeless.

73
Rod

--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

407. www.hamradio-online.com is back!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4v0ldg$9t3@news.accessone.com>
Source record: 103187
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

```
InterNIC caught up with our move to a new web server and our
domain name http://www.hamradio-online.com is back on the air.
Come visit Ham Radio Online, the coolest ham radio
web site in the world.

If your domain name server does not yet direct to our new web
site (it probably will within days), you can access us our new
web server using our IP address as http://206.13.40.11/

Thanks!
------------------------
Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com
```

408. Phono to CD/AUX on Stereo?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: tmb2320@rs1.tcs.tulane.edu
Message-ID: <4v194c$j0s@rs10.tcs.tulane.edu>
Source record: 103188

Hi,

I would like to be able to plug my tv/cd/tape player
into the phono jack on my stereo receiver. I was
wondering is anyone would know where I could get such an
adaptor or how to build one.

If this isn't the right newsgroup please point me
to a better one.

Best regards and many thanks.

Sincerely,

Matt B.

409. Re: Are vapors from solde

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4v16tj$imb@newsbf02.news.aol.com>
Source record: 103189

In article <8C67282.03670007B4.uuout@sourcebbs.com>,
bob.roach@sourcebbs.com (BOB ROACH) writes:

>
>Hold the iron in your mouth. :-)
>
>73 de KE4QOK
>Bob

id b gled to hole the eyurn in my mawth but ive ben holing sodder thre so
lawng i hate tio give it up

it hasent effectud me at awl but id be wiling to chaang if you think it
isn to late

410. Re: How to build 6 meter RC Rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: Peter Trapp <alpha10@ibm.net>
Message-ID: <32146595.35BA@ibm.net>
Source record: 103190

Lawrence Edward Weinstein wrote:
>
>I'm just wondering if there's anywhere on the 'net I could find info on build
> a 6 meter RC reciever and X-mitter. If not, where to get info via snail mail
> would be appreciated. TNX in advance to all of you!
>
> 73,
> Lawrence Weinstein, N3STR

I have considered building my own 6 meter R/C equipment but haven't been able to justify the cost and time required when a commercial 4 channel unit is available for as little as $140 w/rx and tx, nicads, and three servos. BTW the rx is double conversion. Check out the Futaba Conquest if interested. I can't come close to duplicating it for the price.

73,
Peter, KD4CN

411. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: "Jim O'Connell, W9WU" <jimw9wu@ix.netcom.com>
Message-ID: <3214AEBD.C45@ix.netcom.com>
Source record: 103191
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Rich Carlson wrote:
>
> Does anyone have the text of this ruling? I am trying to get my townhouse
> association to allow a DBS dish and a discone for scanning on my roof, and
> this may help push me over the edge as it were...
>
> --
> Rich Carlson, N9JIG (n9jig@TheRamp.Net)
>
> ScannerMaster Illinois Communications Guide (800) 722-6701
>
> CARMA (Chicago Area Radio Monitoring Association) BBS (630) 852-1292
> PO Box 2681, Glenview IL 60025 SASE for sample newsletter.

Rich: A copy of the Report and Order In the Matter of Preemption
of Local Zoning Regulation of Satellite Earth Stations
can be downloaded or read at http://www.fcc.gov

Look for it in the headlines section on the first page for the
link. I'm not sure it will help you if you're in a townhouse and
don't own any roof/outside wall rights.

73, Jim O'Connell, W9WU ARRL Volunteer Counsel

412. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: Roger Basford <Basford@g3vkm.demon.co.uk>
Message-ID: <qiyW9AA9qBFyEwOj@g3vkm.demon.co.uk>
Source record: 103192

In article <4v021c$hq7@canyon.sr.hp.com>, Don Montgomery
<donrm@sr.hp.com> writes
>Will Flor (willf@rrgroup.com) wrote:
>
>> though the Coast Guard doesn't monitor for CW SOSs any more.
>
>I found this hard to believe - that the one agency that should monitor
>for CW distress signals doesn't. I called the USCG monitoring station
>in Point Reyes, CA., and confirmed that they do not.

Here in the UK, British Telecom ship-to-shore stations stopped
monitoring 500 kHz last year and I believe Portishead Radio (who handle
long-distance HF communications to shipping) has also largely ceased CW
operations, although they still ID in CW on their SITOR circuits.

BT have also handed over their 2182 kHz R/T distress watch to the
Coastguard Agency who had only covered VHF CH16 until then. I worked for
a while recently as a volunteer assistant at our local CG SAR centre and
although there were several experienced CW operators there they had
learned the code in the military. It seems there is no longer a CW
requirement for persons wishing to become Coastguards in the UK.
>
>
>I wonder if CW will be dead after this generation, like landline morse?
>

I hope not, it will always have an application somewhere in radio I
think, even if only to ID other systems, but I think things like NAVTEX
and DSC will totally replace it in the Maritime Mobile Service.

////////////////////////////////////
* e-mail: Basford@g3vkm.demon.co.uk *
* Roger Basford, Haddiscoe, Norfolk U.K.*
////////////////////////////////////

413. 2M CW or SSB XCVR Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: kb9jqu@amsat.org
Message-ID: <4v2ejs$cf2@homer.alpha.net>
Source record: 103193

Does anyone know if there is a XCVR kit on the market
for 2M CW or CW/SSB?

I am interesting in doing some CW on the bottom 100 KHz
of 2M and would like to use a kit or homebrew equip.

Thanks,

73s DE KB9JQU
-Curtis Sardeson

414. Re: how can I broadcast on FM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: Dave Potter <Dave.Potter@guardian.brooks.af.mil>
Message-ID: <4v2kvo$5qb@xenon.brooks.af.mil>
Source record: 103194
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.misc

ia514@cleveland.Freenet.Edu (Dave Bryndal) wrote:
>
>buy a "Mr. Microphone"

Ur bad, Dave

73s

Dave Potter
KC5UDZ

415. Digital Scope.FAQ - How to Receive

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-1608960549590001@wd1v.mv.com>
Source record: 103195

KEY ISSUES REVIEWED IN THE FAQ (in order of appearance)

* DSO INDUSTRY TRENDS (Whats happening in DSO technology this year?)
* DSO FORM FACTORS (What types of DSOs are there?)
* PRIMARY DSO FUNCTIONS (What can DSOs actually do?)
* COMPARISONS (How can I best compare various models)
* APPLICATIONS (What are the most common DSO applications?)
* ADCs (What speed do I really need on each channel?)
* BANDWIDTH & TRIGGER (What numbers and functions are right?)
* ARCHIVAL & MEMORY (How fast, how deep, and can I get more?)
* DISPLAYS (What am I really looking at?)
* MEASUREMENTS (How much is my signal changing over time?)
* DIGITAL SIGNAL PROCESSING (How can I obtain more useful information?)
* DEMOS & PURCHASING (How can I see and get the DSO I really need?)

IF... you want the complete version
of this Digital Scope.FAQ file sent
to you automatically as an
ATTACHED TEXT FILE <35k TEXT File>.

send me (john@wd1v.mv.com).........
an EMAIL where the subject contains
the text "subscribe scope.faq".....

or

go to my Home Page.

Best regards,

John D. Seney |_|_|_|_| john@wd1v.mv.com
144 Pepperidge Dr |_| |_| page 5956779@skymail.com
Manchester, NH 03103-6150 |_|_ _|_| wd1v@wb1dsw.nh.usa.noam
voice mail 603.533.3472 | | | | | fax 603.627.1623

www.mv.com/ipusers/wd1v
Digital Scope.FAQ + Application Notes

416. Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: hipiket@aol.com
Message-ID: <4v2o53$nbt@newsbf02.news.aol.com>
Source record: 103196

I'm planning to build an RF amplifier using two tubes in push-pull and I have a question about the tank circuit.
I've noticed that every design I have seen from the 1930's to the 60's ARRL handbook has an RF choke at the center-tap of the tank coil, where the B+ is applied to the circuit.
Why is this? When one tube is in conduction and that end of the plate coil is approaching zero, the other end will be near two times B+, but the center tap should always be at B+ but have no RF at that point.
Why can't I just use a feedthrough capacitor and a short lead to the coil center-tap and dispense with the RFC?
Thanks for any ideas...de AC4AQ (Jeff).

417. motorola ht800 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: ianwa@senet.com.au
Message-ID: <4v24c1$m63@clams.camtech.com.au>
Source record: 103197

looking for a copy of pc software for ht800 handheld
Can somebody help?

418. Re: 3-500Z/G

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4v15gf$hs2@newsbf02.news.aol.com>
Source record: 103198

In article <3212B9B8.51B7@eurobretagne.fr>, Claude PIOT
<aube1540@eurobretagne.fr> writes:

>
>Did somebody knows the admissible grid current for a vacuum tube
>3-500Z/GRAPHITE (3-500Z/8802) in a class AB2 grounded grid linear
>amplifier?
>Thanks from Claude PIOT, F3PZ.
>
>

It varies with the particular circuit used Claude. The grid dissipation is a function of the average voltage difference and current between the grid and cathode.

It is also a function of short term duty cycle with a large grid like the 3-500Z uses.

The tube would be very safe below 150 mA in most AB2 circuits on single tone carrier. On SSB with a conventional meter movement the grid current should show a very low value, perhaps 20 -50 mA, the danger here is flat topping and distortion...not dissipation.

The grid is VERY rugged in the 3-500. The tubes are much more subject to gas failures and mechanical failures than operational related problems, unless you melt the anode or glass.

73 Tom

419. Re: New Ham Radio Discussion Area on the Web!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <32152A10.41C6@pactitle.com>
Source record: 103199
Cross-posted to: rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,rec.radio,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec

James Van Houten wrote:
>
> Hello All,
>
> Will keep it short and to the point. There is a new resource for Ham radio
> topics. It is on the web. Come on over and visit
> http://www.coronetsec.com/hamradio All hamradio topics welcome. Hope to
> see you there soon.
>
> Jim
> KA3TTU
>
> ps. Don't forget to tell all of your non-newsgroup readin' friends!! :-)
> --
> --
> ----------
> James Van Houten http://www.coronetsec.com/hamradio
> --
> ----------
I'll have to go and check it out!
http://www.geocities.com/Hollywood/5860
--
Dave Booth
kc6wfs dmo4rk

420. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <4v1t4q$bkg@mrnews.mro.dec.com>
Source record: 103200

In article <3211665A.7D70@millcomm.com>, Richard Hager <rhager@millcomm.com> writes...
>Seriously, there IS lead vapor in the smoke, and it IS bad for you. As I

Really? Documentation, please? Everything I've ever seen indicates the only hazard is the irritation factor of the smoke, and not washing the lead off your hands...

BTW, your safety precautions indicate that the opposite is true - no way the EPA and OSHA would ever allow you to merely blow toxic fumes across the room with a fan.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
==========

421. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4v2uq3$93@newsbf02.news.aol.com>
Source record: 103201

In article <4v2o53$nbt@newsbf02.news.aol.com>, hipiket@aol.com (Hipiket) writes:

>Why is this? When one tube is in conduction and that end of the plate
>coil is approaching zero, the other end will be near two times B+, but
the
>center tap should always be at B+ but have no RF at that point.
>Why can't I just use a feedthrough capacitor and a short lead to the coil
>center-tap and dispense with the RFC?
>Thanks for any ideas...de AC4AQ (Jeff).

Hi Jeff,

You can use a coil that is "RF grounded" at the center, but then you should float the rotor of the tuning capacitor for RF.

You don't want two conflicting tuned circuits to be created, with each half of the coil and each half of the air variable potentially tuned to different frequencies by stray effects and component tolerances.

It is generally considered safer to float the coil center and RF ground the rotor of the tuning cap, because the though is that gives better high order harmonic suppression.

There is no reason in the world to use a 2.5 mH choke though, that value is much too high and can lead to VLF parasitics. A few hundred micro-henrys with a high value resistor across it would be a better choice for the center of the coil at HF.

73 Tom

422. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug16.194506.7253@ke4zv.atl.ga.us>
Source record: 103202

In article <4v021c$hq7@canyon.sr.hp.com> donrm@sr.hp.com (Don Montgomery) writes:
>Will Flor (willf@rrgroup.com) wrote:
>
>> though the Coast Guard doesn't monitor for CW SOSs any more.
>
>I found this hard to believe - that the one agency that should monitor
>for CW distress signals doesn't. I called the USCG monitoring station
>in Point Reyes, CA., and confirmed that they do not.
>
>I wonder if CW will be dead after this generation, like landline morse?

Yes, except for those who use it for nostalgic reasons. It is no longer cost effective when VLSI chips are so cheap, and it no longer holds an edge in weak signal work when more competent coherent modulations with strong codings are possible. We've been able to copy such signals well below the audible threshold for years, or when there's a good SNR, at speeds far in excess of what a Morse operator can handle, but the equipment to do it was too large and too expensive. That's all changed now. It is just another chip or two in an already VLSI filled radio system.

Just as the vinyl LP virtually disappeared with the advent of the CD, OOK Morse will disappear in favor of more robust coherent digital modulations and codings, except where regulatory inertia makes it hang on for a while longer. The LP to CD transition points out something else too. While the LP turntable appears simple in concept, to get good fidelity required very expensive high precision in the turntable and the cartridge. OTOH, CD players with better fidelity are commodity items, hung from the neck by a strap, substituting cheap silicon and strong coding for precision mechanisms and stable bases. A $70 CD player sounds better than a $500 turntable and cartridge. The desired signal gets through better because the encoding is so much better that channel impairments are much less of a problem.

The same thing is true on the radio channel. Strong coding can make up for even severe channel impairments. This sort of robustness is exactly what we need in a distress signalling system. It also works to our benefit in more routine usages, allowing us to use less power and occupy less spectrum capacity than more archaic methods. The switch to stronger digital codings is at least as dramatic as the switch from spark to CW in the benefits it brings to us.

And just as there was resistance to the change from spark, there will be those who resist the changeover from OOK Morse to better digital modulations and codings. Hopefully this time it won't

require regulations banning the more archaic form to force the changeover. It makes me mildly unhappy that I can't play with a modulated arc transmitter just for the hell of it, and I suppose it would make Morse lovers unhappy if they couldn't play with their hand and ear methods just for the hell of it too.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

423. Re: 11 meter to 10 meter transverter.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-16 00:00:00 UTC
From: adriaan <adpe1khp@pi.net>
Message-ID: <32142B08.77A9@pi.net>
Source record: 103203

v-ntxes wrote:
>
> Hi,
>
> I would like to make my 11 meter Uniden pc-244 transmit and receive on the
> 10 meter amateur radio band. It would also be neat if I can make it
> transmit and recieve on the 2 meter and 70 cm band as well. I heard that
> transverters will do just that. Does anyone know where I can get plans or
> the general theroy to make this work?
>
> Thanks
>
> Eric E. Scott
> KC7KLZ
> --
> The opinions expressed in this message are my own personal views
> and do not reflect the official views of Microsoft Corporation.Hi,

I did made a few years ago a 11 meter transceiver to 10 meter. First i change the pll clock x-tal into 10,24Mhz. Then i use a other x-tal for like 10.50 for going up to 10 meterband. This was working on a FM transmitter. I did used it only for receiving.

For going to 2 and 70cm you can use a transverter, take a look in the magazine's for a shop.

good luck with it.

Cuagn, adriaan pe1khp

424. Re: 11 meter to 10 meter transverter.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: Glenville Sawyer <gsawyer@dove.mtx.net.au>
Message-ID: <32161FB4.5E0F@dove.mtx.net.au>
Source record: 103204

v-ntxes wrote:
> Hi,
> I would like to make my 11 meter Uniden pc-244 transmit and receive on
> the 10 meter amateur radio band. It would also be neat if I can make
> it transmit and recieve on the 2 meter and 70 cm band as well. I heard
> that transverters will do just that. Does anyone know where I can get
> plans or the general theroy to make this work?
> Thanks

Hi there Eric, well I guess the best place to start is the ARRL Handbook, this is a goldmine of information on not just circuits, but the construction techniques that are very important once you start to move away from the lower frequency areas of the amateur bands.

Maybe there is a local radio club that can also offer you some assistance and arm you with the skills you will need as your amateur radio career advances.

Good luck to you - who knows I might work you on 10-FM when the band starts to rise again.

Glenville T. Sawyer

kapunda@hotmail.com
gsawyer@dove.net.au "O.K so I've pulled out the pin
vk5zcf@vk5lz (ampr.org) What now ? .... Hey why are
MID-FM 87.6 Kapunda S.A you all running away .... "
(085) 66-3600 (Business hrs ONLY).

425. Re: AM radio Noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: acampane@postbox.acs.ohio-state.edu
Message-ID: <acampane.97.3215534D@postbox.acs.ohio-state.edu>
Source record: 103205

>Trent Howard wrote:
>>
>> I have a little radio in my office and evertime I use it with my
>> computer
>> monitor on I get a high pitched whine. is there anyway to filter this
>> out?
>> any ideas will be greatly apprecitated
>>
>> you can mail me at tmhoward@icaen.uiowa.edu
>> or reply in news
>>
>> Thanks
>> Trent

You are experiencing RFI (aka EMI). It is likely ac magnetic radiation from your CRT yoke. Consider that the ferrite antenna coil of your AM radio is coupling to the deflection coils of your PC CRT. Since EM coupling diminishes as the cube of the distance, and also is angle sensitive, you can minimize this sound interference by trying many locations and orientations of the am radio. You will find some locations that maximize signal (station) to noise (PC CRT), and that's where you park your little AM radio!

Ang.

426. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.960817131620.6518A-100000@spork.callamer.com>
Source record: 103206

Jeff and the group. This is a very old question and I guess only an oldie can answer it. In any push-pull tank coil and split stator arrangement there is two ways in which the ground can be accomplished. Either ground the split stator rotor or RF ground the center of the coil BUT NOT BOTH! One way to visualize this is as two separate single tuned circuits magnetically coupled. Now you can see why both capacitor and coil should not be grounded as they will be fighting each other for proper balance. Therefore, if the center of the capacitor is grounded, an RF choke in the center of the coil should not have a bypass. If the center of the coil is bypassed to ground, then the capacitor need not be split stator at all since there is no need for a capacitor ground! Of course, the tuning capacitor often is split stator. Be careful here as one can get into difficulty with high voltage on the tuning knob either permanently or when the capacitor flashes over! Cliff Buttschardt K7RR ex W6HDO

On 16 Aug 1996, Hipiket wrote:

> I'm planning to build an RF amplifier using two tubes in push-pull and I
> have a question about the tank circuit.
> I've noticed that every design I have seen from the 1930's to the 60's
> ARRL handbook has an RF choke at the center-tap of the tank coil, where
> the B+ is applied to the circuit.
> Why is this? When one tube is in conduction and that end of the plate
> coil is approaching zero, the other end will be near two times B+, but the
> center tap should always be at B+ but have no RF at that point.
> Why can't I just use a feedthrough capacitor and a short lead to the coil
> center-tap and dispense with the RFC?
> Thanks for any ideas...de AC4AQ (Jeff).
>
>

427. Manual Wanted for Robot 450C

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: Kenneth Scharf <ken.janis.scharf@worldnet.att.net>
Message-ID: <32163956.6719@worldnet.att.net>
Source record: 103207

Can anyone help? During a move to my new QTH some equipment manuals were lost. I am looking for the owners manual to a Robot model 450C scan converter. Robot does not seem to have one on file. If any one can photocopy a manual for me, I will repay him/her for the cost and the postage. Thanks in advance! Please e-mail me.

Ken Scharf, WA2MZE
ken.janis.scharf@worldnet.att.net

428. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: billn@PEAK.ORG
Message-ID: <4v3j11$9u9@bashir.peak.org>
Source record: 103208
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Bob Stroupe (bstroupe@neosoft.com) wrote:

: Nice try guys, but I might wait a while before starting construction of that
: favorite "look alike" antenna. This one is DEFINITELY going to end up in
: court as has been discussed on several broadcasting list severs because the
: FCC is trying to preempt deed restrictions and every homeowners association
: is against this. Just waiting for the fireworks to begin.

There shouldn't be too much of a problem for the FCC. After all, they have
at least one precedent - when they overrode a lot of state and local laws
in regards to Ham antennas.

Bill

429. knight-kit walkie talkies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: rew5808 <bwilder@reallink.com>
Message-ID: <32156537.649D@reallink.com>
Source record: 103209

can anyone help me find a pair of knight-kit c-1oo walkie talkies from the early 60's??? they were blue 100mw units. also looking for a knight "scan master" 4 band short wave receiver from the same time period.

thanks
bobby
wb5wur

430. FS Parts & tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4v4fhk$4k3@nntp-1.io.com>
Source record: 103210

I have many parts for building amps, tuners, etc. I.E. air variable caps, electorlitics, transformers, used tubes.
The list is much to long to send to everyone, or post here, so, e-mail me your needs, and I'll check my huge
pile or stuff, and e-mail you back with availabilitiy & price.

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
REQUIRED, to listen to it !"

431. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: rcoxadv@xnet.com
Message-ID: <rcoxadv-1708960327030001@flood.xnet.com>
Source record: 103211
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

>actually, wouldn't a TV antenna work for 6 and 220 without too much effort?
>and 2m might just work on an LP type antenna...will have to see if it's
possible
>to do some measurements....wouldn't expect there to be too much modification
>needed for the use of an existing TV antenna as a transmitting antenna in
>the amateur service -- short of adding a balun (6:1 for 300:50
transformation) and
>maybe doing some minor changes to the element lengths.
>
>>>
>>> Bill Sohl K2UNK
>>> ARRL Local Gov't Liaison, Mt. Olive Township, NJ
>>
>>How about a sky of aluminum with a $40 Radio Shack Antenna on top?
>>YES!!!!!
>>73 de JIM N2ZZ
>
Check out the Grove Scanner Beam. I've got one and it looks just like a TV
antenna except it's mounted vertically instead of horizontally. I know
your able to TX on 2m with it. I've used it that way and the manual says
you can TX with it using up to 25W.

Jon Peterson N9OUM

432. Web Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: GG Higgs <n5xed@flash.net>
Message-ID: <01bb8c67$cdbdaaa0$52c3c2d0@fn.flash.net>
Source record: 103212

Just wanted to plug my web page here..lots of good ham stuff as well as other things of interest on it...give it a look...URL is http://www.flash.net/~n5xed/....73

Gary G. Higgs
n5xed@flash.net

433. Re: Ring diode mixes and spurious signals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: becky <dickw@dove.net.au>
Message-ID: <3216BECC.59CB@dove.net.au>
Source record: 103213

William E. Sabin wrote:
>
> Lars Moell wrote:
> >
> > Hi
> > while starting a design for a fairly wide-band converter using a
> > ring-diode mixer, all the usual unwanted signals appeared. One signal
> > that is really a pain-in-the-a** is 2*RF-LO. Data sheets shows
> > supression of 55-60 dB w r t input signal. Filtering will not help as
> > this spur is generated within the mixer. Changing IF is no option as
> > this is fixed.
> >
> >
>
> Here are a few suggestions:
>
> 1) A 23 dBm mixer such as Mini-Circuits RAY-3 (23 dBm LO) lists 63 dB for
> the 2RF-LO spur for an input RF level of 0 dBm. This is pretty good.
>
> 2) If you can reduce the gain (or the signal level) ahead of the mixer by
> X dB, the rejection of this spur will improve by 2X dB.
>
> 3) The harmonic intermodulation spurs for mixers are specified for some
> particular RF signal level such as 0 dBm or -10 dBm etc. 0 dBm is a
> *very* strong signal.
>
> 4) If some particular local station is causing trouble, consider a trap
> circuit to reject that frequency
>
> Bill W0IYH
It will help if the ring mixer is matched at ALL frequencies, not just
the operating ones

dick

434. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: n9jig@TheRamp.net
Message-ID: <n9jig-1708962318590001@mund-ip-3.theramp.net>
Source record: 103214
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Got it, and now I gotta figure out if it will help me or not. We have an association meeting in a couple weeks.

Thanks!

In article <3214AEBD.C45@ix.netcom.com>, "Jim O'Connell, W9WU" <jimw9wu@ix.netcom.com> wrote:

** Rich Carlson wrote:
** >
** > Does anyone have the text of this ruling? I am trying to get my townhouse
** > association to allow a DBS dish and a discone for scanning on my roof, and
** > this may help push me over the edge as it were...
** >
** > --
** > Rich Carlson, N9JIG (n9jig@TheRamp.Net)
** >
** > ScannerMaster Illinois Communications Guide (800) 722-6701
** >
** > CARMA (Chicago Area Radio Monitoring Association) BBS (630) 852-1292
** > PO Box 2681, Glenview IL 60025 SASE for sample newsletter.
**
** Rich: A copy of the Report and Order In the Matter of Preemption
** of Local Zoning Regulation of Satellite Earth Stations
** can be downloaded or read at http://www.fcc.gov
**
** Look for it in the headlines section on the first page for the
** link. I'm not sure it will help you if you're in a townhouse and
** don't own any roof/outside wall rights.
**
** 73, Jim O'Connell, W9WU ARRL Volunteer Counsel

--
Rich Carlson, N9JIG (n9jig@TheRamp.Net)

ScannerMaster Illinois Communications Guide (800) 722-6701

CARMA (Chicago Area Radio Monitoring Association) BBS (630) 852-1292
PO Box 2681, Glenview IL 60025 SASE for sample newsletter.

435. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.153705.10942@ke4zv.atl.ga.us>
Source record: 103215

In article <4u83g4$6al@esgadm.esg.mk.com> tim_shearer@mk.com (Tim Shearer) writes:
>I always find myself with my face right down near a circuit board trying to
>solder or un-solder some microsized surface mount part or something. I
>therefore breath a lot of solder/rosin smoke. Is this bad for your health?
>Is there lead in the smoke?

There shouldn't be any lead vapor in the smoke. Soldering temperatures
are well below the vaporization point of lead. There will be rosin fumes,
however, and they can irritate the eyes and lungs. Use a fan to keep the
fumes out of your face. I keep an ordinary 12 volt boxer fan on the
bench for this. There are commercial fume extractors available, but
the simple fan is usually sufficient.

The big lead danger is that some will rub off on your fingers while
you are handling the solder. This can then be ingested if you eat,
drink, smoke, or otherwise touch body openings without washing your
hands carefully first. Don't rub your eyes either. Obviously, don't
pull the old stunt of holding the solder in your mouth while you work.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

436. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.153827.11020@ke4zv.atl.ga.us>
Source record: 103216

In article <4u8cko$3cc@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>As I understand it Morse is the prescribed mode for satellite uplink
>transmitters to id.
>All uplinks are required to do this.
>(commercial)

No. We're required to encode our call sign in the vertical blanking interval in such a way that rolling the sync bar down allows it to be read off the monitor. Or we can use a specified digital encoding in the vertical interval instead (this has become the most common method and is more adaptable to automatic computer control of networks of uplink systems). We *cannot* use OOK because that would change the transponder saturation level and would cause interference to other signals being relayed.

Commercial satellite transponders are operated with a specified saturation level. When we power up, the satellite control center will advise us to increase power until we reach the specified saturation level, and then hold it there so that we won't pump other signals using the transponder. (We watch that on the downlink spectrum analyzer in the truck anyway, but satellite control has the final word.)

We can't use MCW on one of the sound subcarriers for the legal reason that we must continously ID our uplink signal (so that a source of double illumination can be identified immediately), and for the practical reason that we're using the subcarriers for program audio anyway.

I'm not familiar with the ID requirements of SCPC or other data uplink systems, but they can't use OOK either, and I would opine that they embed their ID in the data framing (somewhat similar to amateur packet).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

437. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.154101.11154@ke4zv.atl.ga.us>
Source record: 103217

In article <4uh23c$4dq@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>I've held solder in my mouth all my
>life, and I'm perfectly normal. As a matter of fact, I've NEVER met a
>crazy Ham. Think about it.

Ah, this explains a lot. :-)

Actually, the effect of lead poisoning is not insanity (that's the
result of mercury poisoning, IE Mad Hatter syndrome). The mental
effect of lead poisoning is a marked lowering of IQ. This is well
documented, and the microgram per liter concentrations required to
have a measurable effect are tiny, less than 5 ug/l. That's why all
the concern about leaded gasoline and leaded paint and lead bearing
solder in water piping.

Putting solder in your mouth is dumb, and makes you dumber.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

438. Re: 2M repeater project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.154208.11230@ke4zv.atl.ga.us>
Source record: 103218

In article <4uiqjq$am0@tor-nn1-hb0.netcom.ca> radiocc@ionsys.com (radiocc) writes:
> Well, I am going to starting a college project soon, for my
>Electonics Technologist Course. What I am proposing to build is a VHF
>repeater. To start off with just a very basic system. Then as time
>permits, to continue to enhance it, with higher power, phone patch, and
>voice messaging.
> What I am looking for, is any information on building a system,
>Transiever, and power supply, maybe a kit, or documentation. Anything
>that might help me get the basic system done quickly, to try and dedicate
>more time to the features.
> I have just started to preform my research, so any information
>that you have would be appreciated, anything at all. I have 6 months to
>complete this project, PCB'ed, documented, and functioning within this
>time limit, so time is of the essence.
> Thanks in advance to all!
> Mike Russell

The best way to make a repeater is to start with a surplus commercial
radio such as a Motorola Micor or GE Mastr II (or Exec II). Most
amateur repeaters are based on one or the other of these radios.
The conversion instructions are widely available, and easy to perform.
If you prefer to build radios from kits, Hamtronics has receiver and
exciter kits for sale which can be used. Converting one of the commercial
radios is cheaper, faster, easier, and will result in better performance
however. The most time consuming part of this part of the project will
be waiting for the channel crystals you'll have to order to come in.

You also need a duplexer. Building one of these is challenging, but
there are a number of them available on the surplus market which you
only have to retune to the amateur band. For a low power repeater on
a benign site, a simple notch duplexer will work. For higher powered
repeaters, and repeaters located at high RF sites, a pass/reject
duplexer is preferred. These latter are more expensive and harder
to find surplus.

There have been a few articles in the amateur literature on building
your own duplexer, but this is not usually either easy or cheap. You'll
need metalworking skills, a source of large diameter copper pipe, a
source of finger stock, the ability to torch solder, and you'll need
to understand a good bit about RF field behavior in cavity resonators.

Controllers are usually based on simple embedded microprocessors today,
though you can still do a simple controller in discrete logic. While
most amateurs purchase their controllers, any micro from the venerable
KIM-1 to a PC can be used as the basis for a controller. Stifling the

RFI emitted from micros not intended for repeater service will take
the bulk of your time in this area if you don't opt to buy a purpose
built repeater controller.

With all the parts on hand, and suitable RF instrumentation available,
a repeater can be assembled and tested over a weekend. Most of your
time is consumed hunting down the materials to build the repeater.

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439. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.154313.11306@ke4zv.atl.ga.us>
Source record: 103219

In article <4um163$lqj@cc.iu.net> wnewkirk@iu.net (Bill Newkirk) writes:
>your history's defective. go back and read the mags in the libraries. study guides
>have been around probably "forever" and the FCC requiring public question
>pools is a fall out of the freedom of information acts...

That's right. Ameco and the ARRL had Q&A study guides in the 50s, and before.
There were also Q&A manuals for commercial license exams well before 1960.
The only difference with Bash was that his books tried to have actual word
for word questions from *current* exams rather than questions from expired
exams (which were freely available and used by the other publishers to prepare
their Q&A manuals).

Bash paid people who took the test to write down the questions and answers
from memory right after they left the exam session. (I think he paid something
like a dollar a question.) And he published updates frequently, unlike the
ARRL, who hardly ever revised their Q&A manuals.

The ARRL license manuals weren't exact word for word from current exams
because the ARRL didn't pay anyone to gather their material from exam
sessions. This made the Bash books more useful, and they cut into the
sales of ARRL License manuals. This caused a howl from Newington because
Bash was getting into their back pockets. When FOIA made the pools public,
and the VEC system started, Bash lost his competitive advantage, and couldn't
compete with a major publishing company like the ARRL (who were creating the
questions for the exams), so his books disappeared.

What made the Bash books useful was that the FCC only used 4 different
exams at any given time. That sharply limited the number of questions
whose answers needed to be learned. With the publication of the entire
question pools, and the ability to generate exams drawn from the pool
at random by computer as needed, the applicant now has to learn the
answers to all the questions in the pool instead of just the ones on
a limited set of exams in use.

The FAA went this route (publishing the question pool) with their pilot
written exams long before the FCC did. It makes the student learn more
material than just what may be on a particular exam.

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440. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.151645.10350@ke4zv.atl.ga.us>
Source record: 103220
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <4udrd1$46li@news-s01.ny.us.ibm.net> djfinn@ibm.net (Dan Finn) writes:
>Does anyone know off hand if they are using the IEEE C92.1 limits? If
>so, Anybody trying to transmit at the normal 100W in a residential
>neighborhood (ie, low wire dipole antenna) may be in trouble. Forget
>about using attic antennas. The standard penalizes efficient antennas.
>I also believe the limits vary wiith frequency; I know that that the
>allowable ERP at 800MHz is only about 0.4W, compared to the previous
>7W Max. transmitter power (the old standard did not consider antenna
>efficiency). I also know that 800MHz products designed well below the
>7W transmitter power level usually did not meet the 0.4W ERP or that
>other parameter, SAR (for products held close to the ear). Yes, our
>handheld devices may be exempted but my point is that, if FCC is using
>the 1992 IEEE standard, amateurs in residential areas (a large portion
>of the ham population) will at the very least be marginal at 100W, if
>they use wire dipoles, G5RV's, slopers etc., and I believe the small
>600W linears will be out of the question. I hate to sound like I'm
>sounding a false alarm but I'm not ready yet to buy into ARRL's
>contention (D. Sumner) that the new regulation will show how safe
>amateur installations really are. I'm sure he has a high tower to take
>advantage of 1/R**2. The new IEEE limits are much lower than the
>previous standard, but we will not start seeing this until after we
>start making the measurements.

The official limit is based on NCRP 86 and ANSI C95.1-1992.
You are correct that people with indoor antennas are probably
in somewhat of a bind. However, don't forget that the standard
requires a 6 minute *average* for controlled exposures and a 30
minute *average* for uncontrolled exposures. Given the duty cycle
of typical amateur operations, this is an escape clause for many
amateurs. Old timer AM operators who talk 10 minutes at a stretch
with their plate modulated kilowatts are in trouble, but the average
SSB operator probably doesn't have a high enough duty cycle to break
the limit *on average*, first due to the peak to average power
ratio of SSB, and second due to the quicker back and forth nature
of the conversations typically held on SSB.

I've compared the calculated exposures I posted earlier with the
FCC measurements made at a number of amateur stations. My calculations
seem to give distance numbers that are about 30% pesimistic compared to
the FCC's actual measurements. (Of course my assumptions for those
calculations were intended to be conservative.) But that's encouraging.
The FCC only found stations breaking the limits when they used ground

mounted verticals, open wire fed flattops, and a quarterwave whip
on a car.

I think Sumner's contention is for the most part correct. High
power AMers and RTTY operators may have something to fear, but
most of us are going to squeak through. I'm more concerned about
what this is going to mean for access to good repeater sites.
We're dealing with combined exposures here, and the fields
could be very high, and with a high duty cycle. This may
affect maintenance access to sites in such a way that amateurs
may be denied access simply because it would be too inconvienent
to the paying customers if they had to shut down while work
was done at the site. "Moonsuits" may be an answer, but I don't
relish having to wear one of those on the tower.

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441. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.151315.10257@ke4zv.atl.ga.us>
Source record: 103221
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <4u83e9$3rs@nnrp1.news.primenet.com> n7ory@primenet.com writes:
>I just want to know how to check if I comply or not. I downloaded the
>PDF from the FCC, and the measurements listed there are WAY above me.
>Is there a chart available for this?
>I'm not too concerned because I only exceed 50W on 10M (100W), but
>would still be interesting to know.
>
>Rob Neff (N7ORY)

There is a chart. It is on page 96 of the report and order. It shows the controlled exposure power density in the 10m band to be 900/f, or about 30 mW/cm^2, and the uncontrolled exposure to be 180/f, or about 6 mW/cm^2.

Now to get down to that level, the RF field from a 100 watt isotropic source would have to expand to a sphere of surface area 100 watts/.03 watts/cm^2, or 3333.33 square centimeters. The formula for the surface area of a sphere is A=4*pi*R^2. We know A and want R, so we rearrange the formula to R=sqrt(A/(4*pi)). That gives a value for R of 16.29 centimeters. So, if no part of your antenna comes within 16.29 centimeters of you or your immediate family, you're Ok for power density.

You can repeat the calculation for uncontrolled exposure by using 6 mW/cm^2 instead. That's an area of 16666.67 square centimeters and a R of 36.42 centimeters. So if no member of the public can approach any point on your antenna closer than 36.42 cm, you're Ok on power density.

Note, since your antenna is not an isotropic source, this is a conservative calculation. Actual exposure will be less since all of your power won't be concentrated in the single point on the antenna closest to you. To get the real value, which will be lower, you'll have to use an antenna modeling program. However, since the safe distance is so short, that shouldn't be necessary.

Note also that a gain antenna will have different safe distances in different directions. You'll need more detailed calculations to determine actual safe distances with a gain antenna. In every direction except the axis of the main lobe, the safe distance will be less than for the isotropic case (disregarding strong sidelobes). In the main lobe, the safe distance will be greater than for the isotropic case.

Ok, now we need to look at the magnetic field exposure. For
10m, the limit is 4.89/f or 0.163 A/m for controlled exposures.
To calculate *far field* exposures, we note that the impedance of
free space is 377 ohms. P=I^2*R, so the power density in watts/meter^2
to express a current of 0.163 A/m is 0.163^2*377 or 10 watts/meter^2.
We can plug that into the first calculation like this,

100 watts/10 watts/m^2 = 10 m^2.

That's our A. We can now use R = sqrt(A/(4*pi)) and find that we
need to be at least 0.89 meter from the antenna to be within the
controlled exposure limit. But note that 0.89 meter is *not* in
the far field of the antenna.

The uncontrolled exposure limit for 10m is 0.073, so the minimum
safe distance for the general public is 2 meters. But note that
2 meters is *not* in the far field for a 10m signal.

(Rule of thumb, far field calculations are only valid when you're at
least 10 wavelengths from the antenna.)

The third limit is the electric field strength in volts/meter. For
10m, the limit for a controlled exposure is 1842/f or 61.4 volts/meter.
The impedance of free space is 377 ohms. P=E^2/R, so the power density
in watts/meter^2 needed to express 61.4 volts/meter across 377 ohms is
61.4^2/377 or 10 watts/meter^2. We can plug that into the first calculation
like this, 100 watts/10 watts/m^2 = 10 m^2. That's our A. We can now use
R = sqrt(A/(4*pi)) and find that we need to be 0.89 meter from the
antenna to be within the controlled exposure limit.

I'll leave the uncontrolled exposure limit as an exercise. All you
need to know is that the limit is 824/f. (Actually, all you need
to notice is that the safe distance for the electric field is the
same as for the magnetic field.)

But note again that this is only valid in the *far field*.

Because the safe distances we're getting here for the far field assumptions
are *not in the far field*, there are near field discrepencies not accounted
for. These can be serious as we'll see below.

For example, the Rrad of a dipole is roughly 50 ohms (would be 73 ohms
in free space). At 100 watts, that gives a feedpoint current of 1.414
amperes. The magnetic field declines inversely with distance in the
near field (not the inverse square as is the case for power). So 1.414/0.163
= 8.67 meters. That's the near field safe distance from the current node
in the antenna for the controlled magnetic field exposure. For the
uncontrolled exposure, the minimum safe distance is 19.8 meters. Similarly,
for the electric field, the safe distances are the same, but from the
antenna voltage nodes (the ends for a dipole) instead of the feedpoint.

Now that places the safe distance at about 66 feet for the general
public. That's very different from the 2 meter safe distance we got
with far field assumptions. So why show the far field calculations?

Because at VHF/UHF where the far field is a comparatively short physical distance from the antenna, and where exposure limits are much tighter, the far field values can dominate, especially in the gain antenna case. You need to run both sets of numbers. If the far field numbers actually fall in the far field, use them. Otherwise use the near field numbers.

Note that at HF, particularly lower HF, the near field magnetic field numbers are the ones of concern. It is possible to measure this magnetic field directly with a fairly simple instrument. You should do this to find and map any hot spots. At VHF+, there is no reliable instrument to measure the magnetic near field. Electric field measurements can be done instead since they'll work out to the same distance (except from the element ends instead of their centers). This isn't quite as easy to do, however, because there are more potential sources of error in this measurement. But direct power density readings also become possible at UHF+, and relatively simple instruments can be used to do that to a fairly high degree of confidence. Once you have any one of these numbers, you can derive the others at least to an outer bound.

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442. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.152315.10521@ke4zv.atl.ga.us>
Source record: 103222
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <4u7vsb$nl8@news.pacifier.com> mikef@pacifier.com (Mike Freeman) writes:
>In article <4u644o$5l3@news.accessone.com>,
>Ed Mitchell <vbook@vbook.com> wrote:
>>
>>While the ruling does place additional rules and compliance
>>issues upon Amateur Radio stations, I'd guess that having a
>>federal standard will help to prevent lots of local
>>municipalities from creating their own, usually ill
>>considered regulations on RF emissions.
>>
>Interesting point. You may be right. Still, it irritates me that FCC has
>*any* questions on RF emissions and safety other than the usual "why
>should you not hang onto an antenna when someone's transmitting a gallon
>on it?". While at microsave frequencies and above (and, perhaps, at high
>UHF), disastrous things can happen when humans get in the way of
>high-powered RF fields, I am not at all certain (learned ptomes on this
>newsgroup to the contrary notwithstanding) that RF emissions pose a
>serious hazard at VHF and below. Certainly the Novice question-pool
>question as to why one should keep the rubber duck antenna of a HT away
>from one's head when transmitting seems to me not to be proper exam
>material in that IMHO the jury is still out on RF problems at VHF and
>below.
>
>I know, at least, that I've used HTs with rubber ducks for over twenty
>years and haven't noticed a thing other than the financial drain of buying
>battery packs!

There is documented evidence that exposures of greater than 10 mW/cm^2
can cause harm. In particular, cataracts or loss of focal flexibility
due to RF heating of the lens of the eye, and in some cases cancers.
Just as some people get away with smoking cigarettes for years without
getting lung cancer, some people can get away with excess RF exposures
for years without apparent harm. But statistically, the rate of cancers
does increase with exposure in large populations. Milham found a doubling
of cancer rates (compared to the rates of the general population) for some
cancers in his study of deceased amateurs.

The frequencies where (RF heating) exposures are most harmful to humans
are in the range 30-300 MHz. That's why the standards require a lower
exposure at those frequencies than at lower or higher frequencies. The
reason for that is those frequencies are the ones which couple most
strongly to the human body. That doesn't mean we can treat exposures

at other frequencies casually, but the evidence does indicate that higher or lower frequencies don't couple as strongly to the body. Therefore a higher exposure limit for them is tolerable.

The new MPE is 1 mW/cm^2 in the 30-300 MHz region. That gives at least a 10x safety margin (actually, the margin is probably greater than that since 10 mW/cm^2 is about the lower bound for noticable RF heating effects). At 100 mW/cm^2 and higher, however, effects can be very noticable very quickly. There are documented cases of amateurs being blinded by such exposures, literally overnight. (There is also industry evidence, in particular the IBEW has a case file on this.)

Athermal effects, IE effects which aren't a result of RF heating, are a bit more questionable. There are population studies which go either way on this. If there are effects, they appear to either have a weak statistical association, or have to be coupled with an as yet unidentified co-factor. Something appears to happen in some people, but the mechanism isn't understood yet. Athermal effects have been most noticed at lower frequencies, particularly when those frequencies are pulsed at a low rate, IE in amateur radio that would correspond to OOK Morse style signals. In vitro studies have shown changes at the cellular level when exposed to fairly weak pulsed RF fields. In particular, pulse rates in the 5-10 pps range have been shown to cause abnormal chromosome division. This is usually taken as an indication of a cancer causing agent at work.

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443. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.154434.11382@ke4zv.atl.ga.us>
Source record: 103223

In article <3211665A.7D70@millcomm.com> Richard Hager <rhager@millcomm.com> writes:
>>Tim Shearer wrote:
>>
>> I always find myself with my face right down near a circuit board trying to
>> solder or un-solder some microsized surface mount part or something. I
>> therefore breath a lot of solder/rosin smoke. Is this bad for your health?
>> Is there lead in the smoke?
>
>YES.
>
>Seriously, there IS lead vapor in the smoke, and it IS bad for you. As I
>recall, lead -collects- in the body, year after year. Lead affects the
>nervous system, i.e., poisons your brain and makes you stupid, gives you
>headaches, etc..
>
>Rosin's bad for you too.

There *shouldn't* be any lead vapor in the smoke. Electronic soldering
temperatures are well below the boiling point of lead. However, the
rosin fumes are irritating and should be vented. About the only way
you'd risk lead vapor exposure is if you are torch soldering. Then the
temperature would be high enough to vaporize some of the lead.

The main method of lead contamination occurs from *handling* solder.
Some lead rubs off on the hands and can be transferred to food, or
directly into the body if you touch your mouth or eyes with contaminated
hands. Wash well with warm water before eating. Lead salts are soluable
in warm water (such as the water in your mouth, don't ever put solder
in your mouth).

Because lead salts are soluable in warm water, don't use water from
the hot water tap for drinking or cooking if you have lead soldered
copper water piping. Use water from the cold tap instead (temperature
makes an amazing difference in lead salt soluability). Or at least
let the hot water tap run for a while before using the water to avoid
lead concentrations in the stagnant water in the pipes. This latter
is the current EPA recomendation. There are now lead free solders
available for plumbing. (I'm dubious of plastic piping. I suspect
the plasticizer can escape into the water, and that stuff is a
known carcinogen.)

The decline of Rome is partially credited to their use of pure lead water
piping in the latter days of the Republic, IE the leadership got too stupid
to maintain their dominance. It's also why bootleg whiskey can get you if
the bootlegger uses old car radiators (lead soldered copper) as his

condenser. (The more likely reason bootleg will get you though is that unethical bootleggers will cut the brew with wood alcohol. That'll make you go blind. Be careful using methanol to clean solder flux residues.)

Lead poisoning is cuumulative, and lead can stay in the body for years. There are chelating agents doctors can treat you with to remove the lead, but you don't want to go through that. They make you sick as a dog, and they don't reverse the damage already done. OHSA recently required all our shop people be screened for lead exposure. All of us passed except one idiot who habitually snacked while he worked. His blood lead was 10 ug/l and he had to take the chelating treatments. Food is now banned from the shop, and anyone caught with solder in his mouth will be fired.

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444. Re: Help with ASDEN PCS 2000 repair.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug17.154623.11478@ke4zv.atl.ga.us>
Source record: 103224

In article <4utud3$af0@hecate.umd.edu> rclayton@csc.umd.edu (Rodney Clayton) writes:
>My ASDEN PCS-2000 appears to put out less power unless I de-tune the
>antenna. I have measured the antenna with an swr meter and when it
>shows a low SWR the power indicator LEDs on the from of the unit
>show a reduction in power. If the tune the antenna for max indication
>on the LEDs then receive performance is affected. The unit has a
>final amp. module labeled VP-15E 13LF on the schematic. I am not sure
>if this module has the crowbar circuit internally or if I have a
>problem some place else.
>Any help appreciated.
>Rod
>KA3BHY

Your problem does not appear to be the result of a VSWR shutdown
circuit. It appears that the radio is not putting out full power
at any time. The power indicator on the rig is just a diode
sample of the voltage at the radio RF output connector. Since
detuning the antenna will cause a high VSWR on the line, and
with an appropriate line length the voltage maximum can appear
at the radio output connector, what you are seeing is just a
result of the detuning, and is not evidence of increased power
output from the radio.

To prove that to yourself, add some non-resonant length of
coax to the line and repeat your experiment. You'll find
the output indication of the rig changed from what you are
seeing now. The reason for that is that the changed line
length will no longer place the VSWR voltage maximum node
at the radio connector. By detuning the antenna a different
amount, you should be able to move the voltage node back
to the antenna connector and cause the output indicator
to peak again. But output power will not have changed.

The only way you can trust the output indicator to indicate
power output is if it is working into a 50 ohm non-reactive
load, IE a 1:1 VSWR.

Borrow a real power meter and measure the radio's output
power into a good dummy load. If it is below normal, you
may have a problem with the driver circuit, or with the
RF output module. Common module problems are an open
emitter in one of the output transistors, or an open
substrate in the module. It usually isn't practical to
repair these modules, so replacement would be in order.

OTOH, if a power meter shows full output into a dummy
load, the output indicator on the radio is merely out
of calibration. Note the indication which means full
power and live with it, or go in and figure out how
to recalibrate it.

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445. Re: How to build 6 meter RC Rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: Tim <timhynde@ix.netcom.com>
Message-ID: <3217B3FC.1904@ix.netcom.com>
Source record: 103134

Peter Trapp wrote:

> I have considered building my own 6 meter R/C equipment but haven't been
> able to justify the cost and time required when a commercial 4 channel unit is
> available for as little as $140 w/rx and tx, nicads, and three servos. BTW the
> rx is double conversion. Check out the Futaba Conquest if interested. I can't
> come close to duplicating it for the price.
>
> 73,
> Peter, KD4CN

It's never been about price or time with the homebrew bunch.

Check out the IC supply houses, I have seen a TX and RX chipset that provides all the encode/decode signals, you just need to add a transmitter and receiver. Sorry cant remeber where I've seen them but they were about $7.50 ea.

Regards, Tim

446. Crystal Sets & other anomalies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Aug18.222641@nova.wright.edu>
Source record: 103135

One of my co-workers let me borrow his copy of _In_Marconi's_ Footsteps:_Early_Radio_ by Peter R. Jensen. On the cover are four boxes and a picture of ol' Marconi in a pensive mood. I can identify every one of those boxes and I'm only 50 years old. Is there something wrong with me? Have I traveled back in time during an out-of-foot experience and now can remember being the radio operator on one of the Pharoah's yachts? Or did I just read _A_Boy's_First_Book_of_Radio_ from cover to cover sixteen zillion times so that I have everything mesmerized?

Seriously, though (yeah, right), Jensen's diagrams and schematics are interesting stuff to get people into making radios in wooden boxes again. Like the Marconi Wireless Telegraph Co.Ltd's "Type 16" crystal set on page 138. Like the guy in _ID4_ (which I refuse to see 'cause my medication won't let me) said: "I gotta get me one of these!" There's about six different knobs on this "Type 16," including a deal that evidently loose couples the antoona circuit into the rest of the LC stuff. Serious big time radio madness, this. Only problem: I gotta find someone with reasonable carpentry skills just to get the box made. (What? Me make it? You must be loony? Here, check out the stalactites where I spackled the ceiling in the garage...)

But I can dream... Maybe that's why the shack looks like a radioroom on a ship. Gotta replace the windows with port holes, for sure. But all the hoses and stuff... It's obtuse, man, obtuse. And those damn decorative maritime clocks that look like the ol' military ones what we had on the Saratoga (may she become refrigerator handles in peace), them suckers are expensive!

Whose got the address of the Crystal Set Society of America or whatever it's called? I need something to keep me from finishing the thesis.

73
Nils
WB8IJN &c
... Oh yeah, anyone got Peter Jensen's mail QTH? He's either at VK2AQJ or G4GZT.

447. Re: FS Parts & tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: Gary Watts <gwatts@qni.com>
Message-ID: <Pine.GSO.3.94.960818110650.21214C-100000@qni.com>
Source record: 103136

Matthew,

Have you ever heard of a home page. html or cgi scripting

On 17 Aug 1996 kk5dr@io.com wrote:

> I have many parts for building amps, tuners, etc. I.E. air variable caps, electorlitics, transformers, used tubes.
> The list is much to long to send to everyone, or post here, so, e-mail me your needs, and I'll check my huge
> pile or stuff, and e-mail you back with availabilitiy & price.
>
> Matthew A. Erickson
> Paige,TX. (consult Rand Mcnally)
> INTERNET ADDRESS; kk5dr@io.com
>
> "EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm
> REQUIRED, to listen to it !"
>
>
.

448. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: k5am@lascruces.com
Message-ID: <4v7m2v$gbe@news.lascruces.com>
Source record: 103137

w8jitom@aol.com (W8JI Tom) wrote:

>You can use a coil that is "RF grounded" at the center, but then you
>should float the rotor of the tuning capacitor for RF.

>It is generally considered safer to float the coil center and RF ground
>the rotor of the tuning cap,

Tom seems to imply that one or the other should be at r.f. ground. In my homebrew push-pull 4-400A, 50 mc. amp, neither is at r.f. ground. No connection at the rotor. RFC, 6 uH, at the coil. Working fine for 35 years! I don't know any theory, so except for the harmonic issue Tom mentioned (no problem here), I don't understand why one point or the other must be at r.f. ground. I hope Tom will explain it for us.

73, Mark K5AM DM62

Mark Mandelkern
Las Cruces, New Mexico, USA

k5am@lascruces.com

449. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <3217A8F7.179D@crpl.cedar-rapids.lib.ia.us>
Source record: 103138

Mark Mandelkern wrote:
>
> w8jitom@aol.com (W8JI Tom) wrote:
>
> >You can use a coil that is "RF grounded" at the center, but then you
> >should float the rotor of the tuning capacitor for RF.
>
> >It is generally considered safer to float the coil center and RF ground
> >the rotor of the tuning cap,
>
> Tom seems to imply that one or the other should be at r.f. ground. In
> my homebrew push-pull 4-400A, 50 mc. amp, neither is at r.f. ground.
> No connection at the rotor. RFC, 6 uH, at the coil. Working fine for
> 35 years! I don't know any theory, so except for the harmonic issue
> Tom mentioned (no problem here), I don't understand why one point or
> the other must be at r.f. ground. I hope Tom will explain it for us.
>

Let's see if I can guess. The RF choke has enough energy stored in its inductance that it acts as a constant-current source for the RF plate current pulses. The two tubes switch this current pulse back and forth, in the process energizing the flywheel tank. The DC supply re-supplies this energy to the choke. This works only for a balanced push-pull circuit. A single-ended circuit needs a ground reference point (a bypass capacitor).

Bill W0IYH

450. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: ke4zv@radio.org
Message-ID: <NEWTNews.840399139.3003.ke4zv@ke4zv.radio.org>
Source record: 103139
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In Article<1996Aug17.151315.10257@ke4zv.atl.ga.us>, <gary@ke4zv.atl.ga.us>
writes:

> For example, the Rrad of a dipole is roughly 50 ohms (would be 73 ohms
> in free space). At 100 watts, that gives a feedpoint current of 1.414
> amperes. The magnetic field declines inversely with distance in the
> near field (not the inverse square as is the case for power). So 1.414/0.163
> = 8.67 meters. That's the near field safe distance from the current node
> in the antenna for the controlled magnetic field exposure. For the
> uncontrolled exposure, the minimum safe distance is 19.8 meters. Similarly,
> for the electric field, the safe distances are the same, but from the
> antenna voltage nodes (the ends for a dipole) instead of the feedpoint.

I made an error here. I forgot to include the factor of 2*pi in the
above figures. That reduces the safe distance for controlled exposure
to just 1.38 meters, and for uncontrolled exposures to 3.15 meters.
That's much better.

Gary

451. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug18.170829.16313@ke4zv.atl.ga.us>
Source record: 103140
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <4uvhre$4m6@nnrp1.news.primenet.com> n7ory@primenet.com (Rob Neff) writes:
>Gary Sanders <gsanders@midwest.net> wrote:
>>Cancer isn't any fun.
[snip]
>Perhaps the use of an HT helped keep the cancer cells at lower level
>than they would have been without it?
>
>Just a thought.

More like "just wishful thinking" I'm afraid. If this were true,
the results of the Milham study would have gone the opposite way.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

452. Charging Help for 1.2 AH Sealed Lead-Acid Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: schoon@cts.com
Message-ID: <4v5pq4$g2@newsfeed.cts.com>
Source record: 103225

Thanks for reading!

I purchase a small 1.2 AH lead acid battery, and would like
to ask for help in how to charge the thing. The sales guy where I
purchased it from said to charge at a current of 10% of the rated amp-hour
rating. OK, if that's true, then I need to charge at 120 mA. I would like
to be able to charge from a 20 amp, 13.8v regulated supply and my car.
I'v calculated the limiting resistor to be 12 ohms, using ohm's law.
When I figure in the power dissapation for the resistor, it works out
to be over 12 watts! Is this true??? Or would it all be easier to
get a low current, 12 volt wall wart and forget charging in the car?
I'm sure I've missed something, qould someone point me to the
right direction?

73's
Mark

453. Re: FCC Antenna Doc on WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: djfinn@ibm.net
Message-ID: <4v5rph$3qnq@news-s01.ny.us.ibm.net>
Source record: 103226
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

AC6V <AC6V@ix.netcom.com> wrote:

>Hi Rich, all 30 pages of the FCC text are to be found at URL:

>http://www.fcc.gov/Bureaus/Cable/Orders/fcc96328.txt

Thanks for the pointer. The regulation looks fairly ironclad to me. HOA's must allow TV antennas and 1m dishes. I think I will mail a copy of this to my HOA and get rid of the old cable monopoly I have been dealing with. At $30.00/mo., a TV antennas with mast and rotor will pay off very quickly!

>Lets all hope they extend this ruling to the Amateur Radio Service.

The legislation was driven by the type of economics thar we amateurs cannot muster. Also, with fewer people using cable, there could actually be more objections to amateur transmissions in these living quarters built in such close proximity. However, TVI and other interference concerns cannot be extected to improve when a law is issued giving free reign to most types of telecommunications. You can argue for a long time that you use your tribander antenna for TV reception (perhaps not the best reception) on the same antenna that you happen to transmit with. That's *if* anyone notices a difference between a TV antenna and a tribander (say a 10/15/20).
Anyways, it's something to try I guess ;)

>Good Luck with the HOA -- mine is hopeless.

I think after reading the regulation that your >HOA< is out of luck. You would have to have special circumstances affecting 'safety' (this would normally apply to tower hieght with respect to the closest adjacent residence, or possible zoning regulations for wind strength in some areas) or you would have to be in a historic district.

If your HOA does not believe the new regulation, or cannot undertsand it, it seems that you do not have to pay any penalties even if they 'fine' you. Like I say, it looks fairly ironclad but then again I am not a lawyer. I still think anyone having to live with one of these stupid antenna restrictions would be fairly safe going ahead and putting up a TV antenna...not much to lose, and a rather clear federal pre-emption to back you up.

73

KR4AJ

454. FT-8500 Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: matrix@vzinet.com
Message-ID: <4v6k3b$obr@sgi.computek.net>
Source record: 103227

Anyone know of any mods for the Yaesu Ft-8500??

455. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: jshaffer@mail.csrlink.net
Message-ID: <19960818.79F8C30.A47C@localhost.UUCP>
Source record: 103228
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4uvhre$4m6@nnrp1.news.primenet.com> n7ory@primenet.com (Rob Neff) writes:
>
> Perhaps the use of an HT helped keep the cancer cells at lower level
> than they would have been without it?

Anything's possible -- ask Beck, Rife, or Lakhovsky. (OK, Beck -- the rest are dead.) But if EM radiation does have non-thermal biological effects, my guess is that at an arbitrary frequency and power level it would be more likely to harm than help.

--
* From the disk of: | jshaffer@mail.csrlink.net | "there's a hell of
Jim Shaffer, Jr. | IRC: JustnCase // | a good universe
37 Brook Street | "Real AM radios // | next door; let's go"
Montgomery, PA 17752 | go up to 30000." \\// | (e.e. cummings)

456. Re: Charging Help for 1.2 AH Sealed Lead-Acid Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <4v7ksj$snt@crash.microserve.net>
Source record: 103229

Mark,

I am sure a lot of purists would suggest a better (and more expensive)
method, but I have charged many sealed lead acid batteries by putting
a series diode between the power supply (13.8V supply) and the battery
and just letting the battery charge at the rate it wants to. The diode
will drop the voltage to about 13V while protecting the regulating
circuit in your power supply in case you lose AC or someone turns
the power supply off. If you are worried about the battery drawing
higher than its rated charging current add a fuse or circuit breaker
between the battery and the charging source.

Steven Kerns N3FTI
skern@mail.talon.net

In article <4v5pq4$g2@newsfeed.cts.com>, KA6WKE says...
>
>Thanks for reading!
>
> I purchase a small 1.2 AH lead acid battery, and would like
>to ask for help in how to charge the thing. The sales guy where I
>purchased it from said to charge at a current of 10% of the rated amp-hour
>rating. OK, if that's true, then I need to charge at 120 mA. I would like
>to be able to charge from a 20 amp, 13.8v regulated supply and my car.
>I'v calculated the limiting resistor to be 12 ohms, using ohm's law.
>When I figure in the power dissapation for the resistor, it works out
>to be over 12 watts! Is this true??? Or would it all be easier to
>get a low current, 12 volt wall wart and forget charging in the car?
>I'm sure I've missed something, qould someone point me to the
>right direction?
>
>73's
>Mark
>

457. Log Periodic Antenna Software Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <4v7l8s$13@crash.microserve.net>
Source record: 103230

Hello,

I am looking for DOS or Windows 3.10 software to design HF and VHF Log
Periodic antennas. Please leave a RE: here or feel free to send me e-mail.

Steven Kerns N3FTI
skerns@mail.talon.net

458. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <3217AE40.3348@crpl.cedar-rapids.lib.ia.us>
Source record: 103231

William E. Sabin wrote:
>
> Mark Mandelkern wrote:
> >
> > w8jitom@aol.com (W8JI Tom) wrote:
> >
> > >You can use a coil that is "RF grounded" at the center, but then you
> > >should float the rotor of the tuning capacitor for RF.
> >
> > >It is generally considered safer to float the coil center and RF ground
> > >the rotor of the tuning cap,
> >
> > Tom seems to imply that one or the other should be at r.f. ground. In
> > my homebrew push-pull 4-400A, 50 mc. amp, neither is at r.f. ground.
> > No connection at the rotor. RFC, 6 uH, at the coil. Working fine for
> > 35 years! I don't know any theory, so except for the harmonic issue
> > Tom mentioned (no problem here), I don't understand why one point or
> > the other must be at r.f. ground. I hope Tom will explain it for us.
> >
>
> Let's see if I can guess. The RF choke has enough energy stored in its
> inductance that it acts as a constant-current source for the RF plate
> current pulses. The two tubes switch this current pulse back and forth,
> in the process energizing the flywheel tank. The DC supply re-supplies
> this energy to the choke. This works only for a balanced push-pull
> circuit. A single-ended circuit needs a ground reference point (a bypass
> capacitor).
>
> Bill W0IYH

I ain't at all sure this is right!!!!

Bill

459. Re: Phono to CD/AUX on Stereo?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4v890r$71o@crash.microserve.net>
Source record: 103232

Post / CC by Mail

tmb2320@rs1.tcs.tulane.edu (Thomas Boyington) wrote:

>I would like to be able to plug my tv/cd/tape player
>into the phono jack on my stereo receiver. I was
>wondering is anyone would know where I could get such an
>adaptor or how to build one.

The phono input on most stereo amplifiers is designed for a very low input level. In addition, the phono preamp includes considerable frequency equalization that will make anything other than a magnetic cartridge sound terrible. Even if you could reduce the signal level of the sources you mentioned and use some form of "anti-equalization", the signal-to-noise would suffer considerably. In more than fifteen years in the audio biz, I never saw an adaptor of the type you want. Presumably, this is because it is cheaper simply to bypass the phono preamp altogether.

As a side note, a few very old (or very cheap) stereos were designed for ceramic phono cartridges. Due to the nature of ceramic cartridges, the stereos have no phono preamp or equalization, and will accept roughly the same input level as the "AUX" input on newer preamps.

If your stereo has an "AUX" input, that's the place to input signals from most external sources.

Regards,
Jack WB3U

460. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4v89h2$71o@crash.microserve.net>
Source record: 103233

"William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us> wrote:

>I ain't at all sure this is right!!!!

I think Tom was referring to the fact that the coil will not
be exactly symmetrical around its center. If both the center
of the coil and the rotor of the tuning cap are grounded, the
actual inductance seen in the tank will change as the tubes
switch back and forth. This will cause the resonant frequency
of the tank to be slightly different, depending on which tube
is conducting.

73,
Jack WB3U

461. amateur database

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: radiop@ix.netcom.com
Message-ID: <4v8bg6$1ag@dfw-ixnews7.ix.netcom.com>
Source record: 103141

all amateurs,,

please send e-mail address and call sign
for inclusion into the world wide amateur e-mail address database.

thank you ,,, n2ucm,,mike

462. Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: Kari Kuusinen <kari.kuusinen@orion.fi>
Message-ID: <32189ABD.6A93@orion.fi>
Source record: 103142

Hi you all.

Anybody know a good site where to find practical information
of RF-transformers for impedance matching. Especially HP-transormers
for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
information about different core materials needed and where to obtain
those cores. I need those to build up an linear for 2-30 MHz using
4 of MRF150/MRF140 FETs (600 W CW out).

73 de OH1DX / OH2LIG / Kari

463. Radio w/ TV UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: dryan@earth.usa.net
Message-ID: <4v9p42$1q9@shiva.usa.net>
Source record: 103143

I'm looking for a portable radio that includes the ability to receive the audio part of television broadcasts from the UHF band. I've founds lots that work with the VHF but none of the UHF. I used to own one years ago.

Where should I look to find this thing.

I don't usually read this group so email responses would be welcome.

Thanks,

David Ryan

464. Re: 2M CW or SSB XCVR Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: kb9jqu@amsat.org
Message-ID: <4v9rjt$m4r@homer.alpha.net>
Source record: 103144

This is some followup information I have received via
direct e-mail over the weekend:

> It's not available as a kit as far as I know, but I'd recommend the
KK7B
> R2/T2 combination which Rick Campbell designed to work on 2 meters.
It's
> in May 1993 QST.

(reading the article now)

and another comment:

> Curtis -
> You request for 2M CW hit a thread with me. I used to do CW on 2M
> with some friends. The only problem is, 2M is FM not normal AM (
> USB&LSB) carrier so normal CW scheme does not work - OOK in other

Actually John we want to use REAL CW on 2M to use the bottom
100 KHz of the 2M band! It is reserved for CW only and MCW
would not be allowed. There are people who do MCW here in Milwaukee
from time to time. On STREIGHT KEY NIGHT we actually use our
DTMF pads over one of our local repeaters and make MCW contacts
there.

But what we are trying to do is use that bottom 100 KHz, perhaps
build our own radios, use real CW, have fun and learn a lot
in the process.

Thanks for the Reply!

-Curt KB9JQU

465. How to remove scanner 800 MHz gap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: arielbp@white.weizmann.ac.il
Message-ID: <1996Aug19.130223.18443@wisipc.weizmann.ac.il>
Source record: 103145

Hi everyone,

I have a small handheld scanner, the Radio Shack PRO-51. It has a gap in the are 823 to 850 MHz. I guess this is used for cellular phones in the US and illegal to have on a scanner. Around here, it is part of the 800 MHz public service band, and there is actually a local frequency within that range that I am very interested in receiving.

Has anyone had experience with modifying these units to remove the blocking of the 823-850 band ? I'd prefer to cut some jumpers, of course, but I can probably still find my way around a soldering iron (if I can just remember where I put my glasses...).

Would appreciate any help in this matter by email to:

arielbp@wisdom.weizmann.ac.il

Thanks, 73s

Ariel AA2MQ , 4Z1BP, ex 4Z4WJ

Ariel Ben-Porath
Dept. of Applied Math & Computer Science
and
Brain Research Center
Weizmann Institute of Science
Rehovot, ISRAEL

e-mail arielbp@wisdom.weizmann.ac.il
tel. 972-8-934-4206

466. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4vab2t$22j@nnrp1.news.primenet.com>
Source record: 103146
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

n7ory@primenet.com (Rob Neff) wrote:

I mean wrists. (GRIN)

Rob Neff (N7ORY)

467. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <+h8TBOAETHGyEwUP@ifwtech.demon.co.uk>
Source record: 103147

William E. Sabin wrote:
>Mark Mandelkern wrote:
>>
>> w8jitom@aol.com (W8JI Tom) wrote:
>>
>> >You can use a coil that is "RF grounded" at the center, but then you
>> >should float the rotor of the tuning capacitor for RF.
>>
>> >It is generally considered safer to float the coil center and RF ground
>> >the rotor of the tuning cap,
>>
>> Tom seems to imply that one or the other should be at r.f. ground. In
>> my homebrew push-pull 4-400A, 50 mc. amp, neither is at r.f. ground.
>> No connection at the rotor. RFC, 6 uH, at the coil. Working fine for
>> 35 years! I don't know any theory, so except for the harmonic issue
>> Tom mentioned (no problem here), I don't understand why one point or
>> the other must be at r.f. ground. I hope Tom will explain it for us.
>>
>
>
>Let's see if I can guess. The RF choke has enough energy stored in its
>inductance that it acts as a constant-current source for the RF plate
>current pulses. The two tubes switch this current pulse back and forth,
>in the process energizing the flywheel tank. The DC supply re-supplies
>this energy to the choke. This works only for a balanced push-pull
>circuit. A single-ended circuit needs a ground reference point (a bypass
>capacitor).

Isn't it simpler than that? There are actually three ground points, not two. The third one is the center-tap between the output capacitances of the two tubes, and that one is always grounded.

In Mark's situation the tube capacitances are providing the one-and-only center tap for the output circuit. That's just fine, so long as the output capacitances are large enough to swamp the out-of-balance strays. This is usually the case at VHF: the "Plumber's Special" and W1SL push-pull amplifiers work on the same principle.

In some situations you can get away with grounding either the tuning capacitor center-tap or the coil center-tap as well as the center-tap built into the tubes, without producing large circulating chassis currents between the grounding points; but the circuit is usually not symmetrical enough to allow you to ground all three.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

468. transmitter/ receiver..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: aloysius@epix.net
Message-ID: <4vaf18$d9l@star.epix.net>
Source record: 103148

not sure if this is the right, group, but here goes.
I'm looking for schematics for a little reciver/ transmitter combo for use in my and my partner's motorcycle helmets as her voive is too petite to be heard at speed. PTT not necessary, crystal controlled is fine- im new to radio, so I'm looking for something that wont take much if any tweaking/calibration. Prefer images rather than ascii as I can NEVER figure out the ascii drawings...:) any picture format is fine..
im looking for a battery powered setup that transmits maybe 300 feet tops.(for when i give the second kit to a car driver)
email pls..
ALOYSIUS@EPIX.NET
TIA

469. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <3218DF99.396D@crpl.cedar-rapids.lib.ia.us>
Source record: 103149

Ian White, G3SEK wrote:
>

> Isn't it simpler than that? There are actually three ground points, not
> two. The third one is the center-tap between the output capacitances of
> the two tubes, and that one is always grounded.
>
> In Mark's situation the tube capacitances are providing the one-and-only
> center tap for the output circuit. That's just fine, so long as the
> output capacitances are large enough to swamp the out-of-balance strays.
> This is usually the case at VHF: the "Plumber's Special" and W1SL push-
> pull amplifiers work on the same principle.
>

That idea did occur to me also, but I am not sure that the tube plate to ground C is large enough, compared to the other circuit capacitances, to establish a credible ground return. The "cold" end of each tube's plate load impedance should return to its cathode with a low impedance path.

I get the feeling that without a well established ground return, the situation is rather messy and although it "works", it would not pass muster in any engineering organization.

My idea of the constant current RF choke doesn't sound very good, on second thought, and I withdraw it.

Bill W0IYH

470. Re: transmitter/ receiver..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: stevem@best.com
Message-ID: <4vagjk$dtt@shellx.best.com>
Source record: 103150

In article <4vaf18$d9l@star.epix.net>, <aloysius@epix.net> wrote:
>not sure if this is the right, group, but here goes.
>I'm looking for schematics for a little reciver/ transmitter combo for
>use in my and my partner's motorcycle helmets as her voive is too
>petite to be heard at speed. PTT not necessary, crystal controlled is
>fine- im new to radio, so I'm looking for something that wont take
>much if any tweaking/calibration. Prefer images rather than ascii as I
>can NEVER figure out the ascii drawings...:) any picture format is
>fine..
>im looking for a battery powered setup that transmits maybe 300 feet
>tops.(for when i give the second kit to a car driver)
>email pls..
>ALOYSIUS@EPIX.NET
>TIA
>
>
>
You would probably be better off, in terms of time and effort, just
buying a pair of 49MHz VOX headsets. I think Radio Shack still sells
them.

Good luck

Steve M. WF6R

471. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4va49e$mgg@nnrp1.news.primenet.com>
Source record: 103151
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

jherman@Hawaii.Edu (Jeffrey Herman) wrote:

>More like a fantasy. I am *very* sorry to read of your loss; statistics

Fantasy? RF is used all the time in medicine. Tell that to the
Chiropractor that totaly screws up 10m with his massaging wand. Uses
RF in the 27-28 MHz band to warm tissue deep inside. Tell that to my
Dentist who used an 'Radio Scapel' to trim back my gums the other day.

>show 1 in 4 women will suffer from that form of cancer. But let's please
>keep emotion out of this ruling. Self-denial that RF cannot cause illness
>will only hurt yourself, but coming on here and stating that to hundreds
>of thousands of folks is irresponsible.

No self denial. It would be irresponsible to keep quiet and bend over
for crap like this. They show proof that it harms, and how, then we
will worry about it. I thought we stopped using 'blood-letting' as a
treatment a long time ago, what they sugguest is the same thing.

'We don't know what it is, or if it is at all, but slit their rists
and let some blood out just in case.'

>Keep your HT at its lowest power setting (not only for health reasons
>but also to comply with Part 97). Use a speaker mic and hold the HT
>at arm's length when transmitting (who cares what that will look like -
>you'll be setting a good example).

Compliance in the face of stupidity is cowardice.

>Be safe,
>Jeff KH2PZ

Ditto..

Rob Neff (N7ORY)

472. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4val24$a65@abyss.West.Sun.COM>
Source record: 103152
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <Dw79nv.388@news.hawaii.edu>,
Jeffrey Herman <jherman@Hawaii.Edu> wrote:
>
>Keep your HT at its lowest power setting (not only for health reasons
>but also to comply with Part 97).

When did Part 97 start requiring people to use the lowest power setting all the time? I believe you're referring to 97.313(a), but you're apparently misreading it. 97.313(a) says "An amateur station must use the minimum transmitter power necessary to carry out the desired communications". There is a difference between 'minimum transmitter power' and 'minimum transmitter necessary to carry out the desired communications'.

I don't disagree that minimizing RF exposure is a good thing. I just don't agree with this reading of Part 97. Using the lowest power setting without regard to the ability to carry out communications might be considered 'liddish' by some ;-).

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

473. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vanb1$7gt@newsbf02.news.aol.com>
Source record: 103153

In article <4v7m2v$gbe@news.lascruces.com>, k5am@lascruces.com (Mark Mandelkern) writes:

Hi Mark,

>Tom seems to imply that one or the other should be at r.f. ground. In
>my homebrew push-pull 4-400A, 50 mc. amp, neither is at r.f. ground.
>No connection at the rotor. RFC, 6 uH, at the coil. Working fine for
>35 years! I don't know any theory, so except for the harmonic issue
>Tom mentioned (no problem here), I don't understand why one point or
>the other must be at r.f. ground. I hope Tom will explain it for us.

It needs to be at RF ground because one half of push-pull resistances pulling on the tank are off during part of the cycle.

Look at a perfect case, drawn it out on paper.

If the tank truly floated at the center, and the center tap has infinite RF impedance through an RF choke, the tank would have no reference for the tube that was "on" fully since the entire rest of the tank would be "floating". Even the other tube would be "off".

The amplifier would not function at all if the center tap truly floated and the conduction angle of each tube was less than 180 degrees! We could not make the circuit work at all on any frequency. The low frequency analogy would be a push pull audio output output stage with the center tap fed through a very high reactance audio choke.

The circuit must provide an "RF reference to ground" in the tank for the circuit to work at all. For proper performance it should be the center.

The reference can be achieved "accidently" via always present circuit strays (capacitance from the plate circuit of the opposing tube---or tuning capacitor stray frame and rotor to chassis capacitance) will work, but doing it purposefully is almost always better.

73 Tom

474. Re: amateur database

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: Eugene Rippen <soundval@foothill.net>
Message-ID: <3218F80D.3348@foothill.net>
Source record: 103154

MIKE wrote:
RIPPEN, EUGENE, WB6SZS, soundval@foothill.net, Auburn, CA, USA

> all amateurs,,
>
> please send e-mail address and call sign
> for inclusion into the world wide amateur e-mail address database.
>
> thank you ,,, n2ucm,,mike

475. Re: 11 meter to 10 meter transverter.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4v9cqe$12n8@info4.rus.uni-stuttgart.de>
Source record: 103155

>I would like to make my 11 meter Uniden pc-244 transmit and receive on the
>10 meter amateur radio band.

Hi Eric,

A transverter that shifts RX/TX only by a small amount of frequency
is difficult do design, because you have to suppress the *image
frequency*. The common approach is to modify the 11m rig so that it works
on 10m.

73, Moritz DL5UH

476. B&W 850A Tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: Boyd n6dmf <blfulbri@sloc.net>
Message-ID: <32190883.E3A@sloc.net>
Source record: 103156

For Sale: I have a B&W 850A tank circut to sell, I got it
to use in a home-brew pair of 4-1000s and didn't
use it. Looks real good.

$75.00 and will ship for that (lower 48)

blfulbri@sloc.net

Phone: 707-839-5228

Thanks,
Boyd N6DMF

477. Re: Need antenna solution for 1969 Vette

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: rsdeputy@aol.com
Message-ID: <4vb7kr$fes@newsbf02.news.aol.com>
Source record: 103157

Sti-Co is commercial antenna manufacturer that makes "disguised" antennas for police and other persons who want communications, but don't want to drill holes in their cars. The antennas usually are identical to the "stock" AM/FM antenna, but are tuned to the primary operating frequency range you intend to transmit on. It will also couple over to your AM/FM stereo with the use of a "BC adaptor" available from Antenna Specialists. Sti-Co's antennas are a bit pricey, but they are very effective. They also have duplexers and multicouplers available for using more than one transmitter. Check the communications magazines for their address. If you can't find it, e-mail me back and I will look it up for you.

Robin KE9SQ

478. Drake R4-C mods, filters, philosophy, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: zyx@aracnet.com
Message-ID: <zyx-1908961937560001@ppp-h50.aracnet.com>
Source record: 103158
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I purchased a set of Drake twins this last weekend (R4-C with very low serial and beautiful T4X), which has rekindled my long love-affair with these radios.

The T4X is very pretty (no corrosion on copper chassis!) and evidently desirable, as I had offers immediately after purchasing it. I assume it, as with the T4X-C, works wonderfully, with no mods ever being needed (unless you don't have the wierd thin mic connectors :)
I got both hand-held and desk-top mics with the thin connectors in the deal.

The R4-C is a different story. It is in beautiful mechanical condition, having little of the telltale chassis corrosion; and the rotary switches had little oxidation. However, it had the Sherwood first IF 600hz filter and relays, along with the Sherwood audio amp and power supply mods.

I have owned a number of R4-C's in the past, but none of them were the low serial number versions with the MOSFET 2nd mixer and other differences.

WHAT I AM WONDERING IS IF ANYONE HAS ANY ARTICLES OR REFERENCES DESCRIBING THE EVOLUTION OF THE R4-C, OR COMPENDIUMS OF MODIFICATIONS TO THE R4-C OVER THE YEARS*

In return, I offer my philosophy on modifications to the R4-C, based on years of experience as an owner of high serial # radios:

1. Do not use the solid state tubes that were sold in the 70's. Measurements done years ago showed they greatly compromised dynamic range. Moreover, there are better ways of lowering power consumption.

2. The only mods needed to the audio amp and power supply circuits is the addition of a 5k pot in series with the 3.3k R76. Adjust the bias voltage across the 0.82ohm R86 to 0.2v, or lower if only headphones are used. This simultaneously lowers audio amp quiescent current and permits much cooler operation in the power supply regulator and transformer. Also, more headroom is available for the power supply regulator to operate, also, providing less hum.

Then in the audio amp a 0.0027uf cap is connected in parallel with the 22k R83 and a 0.1uf cap connected in parallel with the 0.005uf C101 to limit freq response and hiss. These values aren't cast in stone, and can be increased or decreased depending upon the operator's preference. Note: that unlike the Sherwood boards, these mods are easily undone if needed for sale to some finicky person.

(The radio I bought had the Sherwood audio amp. It suffered from very high hiss, which I could not get rid of by attempts to bandlimit the amp's response along the lines of the National Semi LM393 apps data. Those National Semi high power TO220 amps like the LM383 and LM1893 are notorious for oscillating at HF frequencies- in fact National spent most of its apps engineering time getting a pc board layout that didn't oscillate and then tried to get everyone to use it. Finally, in frustration, I reconected the original Drake circuit with superior results.)

For DXers who use headphones mostly, the original class A circuit works the best.

3. If for some reason, hum is intractable or you want to use an LM7812 monolithic regulator to power the R4-C, connect the +10V and +11V lines to the +12V bus, and remove R115, R68, C165, R116, R117, CR14, C168, CR18, and CR19. Thus 2 more sources of heat are removed from the power supply board. Also, C166 and C167 are connected together at the cap so that current flows from the rectifiers to the cap, and then back to the regulator. Also, the center tap for the full wave rect is removed from the chassis and rewired directly to the can of C166/C167.

Then, hum is non-existant.

4. The original diode product detector may be worth replacing with a stronger, more balanced design- but the answer is not an MC1496- I've tried it, and it doesn't work any better.

5. I have no info or experience with third mixer solid state mods. What do others know???

I am also looking for a good source of aux freq coverage crystals. If anyone knows of the best potential deals on these from major crystal manufacturers I would appreciate any info.

I have recently come across hundreds of very high quality 10pole 3khz linear phase and 5 pole 250hz linear phase 5.2mhz crystal filters. I am considering using these along with new carrier osc and premix crystals as new first IF filters. I am also interested in designing and using 16 pole crystal ladder filters in the R4-C. The radio has too much gain, so it shouldn't be too hard to utilize even CW bandwidth filters in the radio with crystals with Q of 150k or so.

I am also investigating replacing the first mixer in the R4-C with a DMOS commutating mixer, keeping V2 as a gain stage. An SD5002 would be used.

I hope I might have spurred some renewed interest in R4-C!!!!!!

479. Tubes+ For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <3218E7B2.2D13@ici.net>
Source record: 103159

Used Eimac 4PR1000B tube with air socket mounted on al box, chimney, blower(120vac line), and filament transformer(240vac line),$125+shipping

New GE 4PR250C tube $50+shipping
shiso@ici.net Thank's, Bruce.....

480. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <3219243F.4100@apk.net>
Source record: 103160
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

>keep emotion out of this ruling. Self-denial that RF cannot cause illness
>will only hurt yourself, but coming on here and stating that to hundreds

Unfortunately, your emotionally charged arguement is all you have to
prove your point that regulation is needed to the level it has been
applied.

It would be much better if we could ignore the people who wanted
to pass laws based on ficticious or emotionally founded fantasies.

Every so often the government does that, goes out on a "jag". They take
some information that is normally quite emotionally charged and use
it to pass laws that far surpass the need.

A good example was the "fact" that 50,000 children a year are abducted
and we needed new laws to stem this tide. They passed a bunch of new
laws, citing the dopey figure, without ever considering that it was
a lie. The laws remain to show how harmful a well-meaning but terribly
misdirected group can do.

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

481. Re: J. W. Miller coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: emeb@indirect.com
Message-ID: <emeb-1908962210040001@s173.phxslip4.indirect.com>
Source record: 103161

In article <4v8ie7$m4@geraldo.cc.utexas.edu>, Barry Newberger
<bsn@fusion.ph.utexas.edu> wrote:

> Can someone recommend a source of J. W. Miller coils and forms
> in single lot quantities?
>
> Thanks,
> Barry W5KH

Try Circuit Specialists, Mesa, AZ
1-800-528-1417

(Not affiliated - just a customer...)

--
Eric Brombaugh KC7GXA
emeb@indirect.com (private)
ericb@sicom.com (work)

482. J. W. Miller coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: Barry Newberger <bsn@fusion.ph.utexas.edu>
Message-ID: <4v8ie7$m4@geraldo.cc.utexas.edu>
Source record: 103162

Can someone recommend a source of J. W. Miller coils and forms
in single lot quantities?

Thanks,
Barry W5KH

483. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4vamvi$gtr@nnrp1.news.primenet.com>
Source record: 103163
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Jeffrey Herman wrote:
>
> Rob Neff <n7ory@primenet.com> wrote:
> >Jeff (me) wrote:
>
> >>Keep your HT at its lowest power setting (not only for health reasons
> >>but also to comply with Part 97). Use a speaker mic and hold the HT
> >>at arm's length when transmitting (who cares what that will look like -
> >>you'll be setting a good example).
>
> >Compliance in the face of stupidity is cowardice.
>
> I'm refering to the section of Part 97 dictates that we use the lowest
> output power possible for reliable communication. This is neither a stupid
> edict nor is it cowardice to comply with it. This very old law has nothing
> to do with the new ruling.
>
> You can get Part 97 in full from the ARRL email server, Rob - seems you
> might need to review its contents.
>
> Be safe,
> Jeff KH2PZ

With the 2.5 watts my little HT puts out, I get into some of the
repeaters in the area marginaly, others not at all. With the 5 watt
pack, I get into most of them full-quieting, some of them marginaly.
I comply with part 97 in this respect.

When it comes to simplex use, it's a different story. With my Gp-9, I
can use the 30mw setting and make contacts in Mesa which is 30 miles
away. So my "KH2PZ incorrect" 2.5-5 watts is not necessary.
And to get right to it, there is no provision given, with respect to
the rule you mention, on any of these commercially available HTs to
comply. Think about it, if your power is adjusted in steps, and you
can operate with a lower output then that povided by the radio's
settings, are you in violation or not? It says minimum power
necessary, not minimum power setting on the radio.
And one other thing, I don't know what rock you live on, and whether
or not you have to deal with intermod, but squelch'es are used at a
high setting here in Metro Phoenix.

Don't make any assumptions as to my operating practices or proceedures, as I will (or would) not make any of yours. But it seems that when you are presented with reasonable debate, you resort to attacking the person and not the subject matter. Frankly, that in itself is not amateur like.

You mentioned part 97 at the end of your last post, mixed with the subject we *were* discussing. It appeared to me that you were implying that this EPA crap (which is now also part of 97) was the basis for you advising that HTs be held at arms length at minimum power. Thus accepting the regulation as being valid and worthwhile. I obviously disagree.

If you want to keep debating the issue, that's fine. But keep it on the level of subject and not assumptions. Ok?

Rob Neff (N7ORY)

484. HV connectors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug19.190838.616@main03>
Source record: 103164

I'm rehabbing a K2RIW parallel 4cx250 UHF kilowatt amp that I inherited from
an estate, with no power supply or cables.
2kv B+ was originally supplied via a Millen HV connector.
Anyone have a few of these just gathering dust?
(looking for 2 males and 1 female)
Anyone have any ideas for better alternatives?

Thanks
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

485. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: bry1@erols.com
Message-ID: <4vb581$16g@news7.erols.com>
Source record: 103165
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The other bad problem with many of those old switcher power supplies is
that they generate a lot of RF hash!

ehoffman@total.net (Big Boy) scribbled:

|I have a old crap 8088 'tole box' as you can say! With the power supply.
It's
|rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
|(used as a base) 13.8V tranceiver unit. I dont know much of switching power
|supply technology and i want to know if it's safe. The problem may be when i
|switch from RX to TX and from TX to RX... could there be a fatal burst of
|voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
|those peek?

|Unfortunately, i dont have an scope to make charge test.

|E-mail me on that please...

|Thanks and 73 to all readers

|--------------------------------------
|"640K will be ok for everyone..."

|Bill Gates '82
|--------------------------------------

| The Big Boy

We are having E-MAIL problems with the Internet Server EROLS.
PLEASE cc: all messages to me as follows:
bry1@erols.com - Look at your To: line and make sure it reads properly!!
brian.carling@acenet.com
Send a copy to BOTH addresses. That way there is a better chance
that I will actually GET your message! Looking forward to hearing from you...
Brian Carling in Gaithersburg, MD USA

486. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <32195B1B.2E39@hevanet.com>
Source record: 103166
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> >> |I have a old crap 8088 'tole box' as you can say! With the power supply.
> >> It's
> >> |rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
> >> |(used as a base) 13.8V tranceiver unit.

There's one piece of critical information missing from this thread.
PC power supplies regulate the 5V output. The 12V output is whatever it
is. For typical PC loads it all works out right.
If you try to run the 5V unloaded, there is not enough energy in the
core
to give full output on the 12V port.
So, you need a load resistor on the 5V output to make sure the 12V
supplies enough current for full load. You also need a load resistor
on the 12V output to insure it stays in regulation when the external
load
is off.
miker

487. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: John--Mackey--KA0SSF <no--place@any-where.com>
Message-ID: <32190BD4.59BF@any-where.com>
Source record: 103167
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Dana Myers wrote:

> I don't disagree that minimizing RF exposure is a good thing. I just
> don't agree with this reading of Part 97. Using the lowest power
> setting without regard to the ability to carry out communications
> might be considered 'liddish' by some ;-).

True, but then there is the thing about:

"Good Amateur Practice".

488. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: John--Mackey--KA0SSF <no--place@any-where.com>
Message-ID: <32190CD5.450A@any-where.com>
Source record: 103168
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Rob Neff wrote:

> > Rob Neff <n7ory@primenet.com> wrote:
> >
> > >Compliance in the face of stupidity is cowardice.

Very true statement.

> With the 2.5 watts my little HT puts out, I get into some of the
> repeaters in the area marginaly, others not at all. With the 5 watt
> pack, I get into most of them full-quieting, some of them marginaly.

Hmmm, strange, 2.5 to 5 watts is only 3db. 3db is only 1/2 an S unit,
certainly not much if any practical difference.

489. SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-19 00:00:00 UTC
From: jadams@idirect.com
Message-ID: <4varvc$d4_042@ns.idirect.com>
Source record: 103169
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

```
Electronics Resource Internet Addresses Needed
for Publisher.
==============================================
To all Electronics Companies, Service Person-
nel, Webmasters & Hobbyists,

I am preparing a book tentatively titled "Sam's
Internet Guide to the Electronics Industry", to
be published by Howard W. Sams & Co. and PROMPT
Publications. The book will contain site add-
resses for electronics resources. Companies,
organizations and individual web creators are
encouraged to fill out a simple FORM at the ad-
dress below.
-----------------------------------------------
http://web.idirect.com/~ifx/book/
-----------------------------------------------
In addition, any electronics related addresses
or resources you run into while surfing please
let me know by filling out said form.

If you lack FORMS capability send an email with
the info below. I am especially interested in
sites offering simple electronics repair data,
service specs and hobbyist help-pages. Other
resources are more than welcome. Top Urls will
be printed in this directory and updated in
future issues.
-------------------------------------------------
Name:
Company Name:
Nature of Business:
Address http:
Other Addresses:
FTP Site:
E-mail Contact:
E-mail Main (info):
Webmaster:
Listserv:
How often is your website updated:
What type of information can be found on your
website or special features:
```

Has the WWW helped your business:
Comments:

Send to John Adams -- jadams@idirect.com

If you know of any other Electronics related
links please let me know in an email or a blank
form.

Thank you in advance. John Adams -- Author

John J. Adams | "Forever Learning" |
Author | "Forever Questioning" |
Web Designer | "Forever Creating" |

----------jadams@idirect.com----------

INFINET-FX @ http://web.idirect.com/~ifx/

490. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vbgmd$k65@newsbf02.news.aol.com>
Source record: 103034

In article <3217A8F7.179D@crpl.cedar-rapids.lib.ia.us>, "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us> writes:

>
>Let's see if I can guess. The RF choke has enough energy stored in its
>inductance that it acts as a constant-current source for the RF plate
>current pulses. The two tubes switch this current pulse back and forth,
>in the process energizing the flywheel tank. The DC supply re-supplies
>this energy to the choke. This works only for a balanced push-pull
>circuit. A single-ended circuit needs a ground reference point (a bypass
>capacitor).
>
>Bill W0IYH

That could be true Bill.

If the choke were the sole component involved, the choke would store and release a lot of energy to the tank. It would have to be a very good choke or it quickly would become a very hot or perhaps an arcing choke.

It's hard to guess why a circuit that should not work very well actually does. I can think of at least three things that help.... stray capacitances from the center of the tank to ground, the choke being less than infinite impedance, the tubes stray capacitance to ground (that's a biggie).

The output capacitance of the tubes forms a center tapped capacitance in parallel with the tank that is grounded at the center! If the tubes have fairly low capacitive reactance compared to the tank capacitor values, that's enough right there.

By the way, this is a second valid reason to float the coil and ground the variable capacitor junction...but one that mainly applies at higher frequencies. The original question refered to HF tanks.

At VHF, tube output capacitance forms a center tapped capacitance across the tank, grounded at the center. If the builder uses a tank coil RF grounded at the center at VHF, he is really asking for multiple resonance problems.

73 Tom

491. Help: TR-7500 PLL Repair

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Eric Grabowski <eric.grabowski@software.rockwell.com>
Message-ID: <3219C2BC.7993@software.rockwell.com>
Source record: 103035

I have a problem with the PLL circuit in my Kenwood TR-7500 two meter tranceiver that could best be described as a "tough dog".

At first the PLL would become unlocked on transmit, now it won't lock on receive either. I took it to a dealer for repair. He replaced the PLL chip, which didn't make any difference, and proclaimed the radio unfixable.

I have poked around the circuit with my DMM and TEK 465 scope. All the dc readings seem to be about right. The waveforms are hard to read because the vco frequency is above the limits of the scope and it's hard to get true readings because of common mode noise and the low-level of the signals.

At a local hamfest, a fellow ham mentioned that this was a rather common problem with Kenwoods of this vintage (circa 1978) and that the fix is pretty simple. He remembered that it involved diodes but didn't remember the particulars.

I was just wondering if anyone else has experienced this problem and knows how to resolve it?

I am the original owner of this radio and it worked great until this PLL problem appeared. If it's possible, I'd like to fix it.

Eric WA8HEB
eric.grabowski@software.rockwell.com

492. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4vcr69$puc@hpcvsnz.cv.hp.com>
Source record: 103036

William E. Sabin (sabinw@crpl.cedar-rapids.lib.ia.us) wrote:

..

: I get the feeling that without a well established ground return, the
: situation is rather messy and although it "works", it would not pass
: muster in any engineering organization.

: My idea of the constant current RF choke doesn't sound very good, on
: second thought, and I withdraw it.

For a practical use of a very similar circuit, have a look at what's used these days to drive cold-cathode fluorescent lamps, such as back lighting for LCD displays. Typically these are push-pull transformer coupled arrangements with a choke in the Vcc lead to the push-pull stage. The choke impedance is simply (more or less...) transformed by the transformer to effectively limit the current in the lamp while allowing large voltage to be developed to ignite the plasma in the lamp. A significant difference is that the lamp drivers generally (from the circuits I've seen) do not resonate the transformer as a tank. I believe the RF choke, as Bill seems to suggest above, will limit the available power and significantly raise the output impedance of the amplifier. Consider that if the tank is shorted, if only one tube is "on" at a time and there is some time when neither tube is on, you simply excite the choke at two times the amplifier input frequency (plus harmonics).

--
Cheers,
Tom
tomb@lsid.hp.com

493. Re: Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32197411.6FF3@worldnet.att.net>
Source record: 103037

Kari Kuusinen wrote:
>
> Hi you all.
>
> Anybody know a good site where to find practical information
> of RF-transformers for impedance matching. Especially HP-transormers
> for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
> information about different core materials needed and where to obtain
> those cores. I need those to build up an linear for 2-30 MHz using
> 4 of MRF150/MRF140 FETs (600 W CW out).
>
> 73 de OH1DX / OH2LIG / Kari

Try the ARRL page (American Radio Relay League) publications page.
I believe there is a book available dealing with such transformers.
73,
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

494. Re: HV connectors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4vcmno$gqv@newsgate.sps.mot.com>
Source record: 103038

Solid-dielectric RG-8 is supposed to withstand 6 KV, so you could use a length of this -- with the warning that you need to use different connectors than the RF in and out use, and cover the HV cable with a marked orange jacket. This would be a good solution only if you buried the power supply in a cabinet or rack where nobody else could get to it. It's also a good answer for using up those really oddball HV RF connectors we seem to encounter occasionally.

I've seen some commercially built HF rigs that supplied B+ through a _banana jack_ but while this may be OK from a dielectric standpoint, it's inacceptable from a safety standpoint.

495. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vck83$1jn@newsbf02.news.aol.com>
Source record: 103039

In article <KF+qiDAd0YGyEwA+@ifwtech.demon.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:

>Also note that everything that's been said about the plate circuit
>applies even more to the grid. In addition to all the other problems,
>unbalance in the grid tuned circuit will deliver unequal drive to the
>two tubes.

Unequal load at the anodes causes a similar problem. One valve (I mean
tube) is undercoupled and one is overcoupled by tank unbalance.

>> In push-pull grid circuits there are advantages in floating
>both the variable capacitor and the inductor, and grounding the circuit
>through a preset differential capacitor to balance out all the strays
>(two separate preset trimmers can be used instead).
>

Not always, and certainly not unless the circuit's shunt C is a very low
reactance compared to the grid impedance. :-) It's a problem of
impedances, and general "do it like this's" can get us in deep trouble.

For an example, look at the grid circuit of a push pull class amplifier
that draws grid current. It has widely varying impedances at the grids
that gets pretty low, and very high capacitive reactance at each outer end
to keep things equal (unless the tube is *very* large). In class C (or
AB2) grid circuit, we want the coil center to be used as the drive
reference. Mutual coupling helps solve the problem, giving each grid a
stiff source.

The designer had best look at the actual application closely to decide
what method is best...especially at VHF. At a low enough frequency, we can
throw out some general rules and the system will work.

The original question was HF. In that general case with small tubes (like
20 kW on down), a center tap reference at the grid inductor and a center
tap reference at the grounded rotor on the output tank variable would
almost always be best.

73 Tom

496. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkDwFqLu.Ir2@netcom.com>
Source record: 103040
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Steve Wolf (no8m@apk.net) wrote:

: A good example was the "fact" that 50,000 children a year are abducted
: and we needed new laws to stem this tide. They passed a bunch of new
: laws, citing the dopey figure, without ever considering that it was
: a lie. The laws remain to show how harmful a well-meaning but terribly
: misdirected group can do.

They neglected to say that, perhaps, in 95 percent of these cases the
children were "abducted" by the child's non-custodial parent.

497. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: lcw999@ix.netcom.com
Message-ID: <3219f665.8602685@nntp.ix.netcom.com>
Source record: 103041
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Ref: Environmental Impact Reports...

Over the years, we have noted that there is a group within the
Environmental Agencies that tends to go bananas! To acquire
funds to increase staffs, set up new departments, etc., these
groups will go to any lengths to stampede the people, members
of Congress, into a tizzy! This is all intentional...they do not
necessarily know that anything is wrong...not enough data,
not enought testing, etc.

Sad situation, in an Agency as important as this one, that we
have these "whackos" still embedded there. They need to
be purged, their agendas are not in line with the real world
needs of an Agency of this importance. Out, out with them!

Recently, the "hole" over the Antartic filled in...ozone
has returned...years ago, some "real-world" Nasa scientist
warned the "whackos" of the Environmental Agency
that their statements were premature and not substantiated
with known historical fact...nor was there sufficient historical
data to make such a statement....however, the "whackos"
message was widely spread by the "media"...it was pronounced
as "fact"...nothing could be further from the truth! We all remember
the hue and cry...the sky is falling..the sky is falling..disaster..
more funds..more funds! Sick situation..sick..sick!.

Leonard...

On Thu, 15 Aug 1996 22:11:55 GMT, jherman@Hawaii.Edu (Jeffrey Herman)
wrote:

:Rob Neff <n7ory@primenet.com> wrote:
:>Perhaps the use of an HT helped keep the cancer cells at lower level
:>than they would have been without it?
:>
:>Just a thought.
:
:More like a fantasy. I am *very* sorry to read of your loss; statistics
:show 1 in 4 women will suffer from that form of cancer. But let's please
:keep emotion out of this ruling. Self-denial that RF cannot cause illness
:will only hurt yourself, but coming on here and stating that to hundreds

:of thousands of folks is irresponsible.
:
:Keep your HT at its lowest power setting (not only for health reasons
:but also to comply with Part 97). Use a speaker mic and hold the HT
:at arm's length when transmitting (who cares what that will look like -
:you'll be setting a good example).
:
:Be safe,
:Jeff KH2PZ

498. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: jma@ih4gp508.ih.att.com
Message-ID: <4vd85v$dhm@ssbunews.ih.lucent.com>
Source record: 103042
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <32190CD5.450A@any-where.com>,
John--Mackey--KA0SSF <no--place@any-where.com> wrote:
>Rob Neff wrote:
>
>> > Rob Neff <n7ory@primenet.com> wrote:
>> >
>> > >Compliance in the face of stupidity is cowardice.
>
>Very true statement.
>
>
>> With the 2.5 watts my little HT puts out, I get into some of the
>> repeaters in the area marginaly, others not at all. With the 5 watt
>> pack, I get into most of them full-quieting, some of them marginaly.
>
>
>Hmmm, strange, 2.5 to 5 watts is only 3db. 3db is only 1/2 an S unit,
>certainly not much if any practical difference.

As I recall (it's been too many years to be sure) FM is subject to what
used to be called the "thershold effect" where a small increase in
received signal will make a substantial difference in perceived noise.
This is what gives rise to the "quieting" effect mentioned by the
original poster - as in full quieting.

So, it seems your observation might be correct for someone running
SSB phone but not FM phone. Don't know about ACSSB.

73
--
This posting is purely the personal opinion of
Ed Schaefer eschaefer@lucent.com ham radio: K9JMA

499. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4vcvs2$s6f@nnrp1.news.primenet.com>
Source record: 103043
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>There is documented evidence that exposures of greater than 10 mW/cm^2
>can cause harm. In particular, cataracts or loss of focal flexibility
>due to RF heating of the lens of the eye, and in some cases cancers.

Provide us with the study(ies).

>Just as some people get away with smoking cigarettes for years without
>getting lung cancer, some people can get away with excess RF exposures
>for years without apparent harm. But statistically, the rate of cancers
>does increase with exposure in large populations. Milham found a doubling
>of cancer rates (compared to the rates of the general population) for some
>cancers in his study of deceased amateurs.

Nope, you're I'm not going to let that one slide by. There are too
many other factors that could lead to the onset of cancer in Amateurs.
PCBs, work hazards (a lot of hams are in high tech jobs) etc..
Statisticly speaking, statistics don't work. They are only as acurate
as the intent and will of the statistitian.

>The frequencies where (RF heating) exposures are most harmful to humans
>are in the range 30-300 MHz. That's why the standards require a lower
>exposure at those frequencies than at lower or higher frequencies. The
>reason for that is those frequencies are the ones which couple most
>strongly to the human body. That doesn't mean we can treat exposures

Couple? I suppose the good doctor had a flesh-dip meter? (GRIN) Did
he find that the subjects exhibited lower SWR characteristics when
loaded up for 30-300 Mhz operation vs. above/below?

"Well, we're not sure on this guy. Couldn't get the Gamma match to fit
on his arm, and he complained about where we put the SO-239."

>at other frequencies casually, but the evidence does indicate that
>higher or lower frequencies don't couple as strongly to the body.
>Therefore a higher exposure limit for them is tolerable.

I would much rather have a 20m antenna 10 yards from me, lit with
1.5kw then a 2.5gig magnetron at 750w. I wonder why microwave ovens
operate on the bands they do and not on 10m and 2m? And you say the
higher freqs are more subtle with regards to effect and heating? I
don't think so.

"Since the EPA regs were added, a lot of the guys who run QRO call a
QSO 'OM-BBQ'"

>The new MPE is 1 mW/cm^2 in the 30-300 MHz region. That gives at least
>a 10x safety margin (actually, the margin is probably greater than
>that since 10 mW/cm^2 is about the lower bound for noticable RF heating
>effects). At 100 mW/cm^2 and higher, however, effects can be very
>noticable very quickly. There are documented cases of amateurs being
>blinded by such exposures, literally overnight. (There is also industry
>evidence, in particular the IBEW has a case file on this.)

>Athermal effects, IE effects which aren't a result of RF heating,
>are a bit more questionable. There are population studies which go
>either way on this. If there are effects, they appear to either have
>a weak statistical association, or have to be coupled with an as yet
>unidentified co-factor. Something appears to happen in some people,
^^^^^^^^^^^^^^^^^^
Always looking for a reason. All in the name of safety. Never any
proof. Statistics are not proof, they are an indicator.
You can get one set of stats from the media, and read something
completely different from the MMWRs from the CDC!
(Morbidity and Mortality Weekly Reports)

EXAMPLE:
Like the 'assault weapons' crap. You hear how they are the preferred
weapons of criminals, and used in the majority of deaths in the
country. Then you read the Governments OWN statistics, you find out
that 'assault weapons' contributed to about .8% of total gun violence
in the US. (Firearm inflicted injury, 1995)

>but the mechanism isn't understood yet. Athermal effects have been
>most noticed at lower frequencies, particularly when those frequencies
>are pulsed at a low rate, IE in amateur radio that would correspond
>to OOK Morse style signals. In vitro studies have shown changes at
>the cellular level when exposed to fairly weak pulsed RF fields.

Oh no! An excuse to get rid of CW? (GAG)

>In particular, pulse rates in the 5-10 pps range have been shown
>to cause abnormal chromosome division. This is usually taken as an
>indication of a cancer causing agent at work.

Maybe this is the secret to evolution? If we didn't have small changes
in chromosomes, we probably would not exsist. And if we did, we would
probably all look exactly alike. I wonder what measurements are made
with respect to the amount of 'natural radioation' we receive on a
daily basis? The effects of cosmic rays on human development?

"If I had a dime every time somone claimed something causes cancer,
I'd have enought money to cure it." - Alter Reality

>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems

>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

Gary, I am not attacking you, please don't feel that way. But this a sore subject, and would like to continue asking the questions I feel need to be answered.

See ya..

Rob Neff (N7ORY)

500. Re: HV connectors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <TnvSwWAKQjGyEwxR@ifwtech.demon.co.uk>
Source record: 103044

Joe Landis wrote:
>I'm rehabbing a K2RIW parallel 4cx250 UHF kilowatt amp that I inherited from
>an estate, with no power supply or cables.
>2kv B+ was originally supplied via a Millen HV connector.
>Anyone have a few of these just gathering dust?
>(looking for 2 males and 1 female)
>Anyone have any ideas for better alternatives?

Yes!

Viewed from a country where separate B+ and B- connectors are not the
time-honored tradition, they look like a recipe for suicide if you
disconnect the wrong one first while the system is live.

Try MHV, or any similar coaxial connector that establishes a safety
ground *before* the HV connection is made, and keeps the ground until
after the HV disconnects.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

501. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4vdcqe$fci@nnrp1.news.primenet.com>
Source record: 103045
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

jma@ih4gp508.ih.att.com (Ed Schaefer) wrote:

>John--Mackey--KA0SSF <no--place@any-where.com> wrote:
>> With the 2.5 watts my little HT puts out, I get into some of the
>> repeaters in the area marginaly, others not at all. With the 5 watt
>> pack, I get into most of them full-quieting, some of them marginaly.
>
>
>Hmmm, strange, 2.5 to 5 watts is only 3db. 3db is only 1/2 an S unit,
>certainly not much if any practical difference.

It does though. It makes a big difference.

>As I recall (it's been too many years to be sure) FM is subject to what
>used to be called the "thershold effect" where a small increase in
>received signal will make a substantial difference in perceived noise.
>This is what gives rise to the "quieting" effect mentioned by the
>original poster - as in full quieting.

NOD

>So, it seems your observation might be correct for someone running
>SSB phone but not FM phone. Don't know about ACSSB.

>73
>--
>This posting is purely the personal opinion of
>Ed Schaefer eschaefer@lucent.com ham radio: K9JMA

Rob Neff (N7ORY)

502. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <321A6D32.CD@ix.netcom.com>
Source record: 103046
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Gary Coffman wrote:
{snip}
Gary,

Thanks for posting the math for us. You saved me (and others, I'm sure) a lot of poring over reference manuals to work this all out.

{snip}
> I'll leave the uncontrolled exposure limit as an exercise. All you{snip}

Hmmm, now you're beginning to sound like a university professor :-)

73 de Jim, KD1YV

503. Re: 16,384 Mhz Frequency Standards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <321AAA12.25B3@wenzel.com>
Source record: 103047

For those who may be interested in these oscillators: We manufacture similar units and the SC-cut crystals alone can cost us this much! This is a very good price!

504. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: pip@shore.net
Message-ID: <4vcg3p$6a7@shore.shore.net>
Source record: 103048
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In article <4varvc$d4_042@ns.idirect.com>, jadams@idirect.com says...

>I am preparing a book tentatively titled "Sam's
>Internet Guide to the Electronics Industry",

Um, this is yesterday's solution. Back in the dark ages of the internet (18 months ago) I used to use a book called the internet yellow pages. With the advent of the search engine (Alta vista, Lycos, Deja News etc...) it is easier and quicker to do an online search.

Good luck, I think you will need it.

--
Vs lbh pna ernq guvf, lbh ernyyl bhtug gb trg bhg zber

505. FS: Tube tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: mzak7@aol.com
Message-ID: <4vch70$ir@newsbf02.news.aol.com>
Source record: 103049

Eico mod. 666, exc, works fine, with tube chart, $50+ shipping.

506. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Aug20.193222.617@main03>
Source record: 103050

Tom, your original post has expired on my server so I don't know your reply address. I found a brand new Murata/Eire ultrasonic mic element in my junk box. You can have it for the cost of shipping, probably just a few bucks.
Let me know. Oh, and I have the spec sheet.

Model: MA40-A3R
Nominal freq: 40khz
Bandwidth: 4khz min at -73db
Capacitance: 1300pf

Joe - AA3GN

> Tom Kreyche wrote:
>>
>> I'm planning to build a detector for bats (the flying mammals!) probably
>> for dumping into a laptop for some kind of spectral analysis. Anyone have
>> recommendations for ultrasonic sensors? Different bat species use
>> different frequencies, typically 40 kHz to 60 kHz, audio.
>>
>> BTW, I've seen some standalone commercial detectors for about $250 but
>> it's no fun just buying one!
>>
>> Thanks, Tom KG6YJ
>
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

507. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <321A0960.5976@apk.net>
Source record: 103051
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

> that we have to try to follow. So there is no cowardice in following the
> rules to protect your own hide from bureucratic invasion into your shack
> and the removal of your equipment and some of your hard earned cash from
> your person.

What country are you living in? Here in the US there certainly is
cowardice involved in tolerating governmental abuse.

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

508. Need antenna info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Tom Medlin <tcmedlin@cris.com>
Message-ID: <321A7ADD.5BAE@cris.com>
Source record: 103052

I am wanting to build some 2 mtr/440 mhz dual band antennas and need some help. does anyone have info which describes how to build one using 450 ohm ladder line and in a J-pole configuration? I would like to enclose this in a piece of 3/4 or 1 inch pvc pipe to weather proof it and to give it some stability. also does anyone know the approx specifications that one could gain from an antenna like this? The configuration should have a so-239 connector in the end of the pvc pipe'

i am also interested in any other design (non ladder line) if it would still fit into pvc pipe.
please respond to me at tcmedlin@cris.com thanks, tom WA5KUB

509. 2M CW or SSB XCVR Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: zippy@medspec.com
Message-ID: <8C6C560.0A59000EAB.uuout@medspec.com>
Source record: 103053

Yes, Curtis, there is. It's a Ten-tech model. I'm not sure the model
#. Try Ramsey products. Also: Look @ CQ, QST, 73 magazines.

510. Re: amateur database

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: zippy@medspec.com
Message-ID: <8C6C567.0A59000EAE.uuout@medspec.com>
Source record: 103054

Hello, my name is Andrew Foot. I live in Canade, provinceof Quebec, and
my call sign is: VE2DNN. My son's email adress is Zippy@medpsec.com
I can be reached indirectly at this address, and would like to be
included on your world-wide list.

Andrew via Zippy

511. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4vd9dm$ld2$10@mhafc.production.compuserve.com>
Source record: 103055

I had a pal who used to chew solder... Course he never finished High School.
Which in the US is REALLY bad!
--
73, Jay WB0VNE - AAV5TH

512. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: cheshire@ridgecrest.ca.us
Message-ID: <DwGG4p.25A@ridgecrest.ca.us>
Source record: 103056
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

slwork@netcom.com (Steve Work) wrote:

>Steve Wolf (no8m@apk.net) wrote:

>: A good example was the "fact" that 50,000 children a year are abducted
>: and we needed new laws to stem this tide. They passed a bunch of new
>: laws, citing the dopey figure, without ever considering that it was
>: a lie. The laws remain to show how harmful a well-meaning but terribly
>: misdirected group can do.

>They neglected to say that, perhaps, in 95 percent of these cases the
>children were "abducted" by the child's non-custodial parent.

Sheeeeze!!!! That's just what we need, , ,

> "and we needed new laws to stem this tide", , , ,
>"They passed a bunch of new laws"
>"The laws remain"

When are people going to wake up to the fact that "new laws" never
solved anything except unemployment among lawyers.
Sheeeeze!!!!
Dr Pepper
10 - 2 - 4

513. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Fred <peerenbf@dmapub.dma.org>
Message-ID: <Pine.SV4.3.91.960820171315.12715B-100000@dmapub.dma.org>
Source record: 103057
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

On Mon, 19 Aug 1996, Steve Wolf wrote:

> A good example was the "fact" that 50,000 children a year are abducted
> and we needed new laws to stem this tide. They passed a bunch of new
> laws, citing the dopey figure, without ever considering that it was
> a lie. The laws remain to show how harmful a well-meaning but terribly
> misdirected group can do.
>
> --
> 73,
> Steve
> Internet: no8m@apk.net
> Amateur Radio: no8m@no8m.#neoh.oh.usa.na
> MSYS Mail List: msys-request@hamnet.org ('info' for title)
>
>
A terribly misdirected group. May be so may not be so. Do you have any
facts to show that rf is harmless. Have you ever been in the near field
of a broadcast antenna at 1KW even. I have, not the facts or figures,
but by personal experiance know that the inner ears heats up at a
frequency of 1450 Khz and 1000 watts if you are there for any significant
period of time (ie. 30 minutes or so) Granted, amateur transmissions are
usually short, but would you like a 4 El beam being fed with 1.5Kw pep rf
pointed at your house???? I think not if it were your neighbors
antenna. Do not poo poo the harm that non-ionizing radiation may or may
not do. It is best to treat it with a little respect and use good
engineering practice at all times. Hey, a well meaning, but misdirected
group got a law passed because no one else has been able to prove them
wrong with hard facts and figures. I for one, after spending a few years
in the position of a chief broadcast engineer, treat an radiation,
non-ionizing or otherwise with respect. remember your microwave oven
operates in the middle of on ham band a about 1.2 gigahertz or so. And
it cooks things very swiftly. Agreed it is not 3.9 Khz or 7.2, but it
may be that the only differance is the power level and the exposer time??
who know for sure. I don't and have met few rf engineers that are sure.
Who wants to be the test dummy for this one fellows. Do I hear any takers?

Fred

Fred Peerenboom
internet: peerenbf@dmapub.dma.org
Amateur Radio: ke8tq@n8acv.#day.oh.usa.noam

514. Re: knight-kit walkie talkies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: zippy@medspec.com
Message-ID: <8C6C563.0A59000EAC.uuout@medspec.com>
Source record: 103058

Your best bet(s) would be to check at big flea markets, and don't neglect the "Ham-fests"..

515. Phono to CD/AUX on Stereo?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: zippy@medspec.com
Message-ID: <8C6C565.0A59000EAD.uuout@medspec.com>
Source record: 103059

That souldn't ba any problem it's pretty straightforeward:

connect a stereo wire from your single unti to your stereo
receiver, simple.

516. Re: 2M CW or SSB XCVR Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug20.134348.22763@ke4zv.atl.ga.us>
Source record: 103060

In article <4v9rjt$m4r@homer.alpha.net> kb9jqu@amsat.org (Curtis Sardeson) writes:
>This is some followup information I have received via
>direct e-mail over the weekend:
>
>> It's not available as a kit as far as I know, but I'd recommend the
>KK7B
>> R2/T2 combination which Rick Campbell designed to work on 2 meters.
>It's
>> in May 1993 QST.
>
>(reading the article now)

Kanga does offer kits for the R2 and T2, but they are simple enough
that you can dead bug them instead. I don't like the analog filtering
and phase shifter so I used an Analog Devices EZ-Kit instead. Do a
Hilbert transform on one channel and you have a perfect quadrature
shift. Filter as desired for the modulation waveform used.

For the quadrature phasing of the LO at 2m, a simple coax delay
line works fine. I use a 1/4-wave (electrical) piece of RG-174
coiled up and tucked in the box with the LO buffers. I use MAR-4s
as buffers on the in-phase and quadrature outputs going to the SBL-1s.
I'm using a signal generator as the LO, but you'd want to build your
own LO for a packaged unit. A crystal VXO should be fine to cover
just the CW segment of 2m.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

517. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4vd9a5$ld2$9@mhafc.production.compuserve.com>
Source record: 103061

I've got a pre WWII study guide. Wanna borrow it? <grin>

--
73, Jay WB0VNE - AAV5TH

518. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32197E42.156F@worldnet.att.net>
Source record: 103170
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Bry wrote:
>
> The other bad problem with many of those old switcher power supplies is
> that they generate a lot of RF hash!
Tight shielding, quality bypassing caps (ie: 500pf + .1uf + >10uf, and
ferrite choke in line should kill most noise.

Be sure your power supply includes minimum load resistor. Some may not.
If not, under light loading the supply could fall out of regulation.
Before hooking to $$ equipment, check voltage at all expected loads.

73, Woody

> ehoffman@total.net (Big Boy) scribbled:
>
> |I have a old crap 8088 'tole box' as you can say! With the power supply.
> It's
> |rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
> |(used as a base) 13.8V tranceiver unit. I dont know much of switching power
> |supply technology and i want to know if it's safe. The problem may be when i
> |switch from RX to TX and from TX to RX... could there be a fatal burst of
> |voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
> |those peek?
>
> |Unfortunately, i dont have an scope to make charge test.
>
> |E-mail me on that please...
>
> |Thanks and 73 to all readers
>
>
> Brian Carling in Gaithersburg, MD USA

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

519. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: mike_luther@ziplog.com
Message-ID: <4vbljc$t84@news.myriad.net>
Source record: 103171
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <32197E42.156F@worldnet.att.net>, Woody White <woody.white@worldnet.att.net> writes:
>Bry wrote:
>>
>> The other bad problem with many of those old switcher power supplies is
>> that they generate a lot of RF hash!
>Tight shielding, quality bypassing caps (ie: 500pf + .1uf + >10uf, and
>ferrite choke in line should kill most noise.
>
>Be sure your power supply includes minimum load resistor. Some may not.
>If not, under light loading the supply could fall out of regulation.
>Before hooking to $$ equipment, check voltage at all expected loads.
>
>73, Woody
>
>
>
>
>> ehoffman@total.net (Big Boy) scribbled:
>>
>> |I have a old crap 8088 'tole box' as you can say! With the power supply.
>> It's
>> |rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
>> |(used as a base) 13.8V tranceiver unit. I dont know much of switching power
>> |supply technology and i want to know if it's safe. The problem may be when i
>> |switch from RX to TX and from TX to RX... could there be a fatal burst of
>> |voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
>> |those peek?
>>
>> |Unfortunately, i dont have an scope to make charge test.
>>
>> |E-mail me on that please...
>>
>> |Thanks and 73 to all readers
>>
>>
>> Brian Carling in Gaithersburg, MD USA
>
>--
>de Woody (WB4QXE) - woody.white@worldnet.att.net
>Electron Microscopist/Microanalysist,
>Ham radio "homebrewer", shade tree mechanic,
>'90 Nissan 240SX, wish still had my Mcycle too!
>..

The worst problem with them is a very subtle one that few people know about. When you take a lightning hit that raises or spikes your AC inbound supply lines and your supply lines go through one of these surge protector deals, you can have BIG time problems!

All switching power supplies that ride behind these surge suppressors with the MOV varistor avalanche devices have the potential to knee up the ground reference leg by about a 1 to 4 ratio of the input spike! Thus a 6000 volt spike that is clamped to ground by the surge protector box suddenly becomes a 1250 volt pulse on the ground system of the device that is tied to the switching power supply!

That is how network cards, serial I/O and parallel cards and so on, as well as the ground foil lines to the phone jack stuff through external modems gets blasted to bits on computers that are tied both to switching supplies as well as to these common MOV surge suppressed boxes.

Linear power supply devices are not commonly prone to this unique failure mode described above! It's nice to have that $25,000 insurance policy they sell you with each of these wonderful surge jobs. The problem is, that if you really do take a hit, it is almost CERTAIN with one that you WILL have to use the guarantee!

If you use a switching power supply for a ham power supply, you are asking for exactly the same kind of failure mode here. Worse, since you are usually not really well protected from an antenna standpoint, the use of switching power supplies for ham gear is a double disaster just waiting to blow your nice ham gear all to hades during even near misses.

I gave up using ordinary computers with switching supplies in ham gear or commercial radio installations a long time ago. I blew up virtually every computer that ever was involved in one during hits prior to that time. Since going to the Integrand Research industrial cases with the nice big old 40 pound pig iron linear supplies and isolation transformers, I have never (knock on wood), ever had a failure in the sites since.....

Mike @ W5WQN

mike_luther@ziplog.com

520. Wanted Schematic for MFJ207 SWR Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <321963AC.4193@hevanet.com>
Source record: 103172
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Has anyone tried to add higher frequency ranges to the MFJ207?
Need schematic.
thanks, miker

521. Wiring of TX/RX relay in transverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4vc6fq$1d3m@info4.rus.uni-stuttgart.de>
Source record: 103173

Hi All,

I am wondering which may be the best way to wire the TX/RX relay
in a SHF transverter. I could wire the RX input to the NC contact,
thus saving current on receive or I could wire the TX output to the
NC contact and the RX to the NO contact, thus protecting the output
transistors in case the relay fails to close.

Any preferences? Moritz DL5UH

522. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Fred <peerenbf@dmapub.dma.org>
Message-ID: <Pine.SV4.3.91.960820065234.24610B-100000@dmapub.dma.org>
Source record: 103174
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

On 19 Aug 1996, Rob Neff wrote:

> jherman@Hawaii.Edu (Jeffrey Herman) wrote:
>
>
>
> >More like a fantasy. I am *very* sorry to read of your loss; statistics
>
> Fantasy? RF is used all the time in medicine. Tell that to the
> Chiropractor that totaly screws up 10m with his massaging wand. Uses
> RF in the 27-28 MHz band to warm tissue deep inside. Tell that to my
> Dentist who used an 'Radio Scapel' to trim back my gums the other day.
>
> No self denial. It would be irresponsible to keep quiet and bend over
> for crap like this. They show proof that it harms, and how, then we
> will worry about it. I thought we stopped using 'blood-letting' as a
> treatment a long time ago, what they sugguest is the same thing.
>
> >Keep your HT at its lowest power setting (not only for health reasons
> >but also to comply with Part 97). Use a speaker mic and hold the HT
> >at arm's length when transmitting (who cares what that will look like -
> >you'll be setting a good example).
>
> Compliance in the face of stupidity is cowardice.
>
> >Be safe,
> >Jeff KH2PZ
>
>
>
> Ditto..
>
> Rob Neff (N7ORY)
>
>
>

Gentlemen, and I always use the term loosley as I know how I amc
Compliance with any rule or law is needed in a society of strange
creatures the likes of wich we indeed are.

Seriously, can any of us state without a doubt if non-ionizing radiation is
harmful or not???? Folks in the past thought that driving a car on a
sunday spin or sight seeing trip was safe also. Just look at the record

of peoples killed in auto accidents to shoot that theory down. I know, it isn't the same thing, but no one can tell us yay or nay if radio waves will do permanent damage to your neighbors or not. So why not take that extra precaution and put together a system that has preventative measures in the first place, then later on you may be one of the few amateurs still operating out there. Another thought entered my mind (hmmmmm, musta left my mouth open again and one of those pesky things snuck in) about something called "good engineering practice" when building any piece of gear. You wouldn't leave your high voltage tank circut un-protected so that a member of you family could stick a finger in it now would you. (the question is, does the electricity kill you or is it your reaction to the high voltage that does the deed?)
Just a few thoughts from a former broadcast engineer that went through this 10 years ago. (including having to try to deny access to surrounding public lands adjacent to the 100K FM transmitter site.) Wether we agree or disagree with the rules, remember, the FCC and EPA and local and Federal government make the rules and can shut you down right or wrong if you infringe upon them. Also, by having a national standard we will be better off than if every Tom, Dick and Harry has a differant standard that we have to try to follow. So there is no cowardice in following the rules to protect your own hide from bureucratic invasion into your shack and the removal of your equipment and some of your hard earned cash from your person.

Fred

Fred Peerenboom
internet: peerenbf@dmapub.dma.org
Amateur Radio: ke8tq@n8acv.#day.oh.usa.noam

523. 16,384 Mhz Frequency Standards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <5FbR+BAS3ZGyEw3I@ddwyer.demon.co.uk>
Source record: 103175

I am an OCXO designer, I have a number of unused oven Controlled Crystal Oscillators (OCXOs) at 16.384MHz these units came on the market very cheaply, o one else knew what they were;I bought the lot.
Units are in al boxes hermetically sealed with pins for PCB mounting, I have an off air standard here and can calibrate ie ship with information on what voltage to set to to give frequency to +-0.1ppm when you connect up.
This ration should be good to 1.0ppm over the next few years.
Dimensions 75X50X30mm
These divide by 2 to the power 14 to give 1 kHz to function as the reference for frequency synthesisers as used in instruments, radio, cellular, TV Transmitters..
Oscillators are stable to 1 part in ten to the nine i.e. 0.001ppm.over a wide temperature band.
Excellent spectral purity, measurement repeats to 0.0001ppm per second.
Will operate over -40+70C
12 V supply 500mA on warm up. 150mA when running@23C
Output 1.5 v Peak to Peak sinewave AC coupled, 50 ohms source resistance.
Built in 8V reference so that fine frequency adjustment can be carried out with external potentiometer.

These units are latest technology incorporating SC cut low ageing crystals ageing rate reduces logarithmically and can be expected to age no more than +2 ppm over the next 5 to 10 years, inital ageing already complete as units are over 1 years old.
Units within +-0.01 ppm after 10 minutes perhaps better.

sold at approx 10% of manufacturers price.
Supplied tested with connection diagram.

1 off price from FP Ltd. $75.
To post 1 or two units Swiftair registered $15 Please make $cheque to Douglas Dwyer

--
Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators, TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_precision

524. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <KF+qiDAd0YGyEwA+@ifwtech.demon.co.uk>
Source record: 103176

William E. Sabin wrote:
>Ian White, G3SEK wrote:
>>
>
>> Isn't it simpler than that? There are actually three ground points, not
>> two. The third one is the center-tap between the output capacitances of
>> the two tubes, and that one is always grounded.
>>
>> In Mark's situation the tube capacitances are providing the one-and-only
>> center tap for the output circuit. That's just fine, so long as the
>> output capacitances are large enough to swamp the out-of-balance strays.
>> This is usually the case at VHF: the "Plumber's Special" and W1SL push-
>> pull amplifiers work on the same principle.
>>
>
>
>That idea did occur to me also, but I am not sure that the tube plate to
>ground C is large enough, compared to the other circuit capacitances, to
>establish a credible ground return.

The output capacitance is between the plate and elements in the tube
(screen grid or control grid) which need to be well-grounded, plus
direct plate-to-chassis capacitance, so there's no problem in the
'quality' of the ground.

Whether this center-tap is enough to balance the whole circuit will
depend on the degree of inherent (physical) balance, and on the size of
the stray external capacitances to ground compared with the tube's
output capacitance.

>
>I get the feeling that without a well established ground return, the
>situation is rather messy and although it "works", it would not pass
>muster in any engineering organization.
>
On the contrary, at VHF it *works* for push-pull quarter-wave lines -
and it usually stops working if you add extra grounding!

The problem is that an extra ground converts one parallel-tuned circuit
into two separate but closely coupled single-ended circuits. Unless
these two circuits are identical (which is the same as saying, unless
the whole thing is balanced) they will have separate resonances and
there will be significant common-mode currents flowing through the
chassis between the two different grounding points. The result is that
the circuit doesn't resonate correctly, and there is a large risk of

instability caused by coupling via the chassis currents.

It is very difficult to establish an exact electrical center-tap on a coil, because the coil is inherently unsymmetrical, so the best advice seems to be "let it float". If you want to force a center-tap in addition to the one provided by the tubes, do it on the tuning capacitor - but make sure that the capacitor itself is well-balanced. A butterfly capacitor works best. Experience at VHF is that a more conventional twin-gang capacitor (two sections in line) needs to be mounted on insulating pillars, with a wide ground strap connected from the exact center of the metal frame. The grounding point must be close to the two tubes and on the centerline between them. The variable capacitor must obviously have a low-capacitance insulated shaft coupler and preferably a non-conducting shaft as well.

You may be able to ground the whole capacitor at lower frequencies. But if you're wrong it could mean a major mechanical rebuild, so...

Also note that everything that's been said about the plate circuit applies even more to the grid. In addition to all the other problems, unbalance in the grid tuned circuit will deliver unequal drive to the two tubes. In push-pull grid circuits there are advantages in floating both the variable capacitor and the inductor, and grounding the circuit through a preset differential capacitor to balance out all the strays (two separate preset trimmers can be used instead).

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

525. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: bry1@erols.com
Message-ID: <4vcca9$71o@news7.erols.com>
Source record: 103177
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The other bad problem with many of those old switcher power supplies is
that they generate a lot of RF hash!

ehoffman@total.net (Big Boy) scribbled:

|I have a old crap 8088 'tole box' as you can say! With the power supply.
It's
|rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
|(used as a base) 13.8V tranceiver unit. I dont know much of switching power
|supply technology and i want to know if it's safe. The problem may be when i
|switch from RX to TX and from TX to RX... could there be a fatal burst of
|voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
|those peek?

|Unfortunately, i dont have an scope to make charge test.

|E-mail me on that please...

|Thanks and 73 to all readers

|--------------------------------------
|"640K will be ok for everyone..."

|Bill Gates '82
|--------------------------------------

| The Big Boy

We are having E-MAIL problems with the Internet Server EROLS.
PLEASE cc: all messages to me as follows:
bry1@erols.com - Look at your To: line and make sure it reads properly!!
brian.carling@acenet.com
Send a copy to BOTH addresses. That way there is a better chance
that I will actually GET your message! Looking forward to hearing from you...
Brian Carling in Gaithersburg, MD USA

526. Info on off-the-shelf speech synth & DAA's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: Chip Fleming <chip.f@ix.netcom.com>
Message-ID: <3219B5FD.3F49@ix.netcom.com>
Source record: 103178

Hi,

I'm looking for a good, low-cost off-the-shelf telephone line DAA. Any recommendations, esp. based on experience using them?

Also, I'm looking for a good low-cost speech synthesizer for a vocabulary of 20-30 words. Any recommendations?

Thanks, and please reply to or cc chip.f@ix.netcom.com.

Chip Fleming, N3USL
Derwood, MD

527. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: dedinger@ix.NETcom.COM
Message-ID: <199608201325.GAA16646@dfw-ix5.ix.netcom.com>
Source record: 103179

unsubscribe ham-homebrew@ucsd.edu Dennis L. Edinger
dedinger@ix.netcom.com

528. FS (UK) - Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: B J <bjoshi@teldat.demon.co.uk>
Message-ID: <840530780.3813.1@teldat.demon.co.uk>
Source record: 103180

Various Switch Mode and Linear Power Supplies for sale

1) 240 VAC in - 5VDC @20A Out - ! 40 o.n.o
- Brand new and unused
- Gould /Advance
- enclosed - suitable for mounting in 'Eurorack' or used standalone

2) 110/120/240 VAC in (selectable) - 5VDC@3A, +/- 12V @ 0.5A - ! 30 o.n.o
- Eurocard Style
- New 'Power One'

3) 240 VAC in - 13.8 VDC out @ 5A - !10 o.n.o
- Brand new and unused
-cased
-screw terminals/banana jacks for output

4) 240 VAC in - 13.8 VDC out @ 3A - !7 o.n.o
-cased
-screw terminals/banana jacks for output

Open to offers on all items - special offer ! 70 the lot! - buyer collects (Hunts/Cambs) or pays postage

G8YQS

e-mail bjoshi@teldat.demon.co.uk or call 0421 652360 before 10:30 p.m

529. NiCd Fast Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: jeffj@bham.net
Message-ID: <3219d3e7.0@news.bham.net>
Source record: 103181

Does anyone know of a simple circut to be used in conjunction with the Maxim MAX713 Fast Charger Chip. I've been fortunate enough to get some of these chips, but don't have any documentation. Any help or feedback would be greatly appreciated.

Jeff Johns
Email: jeffj@bham.net
Urgent Pager Email: jeffj@interpage.net
Amateur Radio: KF4KGQ

530. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <3219D8DC.26CD@crpl.cedar-rapids.lib.ia.us>
Source record: 103182

Ian White, G3SEK wrote:
>
>
> The output capacitance is between the plate and elements in the tube
> (screen grid or control grid) which need to be well-grounded, plus
> direct plate-to-chassis capacitance, so there's no problem in the
> 'quality' of the ground.
>
> Whether this center-tap is enough to balance the whole circuit will
> depend on the degree of inherent (physical) balance, and on the size of
> the stray external capacitances to ground compared with the tube's
> output capacitance.
>

If we have two tubes A and B in push-pull, then when tube A is conducting, the plate to ground capacitance of tube B plus any ground path inductance (assumed to be > 0) back to the cathode of tube A, presents some *possible* problems with spurious resonances and stray currents going where they are not wanted. I like your idea of the butterfly cap with single-point ground. As an alternate, I would like to see a fixed cap from each plate to a common ground point between the tubes to augment the tube output capacitance. Also the RF choke in the coil or quarter wave line B+ feed is good.

Bill W0IYH

531. Re: NiCd Fast Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-20 00:00:00 UTC
From: tkell@nyx.net
Message-ID: <tkell-2008961023550001@toad.jsc.nasa.gov>
Source record: 103183

In article <3219d3e7.0@news.bham.net>, jeffj@bham.net (Jeff Johns) wrote:

> Does anyone know of a simple circut to be used in conjunction with the
> Maxim MAX713 Fast Charger Chip. I've been fortunate enough to get some
> of these chips, but don't have any documentation. Any help or feedback
> would be greatly appreciated.
>
>
> Jeff Johns
> Email: jeffj@bham.net
> Urgent Pager Email: jeffj@interpage.net
> Amateur Radio: KF4KGQ

Try Maxim's web page.

http://www.maxim-ic.com/

Ted

532. Re: How to remove scanner 800 MHz gap ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: author@poboxes.com
Message-ID: <4vdeg9$3fl@hawk.branch.com>
Source record: 103062

arielbp@white.weizmann.ac.il (Ariel Ben-Porath) wrote:

>Hi everyone,

>I have a small handheld scanner, the Radio Shack PRO-51. It has a gap
>in the are 823 to 850 MHz. I guess this is used for cellular phones in the
>US and illegal to have on a scanner. Around here, it is part of the 800 MHz
>public service band, and there is actually a local frequency within that
>range that I am very interested in receiving.

Didn't find much on the pro-51.
try:
http://www.zianet.com/kc5kto/mods.html

Macguyver

533. CAT system coputer control for yaesu FT 890 and FT 840 software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: cepinha@telepac.pt
Message-ID: <321a523c.6395109@news.telepac.pt>
Source record: 103063

73's and thank's for riding this message

I need help on the software for the cat system to the tranceiver's
YAESU FT 890 and FT 840.

Please where can i find that software.

EMail : cepinha@mail.telepac.pt

CT1FRN
Op. JOSE QTH Locator IM58MQ
City: Montijo / Portugal

534. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: "Brian E. Oakley" <boakley@imagin.net>
Message-ID: <321A7AD9.35E7@imagin.net>
Source record: 103064
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Rob Neff wrote:
>
> jherman@Hawaii.Edu (Jeffrey Herman) wrote:
>
> >More like a fantasy. I am *very* sorry to read of your loss; statistics
>
> Fantasy? RF is used all the time in medicine. Tell that to the
> Chiropractor that totaly screws up 10m with his massaging wand. Uses
> RF in the 27-28 MHz band to warm tissue deep inside. Tell that to my
> Dentist who used an 'Radio Scapel' to trim back my gums the other day.
>
> >show 1 in 4 women will suffer from that form of cancer. But let's please
> >keep emotion out of this ruling. Self-denial that RF cannot cause illness
> >will only hurt yourself, but coming on here and stating that to hundreds
> >of thousands of folks is irresponsible.
>
> No self denial. It would be irresponsible to keep quiet and bend over
> for crap like this. They show proof that it harms, and how, then we
> will worry about it. I thought we stopped using 'blood-letting' as a
> treatment a long time ago, what they sugguest is the same thing.
>
> 'We don't know what it is, or if it is at all, but slit their rists
> and let some blood out just in case.'
>
> >Keep your HT at its lowest power setting (not only for health reasons
> >but also to comply with Part 97). Use a speaker mic and hold the HT
> >at arm's length when transmitting (who cares what that will look like -
> >you'll be setting a good example).
>
> Compliance in the face of stupidity is cowardice.
>
> >Be safe,
> >Jeff KH2PZ
>
> Ditto..
>
> Rob Neff (N7ORY)Hey Rob, go talk to W5RWW, he can teach you a little bit. 73. Brian.

535. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: k5am@lascruces.com
Message-ID: <4ve3cq$9qq@news.lascruces.com>
Source record: 103065

I think it's clear that one should not r.f ground BOTH the coil and the tuning condenser. But the question still is, Why r.f. ground either?

My guess is that for older, smaller, lower-power, lower-voltage amplifiers, it was very convenient to ground the rotor of the condenser. So the RFC on the coil was needed. But at the KW level it not so much of an extra chore to mount the condenser on ceramic insulators and to use a ceramic shaft insulator (and a grounding panel bearing for safety).

One advantage of not r.f grounding the condenser is that only the r.f. voltage, not d.c. plus r.f., will appear across the plates. Also, there is less chance of a VHF parasitic circuit set up via the condenser through ground.

The advantage of the RFC on the coil is that there is less chance of any significant r.f. currents through the bypass condenser. The simple feed-thru capacitor suggested earlier would be questionable in regard to voltage rating (incl. r.f. voltage) and r.f. current.

So it seems neither need be grounded, and all the mentioned advantages obtained.

Repeating my earlier comment,

>In my homebrew push-pull 4-400A, 50 mc. amp, neither is at r.f. ground.
>No connection at the rotor. RFC, 6 uH, at the coil. Working fine for
>35 years!

73,

Mark, K5AM DM62

Mark Mandelkern
Las Cruces, New Mexico, USA
k5am@lascruces.com

536. Yaesu FT-50R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: ai797@freenet.toronto.on.CA
Message-ID: <Pine.3.89.9608202159.B21947-0100000@bloor>
Source record: 103066

Just a quick note on the latest HT, the Yaesu FT-50R:

It's IM rejection characteristics are aided by the antenna. With sweep gear, the antenna exhibits very narrow resonance, only in the amateur band. On VHF, my "rubber duck" has a VSWR of 1.5 between 144 and 148, while 60+ everywhere else. I might as well be using a wet noodle to listen to the WX on 162.400 MHz.

On UHF, the antenna has a much wider response, centered around 380 MHz! At 430 to 450, the VSWR is around 4... not an efficient antenna.

Cellular radio can be tuned at the image frequency, which is (cell freq) + 90.2 MHz. The sensitivity is degraded by only 10 dB (-110 dBm).

Tony Komljanec
VA3TK

Freenet: ai797@torfree.net

537. AMATEUR INTERNET ADDRESS DATABASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: radiop@ix.netcom.com
Message-ID: <4vdlsl$1dm@dfw-ixnews10.ix.netcom.com>
Source record: 103067

WE HAVE IN THE WORK'S A COMPILATION OF AMATEUR RADIO OPERATORS
INTERNET ADDRESSES,, IN ORDER TO CREATE A PUBLICLY ACCESSABLE
WORLD-WIDE WEB SITE/SERVER/DATABASE.

THE FORMAT OF THE DATABASE WILL SIMPLY INVOLVE THE INPUT OF THE TARGET
OPERATORS CALL-SIGN,, WHICH WILL YIELD THAT HAM OPERATORS
INTERNET/E-MAIL ADDRESS,, THERE IS AT THIS TIME NO OTHER SERVICE LIKE
IT,, THAT WE ARE AWARE OF,, AND WHICH WE THINK WILL BE VERY USEFUL AND
ORIGINAL.

HOWEVER,, IN ORDER TO COMPILE THIS VAST AMOUNT OF DATA WE
NEED THE HELP OF OUR FELLOW AMATEUR'S,, PLEASE LET ANY FELLOW HAMS WITH
ACCESS TO THE INTERNET KNOW OF THIS "PROJECT IN PROGRESS"!!!!"

ALL WE NEED ARE THREE PIECES OF INFO FROM EACH OPERATOR (AS FOLLOWS)

1-- NAME -- WE APPRECIATE YOUR EFFORT'S IN GATH-
2-- CALL SIGN -- ERING AS MANY AS POSSIBLE!!
3-- INTERNET/E-MAIL ADDRESS --

SEND ALL ENTRIES TO----- radiop@ix.netcom.com

thank you all,,,,73's,,,,,mike-- n2ucm.

538. Tektronix 620 monitor info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199608210633.QAA14512@dyson.brisnet.org.au>
Source record: 103068

Hello there, I have just acquired a Tek. 620 monitor. It is basically a scope minus the timebase stuff and I wish to use it as a RTTY monitor and if it has enough bandwidth, with an outboard simple timebase as an "eye" pattern monitor on my WXSAT HRPT receiver.
What I need is info on the links to change from 120V AC to 240V AC operation. A schematic would be nice also---.
TNX de Peter VK4AWP (peterw@dyson.brisnet.org.au)

539. Measuring 1/4 Wavelength in Coax

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@larc.nasa.gov>
Message-ID: <321B46D4.726D@larc.nasa.gov>
Source record: 103069

Thanks for reading this,

I know I am supposed to know all this, but before I start
cutting coax I need to be certain. I am building a pair of phasing
lines / impedance transformers to stack a pair of 70cm yagis. I
need each line to be 5.25 wavelengths (wl) in 75 Ohm coax so I can
get the correct spacing between yagis and also transform the 50 Ohm
antenna impedance to 100 Ohms at the "T" where they'll attach to
the 50 Ohm feedline. My question is this: What is the best way to
assure that I am getting exactly an odd integer multiple of quarter
wavelengths in my 5.25 wl lines? If the Mfgr's velocity factor (0.78)
is off by 5% it adds up to a 1/4 wl error over 5.25 wl of line so,
I need a way to measure the proper functioning of the 1/4 wl (actually
21/4 wl in my case) transformer. My original thought is to solder a
100 Ohm resistor across one end of the 75 Ohm coax and measure the
SWR at the other end at the frequency of interest (435 MHz). If I was
dealing with just a 1/4 wl length of coax I could just trim it to
resonance at 435MHz, but I do not believe this will work with 5.25 wl
lengths.

Any thoughts, comments, or experiences are welcomed.

73,

--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

540. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: marcon@ania.idea.COM.PL
Message-ID: <199608211644.SAA05263@ania.idea.com.pl>
Source record: 103070

```
help
```

541. Re: Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: "John D. Farr" <johnfarr@ro.com>
Message-ID: <321AABD2.7275@ro.com>
Source record: 103071

Woody White wrote:
>
> Kari Kuusinen wrote:
> >
> > Hi you all.
> >
> > Anybody know a good site where to find practical information
> > of RF-transformers for impedance matching. Especially HP-transormers
> > for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
> > information about different core materials needed and where to obtain
> > those cores. I need those to build up an linear for 2-30 MHz using
> > 4 of MRF150/MRF140 FETs (600 W CW out).
> >
> > 73 de OH1DX / OH2LIG / Kari
>
> Try the ARRL page (American Radio Relay League) publications page.
> I believe there is a book available dealing with such transformers.
> 73,
> --
> de Woody (WB4QXE) - woody.white@worldnet.att.net
> Electron Microscopist/Microanalysist,
> Ham radio "homebrewer", shade tree mechanic,
> '90 Nissan 240SX, wish still had my Mcycle too!
> .

The book is entitled "Transmission Line Transformers" by Jerry Sevick,
W2FMI. Was 20 bucks when I got mine.

John KC4ZXX

542. UHF Micor modifications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: mschick@preferred.com
Message-ID: <4veebs$3t1@news.preferred.com>
Source record: 103072

Can anyone help me with the modifications needed for a Motorola MICOR
Model TA44RTA300AA to 9600/440MHz. I've found several modifications
on the web, but they are not quite clear. Please EMAIL direct.
Thanks and 73, Martin KA4IWG

543. Re: CAT system coputer control for yaesu FT 890 and FT 840 software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: 35fd001@ping.at
Message-ID: <4veta8$769@peng.ping.at>
Source record: 103073

cepinha@telepac.pt (claudio) wrote:

>73's and thank's for riding this message

>I need help on the software for the cat system to the tranceiver's
>YAESU FT 890 and FT 840.

>Please where can i find that software.

You can find the programm CATCC V1.00 on the QRZ! Ham Radio CD-Rom
Volume JAN1996,Vol.6

I have you sent a e-mail, I hope you get it !!!!!

vy 73 Karl

544. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vg4u8$fep@newsbf02.news.aol.com>
Source record: 103074

In article <4ve3cq$9qq@news.lascruces.com>, k5am@lascruces.com (Mark Mandelkern) writes:

>
>Also, there is less chance of a VHF
>parasitic circuit set up via the condenser through ground.

The VHF parasitic circuit is usually mostly internal to the tube in a well designed and laid out PA. The tube's grid structure is the major player. Tubes with long thin grid leads and large open grids (811A, 572B, 3-1000, 3CX1200A and D 7) all have low self-neutralizing frequencies and can be prone to parasitics.

Tubes with small compact grids and short coaxial grid connections (8877, 3CX3000, 4CX1000, 4CX250) are relatively immune to parasitics when grids are properly grounded.

So far as the anode circuit, what happens beyond the tank capacitor has little effect on VHF stability. What we absolutely DO want is the capacitor to be well grounded for VHF, and VERY close to the tube. If that is done, only the connections between the capacitor and the tube remains the major player in anode VHF resonance. Inserting a suppressor at that point will allow us to control VHF path losses.

The resistor used in the suppressor MUST be large compared to the impedance of the VHF path, and small compared to the reactance of the suppression coil. Making the VHF path longer and less predictable by not grounding the capacitor moves things in the wrong direction.

73 Tom

545. Re: AMATEUR INTERNET ADDRESS DATABASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <321B96B2.7B34@ccm.sc.intel.com>
Source record: 103075

MIKE wrote:
>
> WE HAVE IN THE WORK'S A COMPILATION OF AMATEUR RADIO OPERATORS
> INTERNET ADDRESSES,, IN ORDER TO CREATE A PUBLICLY ACCESSABLE
> WORLD-WIDE WEB SITE/SERVER/DATABASE.
>
It has been my experience that such data bases become a menace because of the few nasty twerps in internet-land that will use such a database to flood all of our e-mail in-boxes with junk e-mail, some of it merely blatantly commercial, but most of it on the order of chain letters.

Count me out. If my e-mail address makes it into your database, I will demand that you take it out.

Don't get me wrong, I am not angry at you. It is not your fault. I am angry at the junk e-mail generators of the world.

73, Dave NG0X

546. Re: AMATEUR INTERNET ADDRESS DATABASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <321B4BE3.6595@fyi.net>
Source record: 103076

MIKE wrote:
>
> WE HAVE IN THE WORK'S A COMPILATION OF AMATEUR RADIO OPERATORS
> INTERNET ADDRESSES,, IN ORDER TO CREATE A PUBLICLY ACCESSABLE
> WORLD-WIDE WEB SITE/SERVER/DATABASE.
>
> THE FORMAT OF THE DATABASE WILL SIMPLY INVOLVE THE INPUT OF THE TARGET
> OPERATORS CALL-SIGN,, WHICH WILL YIELD THAT HAM OPERATORS
> INTERNET/E-MAIL ADDRESS,, THERE IS AT THIS TIME NO OTHER SERVICE LIKE
> IT,, THAT WE ARE AWARE OF,, AND WHICH WE THINK WILL BE VERY USEFUL AND
> ORIGINAL.
>
> HOWEVER,, IN ORDER TO COMPILE THIS VAST AMOUNT OF DATA WE
> NEED THE HELP OF OUR FELLOW AMATEUR'S,, PLEASE LET ANY FELLOW HAMS WITH
> ACCESS TO THE INTERNET KNOW OF THIS "PROJECT IN PROGRESS"!!!!"
>
> ALL WE NEED ARE THREE PIECES OF INFO FROM EACH OPERATOR (AS FOLLOWS)
>
> 1-- NAME -- WE APPRECIATE YOUR EFFORT'S IN GATH-
> 2-- CALL SIGN -- ERING AS MANY AS POSSIBLE!!
> 3-- INTERNET/E-MAIL ADDRESS --
>
> SEND ALL ENTRIES TO----- radiop@ix.netcom.com
>
> thank you all,,,,73's,,,,,mike-- n2ucm.

The QRZ Callbook Web is doing this... Look up your call and
a form comes up to take your E-mail adr.....

Bob...K2RK

547. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: Gary Watts <gwatts@qni.com>
Message-ID: <Pine.GSO.3.94.960821100156.12857A-100000@qni.com>
Source record: 103077

Gee Gary,
Good point but now I have a idea.
Lets SUE mfg's and distributors of our lead based solder.
They should had know for years that the stuff was dangerious
if not held in the prescribed manner. I dont think that they had warning
labels on the packages :-)

Bottom line Gary...
Keep up the GREAT posts and responses
I find your text both entertaining anf very informative !

73
Gary Watts de N0OXV
Kansas City Mo
81 GL1100I

On Sat, 17 Aug 1996, Gary Coffman wrote:

> In article <4uh23c$4dq@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
> >I've held solder in my mouth all my
> >life, and I'm perfectly normal. As a matter of fact, I've NEVER met a
> >crazy Ham. Think about it.
>
> Ah, this explains a lot. :-)
>
> Actually, the effect of lead poisoning is not insanity (that's the
> result of mercury poisoning, IE Mad Hatter syndrome). The mental
> effect of lead poisoning is a marked lowering of IQ. This is well
> documented, and the microgram per liter concentrations required to
> have a measurable effect are tiny, less than 5 ug/l. That's why all
> the concern about leaded gasoline and leaded paint and lead bearing
> solder in water piping.
>
> Putting solder in your mouth is dumb, and makes you dumber.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |
>
>
.

.

548. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: n7ory@primenet.com
Message-ID: <4vf97l$7cd@nnrp1.news.primenet.com>
Source record: 103078
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

"Brian E. Oakley" <boakley@imagin.net> wrote:

> Hey Rob, go talk to W5RWW, he can teach you a little bit. 73. Brian.

Teach me what? What in my post are you reffering to?
But regardless, I am sure there is a lot I can learn from a ton of
Amateurs, thats why I love this hobby/service so much.
Always something you don't know, and a person willing to tell you
about it.

See ya

Rob Neff (N7ORY)

549. looking for FT-8500 ->PC pinouts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: ntimofee@binghamton.edu
Message-ID: <4vevsh$74l@bingnet1.cc.binghamton.edu>
Source record: 103079

I am would like to play around with the computer interface
for my FT-8500. Has anyone had any luck at making a PC to 8500 data
cable. I need the pinouts for such a beast.

Thanks
Mike
N2XXA
ntimofee@binghamton.edu

550. Re: Measuring 1/4 Wavelength in Coax

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: Mark Brown <kb0pyo@starpoint.net>
Message-ID: <321B7781.458C@starpoint.net>
Source record: 103080

Joseph M. Zawodny wrote:
>
> Thanks for reading this,
>
> I know I am supposed to know all this, but before I start
> cutting coax I need to be certain. I am building a pair of phasing
> lines / impedance transformers to stack a pair of 70cm yagis. I
> need each line to be 5.25 wavelengths (wl) in 75 Ohm coax so I can
> get the correct spacing between yagis and also transform the 50 Ohm
> antenna impedance to 100 Ohms at the "T" where they'll attach to
> the 50 Ohm feedline. My question is this: What is the best way to
> assure that I am getting exactly an odd integer multiple of quarter
> wavelengths in my 5.25 wl lines? If the Mfgr's velocity factor (0.78)
> is off by 5% it adds up to a 1/4 wl error over 5.25 wl of line so,
> I need a way to measure the proper functioning of the 1/4 wl (actually
> 21/4 wl in my case) transformer. My original thought is to solder a
> 100 Ohm resistor across one end of the 75 Ohm coax and measure the
> SWR at the other end at the frequency of interest (435 MHz). If I was
> dealing with just a 1/4 wl length of coax I could just trim it to
> resonance at 435MHz, but I do not believe this will work with 5.25 wl
> lengths.
>
> Any thoughts, comments, or experiences are welcomed.
>
> 73,
>
> --
> Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
> NASA Langley Research Center KO4LW@amsat.org
> E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
> (757) 864-2681 (757) 864-2671 FAXHi All
I use a quarter wavelength power divider built from 1" square
aluminun tubing with a brass center conductor. The dimensions for the
center conductor can be found in the ARRL handbook. (I think it is 2.33
to 1- not positive though) I am using one of these on 2 meters & built
one for 70cm for a friend & have 1.1 to 1 swr through them, you also get
to use 50 ohm coax to the antennas.
73
Mark

551. hf amp kit ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: robtrobn@ix.netcom.com
Message-ID: <4vfjf0$32e@dfw-ixnews10.ix.netcom.com>
Source record: 103081

Howdy, Does anyone know of a source for an HF amp kit? I'm not talking about just plans, but a full kit.

Robert Lewis
N5ODJ

552. Re: Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4vffoi$5ni@orange.iap.net.au>
Source record: 103082

Kari Kuusinen <kari.kuusinen@orion.fi> wrote:

>Hi you all.
>
>Anybody know a good site where to find practical information
>of RF-transformers for impedance matching. Especially HP-transormers
>for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
>information about different core materials needed and where to obtain
>those cores. I need those to build up an linear for 2-30 MHz using
>4 of MRF150/MRF140 FETs (600 W CW out).

>73 de OH1DX / OH2LIG / Kari

Don't know exactly what it is you're looking for,
but at 600 watts RF, I don't think it would have
a "core". If you over-saturated an iron or powdered
iron core, you'd cause no untold amount of TVI.

For 600 watt stuff, like in antenna tuners, baluns, etc,
best just to use air core treifilar windings (refer RSGB
or ARRL Handbooks).

Uncle Brian VK6BQN

553. Re: Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: sbs1@rsvl.unisys.com
Message-ID: <sbs1.35.00D4C5B9@rsvl.unisys.com>
Source record: 103083

If the higher imepedence side of the transformer is around 600 ohms or lower, very good 9:1 transformers can be made using choke balans. Three separate 1:1 choke balans wired in parallel on the low impedence side and in series on the high impedence side on 125 or 250 ferite cores would be one option. As long as the choking impedence of the windings is high enough, there will be no core saturation. CQ and ARRL have books by Sevik (sp?) which describe such transformers.

Bruce Stough, AA0ED

>>
>>Anybody know a good site where to find practical information
>>of RF-transformers for impedance matching. Especially HP-transormers
>>for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
>>information about different core materials needed and where to obtain
>>those cores. I need those to build up an linear for 2-30 MHz using
>>4 of MRF150/MRF140 FETs (600 W CW out).

>>73 de OH1DX / OH2LIG / Kari

554. is anybody there using Rabbit for ATV TRX ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: JungHo Yu <kc8djq@amsat.org>
Message-ID: <321BB466.5E52@amsat.org>
Source record: 103084

hi, all.
i 'm looking for infos about modifying Rabbit as 900Mhz ATV TRX.
i would appreciate any infos.
tnx.
73s de Matt

555. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug21.155557.3774@ke4zv.atl.ga.us>
Source record: 103085
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <4vcvs2$s6f@nnrp1.news.primenet.com> n7ory@primenet.com (Rob Neff) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
>>There is documented evidence that exposures of greater than 10 mW/cm^2
>>can cause harm. In particular, cataracts or loss of focal flexibility
>>due to RF heating of the lens of the eye, and in some cases cancers.
>
>Provide us with the study(ies).

There are a bunch of them. A summary of some relevent ones can be
found at the end of the NCRP Report No. 86 which is a major part of
the the basis for the standard the FCC has adopted. Dr. John Moulder
at the Medical College of Wisconsin maintains a number of FAQs on
non-ionizing radiation exposure. The FAQs have a large number of
references. Look over in sci.med for the FAQs.

>>Just as some people get away with smoking cigarettes for years without
>>getting lung cancer, some people can get away with excess RF exposures
>>for years without apparent harm. But statistically, the rate of cancers
>>does increase with exposure in large populations. Milham found a doubling
>>of cancer rates (compared to the rates of the general population) for some
>>cancers in his study of deceased amateurs.
>
>Nope, you're I'm not going to let that one slide by. There are too
>many other factors that could lead to the onset of cancer in Amateurs.
>PCBs, work hazards (a lot of hams are in high tech jobs) etc..
>Statisticly speaking, statistics don't work. They are only as acurate
>as the intent and will of the statistitian.

Statistics can show us correlations. Correlation is not necessarily
causation, but it is sufficient to cause us to take a closer look
for a causative link, and if strong enough, sufficient for us to take
prophylatic measures even if we haven't discovered the exact causative
link. For example, if I drop a 2 kg hammer on your foot from a height
of 1 meter, it may or may not break a bone depending on how it lands,
how dense your bones are, etc. Now if I drop the hammer on your foot
1,000 times, statistics say a bone will likely be broken because it
will strike with an edge on a small bone sooner or later and concentrate
enough force to break it. Or, I can take the hammer and drop it once
on each of 1000 people's feet and get roughly the same correlation.
Some people will have smaller bones, some will have brittle bones
(osteoporosis), some will just be unlucky with the impact angle, etc.

Correlation isn't 1 to 1 with causation, but if it is significantly higher than the number of broken toes I see among a population who isn't at risk of having a hammer dropped on their foot, l'm likely to recomend a prophylactic measure like steel toed safety shoes for people likely to get a hammer dropped on their foot even though I can't predict the outcome of any particular drop.

Now if I substitute a 200 kg safe for the hammer, the correlation is going to be so strong that I believe even you might consider wearing steel toed shoes. (That would be equivalent to an RF exposure significantly larger than 10 mW/cm^2.)

>>The frequencies where (RF heating) exposures are most harmful to humans
>>are in the range 30-300 MHz. That's why the standards require a lower
>>exposure at those frequencies than at lower or higher frequencies. The
>>reason for that is those frequencies are the ones which couple most
>>strongly to the human body. That doesn't mean we can treat exposures
>
>Couple? I suppose the good doctor had a flesh-dip meter? (GRIN) Did
>he find that the subjects exhibited lower SWR characteristics when
>loaded up for 30-300 Mhz operation vs. above/below?

Indeed, what is regulated is called SAR. SAR is similar in concept to REM for ionizing radiation. Different frequencies of ionizing radiation from soft X-rays to hard gamma have different effects on the body. While you might get the same number of RADs from a dental X-ray as you'd get from exposure to a cobalt 60 source, the REM (Rad Equivalent Man) exposure you'd get is very different. So it is also with SAR. Different frequencies are absorbed by the human body differently depending on a number of factors, including resonance effects, so in a sense the SWR *is* different when the body is excited at different frequencies.

The SAR for various frequencies is determined by calorimetry. The limit exposure is 4 W/kg of heat in the tissue. Experimenters (using corpses) subject the body to different frequencies of RF at a given surface power flux in mW/cm^2 and measure the energy deposited in the flesh for that power flux at that frequency. The result is the familiar chart seen in the ANSI and NCRP standards. Similar to a RAD to REM conversion chart, this chart shows the relative values of biological absorption for a given frequency and surface power flux.

Looked at in antenna terms, the human body is 1.5 to 2 meters tall, and serves as a resonant structure in that range. And when you look at the exposure chart, the frequency range between 30 and 300 MHz is, unsurprisingly, the one with the lowest permissible power density. Currently, SAR is measured only for whole body exposures, but there is some concern that various subparts of the body (notably the skull) form resonant structures at higher frequencies (such as cellular). By the time you get up into the microwave region, however, gross body structures are too large to be resonant, though there can still be localized hot spots in the body.

>"Well, we're not sure on this guy. Couldn't get the Gamma match to fit
>on his arm, and he complained about where we put the SO-239."
>
>>at other frequencies casually, but the evidence does indicate that
>>higher or lower frequencies don't couple as strongly to the body.
>>Therefore a higher exposure limit for them is tolerable.
>
>I would much rather have a 20m antenna 10 yards from me, lit with
>1.5kw then a 2.5gig magnetron at 750w. I wonder why microwave ovens
>operate on the bands they do and not on 10m and 2m? And you say the
>higher freqs are more subtle with regards to effect and heating? I
>don't think so.

Microwave ovens operate where there is ISM spectrum. There happens
to be an ISM band at 2.4 GHz, and magnetrons for that frequency
happen to be cheap to produce. Another ISM band (900 MHz) couples
more strongly to flesh, and is used in certain large commercial
RF ovens, but the circuits are more expensive to produce for a
given heating value, so consumer microwave ovens operate at 2.4 GHz.

There are other ISM bands too. One is 27 MHz. That is used for
plywood drying (hint: 8 foot sheets). Another is a spot frequency of
13.56 MHz (near 20 meters). An ideal frequency for heating flesh happens
to be near 1.4 GHz, the "waterhole" resonance, because the body is 70%
water, but that isn't an ISM band, so the oven manufacturers couldn't
use it.

>"Since the EPA regs were added, a lot of the guys who run QRO call a
>QSO 'OM-BBQ'"

Well, the EPA didn't set these regulations. The Telecommunications
Act of 1996 mandated the FCC to set these regulations based on the
best scientific evidence available, and that's the NCRP-86 and ANSI-92
standards.

>>The new MPE is 1 mW/cm^2 in the 30-300 MHz region. That gives at least
>>a 10x safety margin (actually, the margin is probably greater than
>>that since 10 mW/cm^2 is about the lower bound for noticable RF heating
>>effects). At 100 mW/cm^2 and higher, however, effects can be very
>>noticable very quickly. There are documented cases of amateurs being
>>blinded by such exposures, literally overnight. (There is also industry
>>evidence, in particular the IBEW has a case file on this.)
>
>>Athermal effects, IE effects which aren't a result of RF heating,
>>are a bit more questionable. There are population studies which go
>>either way on this. If there are effects, they appear to either have
>>a weak statistical association, or have to be coupled with an as yet
>>unidentified co-factor. Something appears to happen in some people,
>^^^^^^^^^^^^^^^^^^
>Always looking for a reason. All in the name of safety. Never any
>proof. Statistics are not proof, they are an indicator.
>You can get one set of stats from the media, and read something
>completely different from the MMWRs from the CDC!

>(Morbidity and Mortality Weekly Reports)

Yes, as noted above, correlation is not necessarily causation. But
as also noted above, it can be compelling reason to take prophylactic
measures. (That's particularly appropo for things like AIDS and HIV.
There is a very strong correlation between the presence of HIV in
the body and the development of AIDS. The exact mechanisms aren't
all known, and various co-factors may need to be present, but taking
prophylactic measures against HIV exposure is still a very prudent step.)
The same is true with low level RF exposures. There's no doubt whatsoever
that high level exposures to RF are harmful, immediately and drastically,
but there is also a strong enough correlation at low levels of exposure
for longer term effects to make it prudent to take prophylactic measures
by setting exposure limits.

>EXAMPLE:
>Like the 'assault weapons' crap. You hear how they are the preferred
>weapons of criminals, and used in the majority of deaths in the
>country. Then you read the Governments OWN statistics, you find out
>that 'assault weapons' contributed to about .8% of total gun violence
>in the US. (Firearm inflicted injury, 1995)

Indeed, but that proves nothing either. There are roughly 200 million
firearms in civilian hands in the US, less than 15,000 are used annually
for violent murder (or suicides). That's only 0.0075% of firearms. Most
of the ones used in crime are stolen.

The so called "assualt" weapons made up 8% of all firearms available
"off the rack" for sale prior to Comrade Clinton's ban. If gun type
choice were random, we'd expect roughly 8% of the weapons used in
violent crime would be "assualt" weapons. As you note, the number is
actually 10 times less than that. Does that mean criminals don't prefer
"assualt" weapons? Maybe, maybe not.

Criminals don't choose their weapons "off the rack" because they've
been forbidden to purchase weapons at retail since 1968. They get them
mainly by theft, and the most common firearm stolen is the Smith and
Wesson Model 10 (because there are millions of them out there in civilian
homes, and on police belts, the majority of police killings are with the
officer's own gun), so unsurprisingly, that's also the most common firearm
used in violent crime. But does that make it the weapon of *choice*?

Probably not. Given a *choice* criminals might prefer a submachinegun,
but they don't really have that choice because there are less than
150,000 of them in civilian hands, and they are generally well protected
against theft. So criminals have to settle for less than their preferred
choice and use what they can most easily get.

I happen to believe that criminals wouldn't make an "assault" weapon
their first choice anyway. They're no better than any other cosmetically
challenged semiauto rifle, and they are much harder to conceal than a pistol.
Since criminals generally have to be stealthy, big ungainly weapons aren't

very suitable. But the statistics don't prove that one way or the other.

>>but the mechanism isn't understood yet. Athermal effects have been
>>most noticed at lower frequencies, particularly when those frequencies
>>are pulsed at a low rate, IE in amateur radio that would correspond
>>to OOK Morse style signals. In vitro studies have shown changes at
>>the cellular level when exposed to fairly weak pulsed RF fields.
>
>Oh no! An excuse to get rid of CW? (GAG)

Actually, the evidence is pretty darn compelling. This is one of the
strongest associations between athermal RF and biological activity.
The range of 5-10 pps is also the range of brainwave activity, and
includes the 7.62 Hz resonance shown to have behavioral effects
in animals.

>>In particular, pulse rates in the 5-10 pps range have been shown
>>to cause abnormal chromosome division. This is usually taken as an
>>indication of a cancer causing agent at work.
>
>Maybe this is the secret to evolution? If we didn't have small changes
>in chromosomes, we probably would not exsist. And if we did, we would
>probably all look exactly alike. I wonder what measurements are made
>with respect to the amount of 'natural radioation' we receive on a
>daily basis? The effects of cosmic rays on human development?

Natural RF radiation exposure is truly minute. There is less than
300 kW-hr daily of naturally generated RF energy on a global basis.
(Mostly due to tropical lightning discharges.) Humans didn't evolve
in a high RF environment. It is only in the last 80 years that
humans have been exposed to any great extent to RF, electric, and
magnetic fields oscillating at ELF to SHF frequencies. That's not
nearly long enough to make an evolutionary adaptation.

Gary
--
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Lawrenceville, GA 30244 | |

556. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug21.175608.4569@ke4zv.atl.ga.us>
Source record: 103086
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <321A6D32.CD@ix.netcom.com> KD1YV <jimkd1yv@ix.netcom.com> writes:
>Gary,
>
>Thanks for posting the math for us. You saved me (and others, I'm sure) a lot of poring
>over reference manuals to work this all out.

Note, there was an error in the H field calc. See the follow up
for a correction. Realize too that this is merely a crude approximation
based on an isotropic source. You have to adjust it for the parameters
of your actual antenna. It can serve as a ballpark estimate, but no
more.

Gary
--
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Lawrenceville, GA 30244 | |

557. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug21.172903.4291@ke4zv.atl.ga.us>
Source record: 103087
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew

In article <3219f665.8602685@nntp.ix.netcom.com> lcw999@ix.netcom.com (Leonard Weldon) writes:
>Ref: Environmental Impact Reports...
>
>Over the years, we have noted that there is a group within the
>Environmental Agencies that tends to go bananas! To acquire
>funds to increase staffs, set up new departments, etc., these
>groups will go to any lengths to stampede the people, members
>of Congress, into a tizzy! This is all intentional...they do not
>necessarily know that anything is wrong...not enough data,
>not enought testing, etc.
>
>Sad situation, in an Agency as important as this one, that we
>have these "whackos" still embedded there. They need to
>be purged, their agendas are not in line with the real world
>needs of an Agency of this importance. Out, out with them!
>
>Recently, the "hole" over the Antartic filled in...ozone
>has returned...years ago, some "real-world" Nasa scientist
>warned the "whackos" of the Environmental Agency
>that their statements were premature and not substantiated
>with known historical fact...nor was there sufficient historical
>data to make such a statement....however, the "whackos"
>message was widely spread by the "media"...it was pronounced
>as "fact"...nothing could be further from the truth! We all remember
>the hue and cry...the sky is falling..the sky is falling..disaster..
>more funds..more funds! Sick situation..sick..sick!.
>
>Leonard...

The "hole" fills in every year as the polar vortex breaks
up and the stagnant air is diluted by fresh air from the mid
latitudes. This isn't new, or news. Certain conditions have to
exist for the ozone hole to form. The stratospheric temperature
has to drop below -60 C, the air mass must be stagnant, and
enough Cl or Br radicals have to be present to catalyze the
decomposition of ozone. That also happens once a year.

What has the "whackos" in a tizzy is that in the 1950s there
was no ozone hole that formed once each year, now there is.
As stratospheric Cl and Br radical concentrations have increased,
thanks mostly to CFC discharges, so has the size and duration of
the ozone hole.

Some of us may be tempted to say "so what" to this. The hole is confined to Antarctica and we don't live there (nor does anything else of much global importance). Some of the "whackos" (of the no sparrow, or spotted owl, shall fall variety) are agitated and alarmed. Perhaps we should ignore them. But there are also "whackos" of the "if this goes on" variety who we can't dismiss so lightly.

The global ozone level over the mid latitudes is thinning too. Because conditions aren't as extreme as in the polar vortex, there is no hole (and probably can't be a true hole) at the mid latitudes, but there is a measurable increase in shortwave UV getting through. *We* live in the mid latitudes. This should concern us, at least a bit.

On the flip side, low level ozone concentrations over our cities are increasing. This shields us from the UV leakage through the thinning upper atmosphere ozone layer. But the "whackos" want to *deplete* this ozone layer. They say it is bad for us to breathe. They're right too.

Perhaps there has been over-reaction (led by the "no spotted owl shall fall" crowd), but *some* reaction is prudent. Neither we nor the plants we depend upon have evolved to tolerate the higher levels of shortwave UV now getting through. A cautious step back from casual releases of Cl and Br radicals is warranted.

The dwell time for these radicals is on the order of 50 years, so there's no immediate way of knowing whether serious or trivial harm is being done until it is far too late to reverse the process. So it is wise to take prophylactic steps now in case the effects of increased UV in the mid latitudes causes large scale harmful effects.

Gary
--
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558. Re: Radio w/ TV UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Peter_Janssen <pjanssen@cuci.nl>
Message-ID: <321B8D5F.5498@cuci.nl>
Source record: 103088

David Ryan wrote:
>
> I'm looking for a portable radio that includes the ability to receive the
> audio part of television broadcasts from the UHF band. I've founds lots
> that work with the VHF but none of the UHF. I used to own one years ago.
>
> Where should I look to find this thing.
>
> I don't usually read this group so email responses would be welcome.
>
> Thanks,
>
> David Ryan

You can buy a broadband scanner like the AOR 8000 or Yupiteru MTV7100.
They cover the range from 500 khz to 1650 Mhz or higher, with no gaps
(European models). I use my Yupiteru to listen to TV-broadcasting on
holidays.

559. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: wb6w@netcom.com
Message-ID: <wb6wDwIzow.FrD@netcom.com>
Source record: 103089
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

An interesting discussion!

When I first heard of the Milham (?) study, I was told that the figures for hams were based on selecting names that appeared in "Silent Keys" in QST and that the "general public" is what the smaller group was compared with. A question I had at the time that has not been answered is if a similarly sized subgroup was selected based on some other criteria was examined to see if the same kind of statistical variations would appear. Apparently, while hams appeared to be slightly more likely to die of some kinds of cancer, they were also slightly less likely to die from other cancers.

It is my understanding that the database on which the study was based is not publicly available. If this is so, the study is seriously flawed in that there is no way I or most anyone else can tell if the conclusions extracted are in fact supported by the data. Given that the observations on which the conclusions were based are unavailable, the conclusions can have no scientific validity. Note that I am not saying that the conclusions are wrong. I am saying that niether I nor anyone I know is able to repeat the observations and independently confirm or refute the conclusions.

Put simply (and crudely), Joe McCarthy had a list of "bodies" too.
How many of HIS claims were true?

73 de Glenn Thomas wb6w
--
****
* "Correlation does not imply causiality." *
* "Two wrongs don't make a right, but three lefts do." *
* *
* wb6w@netcom.com - Glenn Thomas *
****

560. Re: 10mW to 250mW ATV Amp needed.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199608220651.QAA04786@oznet02.ozemail.com.au>
Source record: 103090

Hello Woody,

woody.white@worldnet.att.net wrote in response to me.....

[snip]

>> I have a HILLS RF Video Exciter unit. apparently these units where used as
>> distrubution units in hotels/motels
>> etc. It is up and running on 444.250 MHz, one of our VK ATV frequencies.
>> However the output is only around
>> 10mW.
>>
>> What I would like to get is a CCT (pcb artwork etc) for a little CLASS AB
>> 10mW to 250mW amplifier that I could
>> build and then fire that output into my existing ATV AMP (M57716 brick).

[snip]

>An easy approach is to use monolithic microwave intergrated circuits...
>They are available from MiniCircuits (New York) or from Hewlet Packard /
>Avantek. My data is a bit old but for example...
>Avantek MSA-0404, ~8 db gain from 100-1000 MHz, +11.5 dbm, 50 ohm out.
>Avantek MSA-0520, ~8 db gain from 100-1000 MHz, +23 dbm out.
>... Only other parts are a couple of chip in/out blocking capacitors, Vcc
>choke (~10 turns, 3-4 mm dia), current limit resistor (depends on part
>and supply voltage).

I was thinking along the same lines but was not sure if these MMIC
devices could handle the 250mW required? I thought they where
lesser in the power capability?

Your help is greatly appreciated.

All the best.

Mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

561. What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: skubi@rodin.inria.fr
Message-ID: <4vhlep$1bf@news-rocq.inria.fr>
Source record: 103091
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

The subject says it all.

Is there a negative resistance region in these diodes, as in tunnel diodes ?

562. 1 to 250 Mhz Signal Generator -lost ad

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: af389@lafn.ORG
Message-ID: <321C5D39.45BC@lafn.org>
Source record: 103092

Hi,
A few months ago, one either ham-homebrew or qrp-l digests, a company advertised selling a kit for a SIgnal Generator covering 1 - 250 Mhz frequency range. It was a DDS based product. This is not the unit being sold by S&S Engineering, 1 -16 Mhz, DVFO.

Can some one pass me the info for the 1-250 mhz generator, including email and URL if any?

I woould like to hear from someone who is using the S&S DVFO product, any comments about ease of assemblying the SMT parts and frequency stability and warm up time are important to me.

Thanks, W6MIK
--
_____
Dave Shalita, af389@lafn.org

563. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: carl@ais.net
Message-ID: <4vgelc$q3i@news.ais.net>
Source record: 103093

In <1996Aug17.153827.11020@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <4u8cko$3cc@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>>As I understand it Morse is the prescribed mode for satellite uplink
>>transmitters to id.
>>All uplinks are required to do this.
>>(commercial)
>
>No. We're required to encode our call sign in the vertical blanking
>interval in such a way that rolling the sync bar down allows it to
>be read off the monitor. Or we can use a specified digital encoding
>in the vertical interval instead (this has become the most common
>method and is more adaptable to automatic computer control of networks
>of uplink systems). We *cannot* use OOK because that would change
>the transponder saturation level and would cause interference to other
>signals being relayed.
>
>I'm not familiar with the ID requirements of SCPC or other data
>uplink systems, but they can't use OOK either, and I would opine
>that they embed their ID in the data framing (somewhat similar
>to amateur packet).
>
>Gary
>--
>
Gary,

Once again an eloquent response to a bunch of "WE MUST SAVE CW"
mytho-garbage.

Point of the matter is that a diminishingly small minority of the
amateur community are the ONLY identifiable group of users world-wide
who persist in WANTING to use CW.

Everyone else wants to embrace new techmology and the benefits that come
with it ... we have a sub-culture of nostalgists wants to mandate
horse-and-buggy technology and force it down the throats of the
unwilling.

Carl - wa6vse
carl@ais.net

564. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: carl@ais.net
Message-ID: <4vgea5$q3i@news.ais.net>
Source record: 103094

In <1996Aug16.194506.7253@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <4v021c$hq7@canyon.sr.hp.com> donrm@sr.hp.com (Don Montgomery) writes:
>>Will Flor (willf@rrgroup.com) wrote:
>>
>>> though the Coast Guard doesn't monitor for CW SOSs any more.
>>
>>I found this hard to believe - that the one agency that should monitor
>>for CW distress signals doesn't. I called the USCG monitoring station
>>in Point Reyes, CA., and confirmed that they do not.
>>
>>I wonder if CW will be dead after this generation, like landline morse?
>
>Yes, except for those who use it for nostalgic reasons.
>
>Just as the vinyl LP virtually disappeared with the advent of the CD,
>OOK Morse will disappear in favor of more robust coherent digital
>modulations and codings, except where regulatory inertia makes it hang
>on for a while longer.
>
>And just as there was resistance to the change from spark, there
>will be those who resist the changeover from OOK Morse to better
>digital modulations and codings. Hopefully this time it won't
>require regulations banning the more archaic form to force the
>changeover. It makes me mildly unhappy that I can't play with
>a modulated arc transmitter just for the hell of it, and I
>suppose it would make Morse lovers unhappy if they couldn't
>play with their hand and ear methods just for the hell of it
>too.
>
>Gary

Well said, Gary ... the concept of BANNING CW is foreign to MOST of us
who feel that it should have been dropped asa REQUIREMENT *long* ago.

I support the use of CW by those who like it and want to use it ...
although I think the CW subbands are disproportionately large.

I just hope that the amateur community will wake up to the realities of
the present and future and abandon the requirement before it's too late.
We need to bring in hordes of creative, computer-literate young folks
who can contribute to the future of amateur networking and restore the
concept that hams are technical leaders and innovators ... before we
lose the bulk of our bands to commercial interests who will put the
spectrum to much more efficient use.

Amateur "technology" is, for the most part, AT LEAST 2 or 3 generations behind current and near-term commercial systems ... not the small groups of innovators that we do have ... I mean the "mainstream" of appliance operators who pound CW, ragchew on 20m or 75m, or are content to check the local BBS or packetcluster on 2m with 1200 baud AFSK ... God!!!, 1200 baud AFSK is ANCIENT!!! ... USER links should be running 64kbps MINIMUM, "network" links even faster.

73,
Carl - wa6vse
carl@ais.net

565. Re: Charging Help for 1.2 AH Sealed Lead-Acid Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug22.155632.8530@ke4zv.atl.ga.us>
Source record: 103095

In article <4v5pq4$g2@newsfeed.cts.com> schoon@cts.com (Mark Schoonover <KA6WKE>) writes:
> I purchase a small 1.2 AH lead acid battery, and would like
>to ask for help in how to charge the thing. The sales guy where I
>purchased it from said to charge at a current of 10% of the rated amp-hour
>rating. OK, if that's true, then I need to charge at 120 mA. I would like
>to be able to charge from a 20 amp, 13.8v regulated supply and my car.
>I'v calculated the limiting resistor to be 12 ohms, using ohm's law.
>When I figure in the power dissapation for the resistor, it works out
>to be over 12 watts! Is this true??? Or would it all be easier to
>get a low current, 12 volt wall wart and forget charging in the car?
>I'm sure I've missed something, qould someone point me to the
>right direction?

Ok, you have a 13.8 volt source, the battery has charged to a terminal
voltage of 13.6 volts, how much current flows through your 12 ohm
resistor?

Answer, 16 mA, and power dissipation is 3.2 mW. What's wrong with this
picture?

You can't get a constant current charge to a battery whose terminal
voltage rises as it is charged using just a simple resistor. And you can
never get a battery with a 13.8 volt terminal voltage at full charge
to full charge if you only use a 13.8 volt source. As charging time
tends toward infinity, battery terminal voltage tends toward 13.8 volts,
charging current tends toward zero, and *at* infinite time you'd reach
full charge *except* you haven't accounted for internal battery losses.
In other words, you can't get there from here.

You need a charging source voltage of around 14.2-14.5 volts to
fully charge a 13.8 volt lead acid battery. Fortunately, lead acid
batteries *don't* require a constant current charger (NiCads do).
Lead acid batteries are charged with a *constant voltage* charger.

A fully depleted lead acid battery will *self-limit* the current
it will accept, and doesn't require a current limiter circuit in
the charger. However, you should *never* allow a lead acid battery
to become fully depleted. That will cause the plates to sulfate and
drastically shorten the battery's life. You must quit discharging
a "12 volt" lead acid battery when the terminal voltage reaches
10.2 volts. At that point, 80% of the battery's capacity is
exhausted.

A lead acid battery in that state *can* accept too rapid a charge,
so charging needs to be limited to a safe value. An electronic
current limiter can be used, or a saturable reactor can be used

(a wall wart can sometimes serve as a saturable reactor). But a simple resistor can be used too at the cost of a long taper to final charge.

Lets assume you have a 14.5 volt source, the battery is at 10.2 volts, and you want to limit current to 1.4 A. A 3.7 ohm series resistor with a power rating of 10 watts will handle this chore. As the terminal voltage of the battery rises, charge current will quickly taper to a much lower value (dropping to 216 mA at final taper). When battery terminal voltage reaches 13.8 volts, it will be fully charged. This should take about 4 hours.

Remember, a watched battery never boils. Don't go off and leave the battery unattended for a long period while charging. Or if you must, have a voltage monitor which will shut off the charger when the battery terminal voltage reaches 13.8 volts.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

566. HV connectors still avalable

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: jackg@xetron.com
Message-ID: <DwJt2G.CIA@xetron.com>
Source record: 103096

In article <1996Aug19.190838.616@main03>, landisj@nad.com says...
>
>I'm rehabbing a K2RIW...originally supplied via a Millen HV connector.
>Anyone have a few of these just gathering dust?

Joe, you might be able to get the Millen high voltage connectors
PN 37001 from Millen. Their number is 508-975-2711. Let me know
if they still have these parts...

Jack, WB8BFS

567. Re: Wiring of TX/RX relay in transverter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug22.160723.8669@ke4zv.atl.ga.us>
Source record: 103097

In article <4vc6fq$1d3m@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>Hi All,
>
>I am wondering which may be the best way to wire the TX/RX relay
>in a SHF transverter. I could wire the RX input to the NC contact,
>thus saving current on receive or I could wire the TX output to the
>NC contact and the RX to the NO contact, thus protecting the output
>transistors in case the relay fails to close.
>
>Any preferences? Moritz DL5UH

The latter method is better, and protects the receiver somewhat
from static buildup on the antenna or lightning surge. However,
beware, the capacitance between the NC and NO contacts may be
sufficient to couple enough Tx power into the Rx to damage it
at moderate to high power levels. You need to use two relays
and a sequencer to prevent that.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

568. re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <321C01B4.41C6@alive.com>
Source record: 103098
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

My layperson's understanding of this is that even if we were to be required to file such documents under NEPA (or CEQA in California), they very strongly frown on duplicative efforts. In many cases, existing studies of essentially the same problem can often be included by reference. So, for example, if W1AW were required to do an EIR and the ARRL was sufficiently dilligent in preparing its report, then those of us whose situations were sufficiently similar (or obviously less severe) could utilize their work, and would likely require very minor individual effort. (Of course, this should be considered as the speculation of an untrained concerned citizen and appropriate counsel should be sought if the question at hand applies to you in more than a theoretical or rhetorical context).

-- KD6PAG

569. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <321CD03B.144A@gte.net>
Source record: 103099

I don't get it. The HF bands are not useful for high speed digital work. Anyone desiring to experiment with high speed digital modes can get into ham radio and have a blast, without ever having to learn morse: the code ticket was designed for this purpose.

As far as I am concerned, I use CW because it is fun. If we remove the requirment to learn CW in order to be a radio amateur operator on HF, we effectively deny future generations of amateurs the opportunity to communicate with foreign hams who cannot afford the elaborate rigs that americans take for granted, and can only communicate with inexpensive, easily constructed CW HF rigs.

Of course, hams could learn CW even if it was not a licensing requriment. But you hit the nail on the head when you spoke of the "CW Subbands" in a yearning way. Many hams want to eliminate those subbands so they can move their phone contacts there.

SSB is just as outmoded as a means of communication as FM and CW, if you only consider the amount of data you are able to pass in the shortest period of time.

Everything stays in perspective as long as we keep in mind Amateur Radio is a hobby, not a vocation. We do it for fun, not necessarily throughput. Testing should encompass ham radio from A to Z, from amplifier to zero-bias. CW falls somewhere in there between A and Z.

Jim - AD4VL

570. Re: Are vapors from solder harmful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <321CA9BF.167E@alive.com>
Source record: 103100

Gary Coffman wrote:
> The big lead danger is that some will rub off on your fingers while
> you are handling the solder. This can then be ingested if you eat,
> drink, smoke, or otherwise touch body openings without washing your
> hands carefully first. Don't rub your eyes either. Obviously, don't
> pull the old stunt of holding the solder in your mouth while you work.

Even as a pre-teen, it was obvious to me that this would be a very bad idea. If i needed that kind of 'third hand', i had solder in a plastic tube which avoided direct contact. 30+ years later, i've looked around for the same thing, but so far, everyone prints on the *outside* of the tube, and i would rather find something else to hold the parts than to ingest even minute quantities of some unknown ink.

-- KD6PAG (who'd be quarter century if it
weren't for the code.)

571. Re: Charging Help for 1.2 AH Sealed Lead-Acid Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <321CAFBD.2781@alive.com>
Source record: 103101

skerns@mail.talon.net (Steven Kerns) remarks:

> I am sure a lot of purists would suggest a better (and more expensive)
> method, but I have charged many sealed lead acid batteries by putting
> a series diode between the power supply (13.8V supply) and the battery
> and just letting the battery charge at the rate it wants to. The diode
> will drop the voltage to about 13V while protecting the regulating
> circuit in your power supply in case you lose AC or someone turns
> the power supply off. If you are worried about the battery drawing
> higher than its rated charging current add a fuse or circuit breaker
> between the battery and the charging source.

But if the device supplying the power is an automotive battery with a
voltage regulator of unknown quality, I don't think I want to subject
my 7AH gel-cell to a direct connection as, suppose it is 80% depleted,
Gary Coffman remarks:

> A lead acid battery in that state *can* accept too rapid a charge,
> so charging needs to be limited to a safe value. An electronic
> current limiter can be used, or a saturable reactor can be used
> (a wall wart can sometimes serve as a saturable reactor). But a
> simple resistor can be used too at the cost of a long taper to
> final charge.

So, even if there's a protective diode (to prevent the battery from
running the car, as well as limiting the charging voltage), the charging
rate will probably unacceptable to me, since an automotive charger is
designed to rapidly recharge a battery designed for short, high current
usage (e.g. starting the car) and perhaps off by an order of magnitude.

Now, i don't really care if the gel-cell isn't brought up to full
charge,
but rather i would like it to be usable until i can get home,
particularly
while traveling. Is there a simple circuit that will accomplish it,
with
or without active components?

-- KD6PAG (networking old-timer, RF newbie)

572. Re: hf amp kit ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4viapo$14kv@newsgate.sps.mot.com>
Source record: 103102

The closest you'll come to a full kit is to buy the individual parts baggies from Communications Concepts. Because of the problems with 11 neter amps, the FCC has outlawed selling complete kits of parts (a la Heathkit) for HF amps

573. Re: Are vapors from solder harmful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4vimvc$ea6@newsbf02.news.aol.com>
Source record: 103103

The smoke from rosin flux is not such good stuff (think about what is in it), so don't inhale too much if you can avoid it. However, worse yet is not wearing safety glasses while soldering- the pop of a bit of flux on the board into your eye is NOT a fun thing- lemme tell U! Nobody is immune- some just think they are. It's like wearing safety belts... U only may need them once in your life, but you'll be glad U had `em when you DO need `em.

VE3IEY

574. Re: 10mW to 250mW ATV Amp Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: ka7oei@uugate.wa7slg.ampr.ORG
Message-ID: <39237@uugate.wa7slg.ampr.org>
Source record: 103104

For that kind of gain/power, there are several good devices. One
that I would suggest would be either the MRF

the MRF557 or the MRF559. Both of these devices work very well at 70cm
and have good gain, and should easily handle the power. One of these
two devices (the '557 I *think* - my Motorola book isn't handy at the
moment...) can actually handle a watt or so. Of course, one needs
to bias it properly and wrap some simple tuned circuits around it (just
some appropriate bits of wire and a bunch of ceramic trimmers - adjust until
it works well...) but that's pretty easy. The 13+db of gain you want may
be a bit much for just one stage, but something like a MAV11 MMIC could
cleanly take it up to 20-40mW cleanly (assuming that you attenuate the 10mW
drive a bit...) Another device that may work is the BFR96. 2
250mW is pushing a BFR96 a bit hard, but that that frequency it should do
OK, assuming that it is heat-sinked reasonably well. The nice thing about
a BFR96 is that they are cheap and likely to be easily available.

<Clint>

575. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: dedinger@ix.NETcom.COM
Message-ID: <199608221901.MAA28283@dfw-ix3.ix.netcom.com>
Source record: 103105

```
unsubscribe Ham-Homebrew@UCSD.EDU dedinger@ix.netcom.com
```

576. 23 cm vertical polarization homebrewing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: bobzito@wolfenet.com
Message-ID: <321cce7c.327442088@news1.wolfenet.com>
Source record: 103106

23 cm vertical polarization homebrewing? Has anyboby made and used
(with success) a 23 cm gain antenna (~>=13.0db gain) be it vertical,
yagi or whatever? Am I the only one on this band? Hello???
Thanks!
Bob

<bobzito@wolfenet.com> (Bob Zito) KI7EV WA. State

577. Re: 10 meter receiver vs. 11 -> 10 conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Mark Brown <kb0pyo@starpoint.net>
Message-ID: <321CE74C.69ED@starpoint.net>
Source record: 103107

Tovar wrote:
>
> moritz@ipers1.e-technik.uni-stuttgart.de wrote:
> >
> > >I would like to make my 11 meter Uniden pc-244 transmit and receive on the
> > >10 meter amateur radio band.
> >
> > Hi Eric,
> >
> > A transverter that shifts RX/TX only by a small amount of frequency
> > is difficult do design, because you have to suppress the *image
> > frequency*. The common approach is to modify the 11m rig so that it works
> > on 10m.
> >
> > 73, Moritz DL5UH
>
> I've been looking around for a 10 meter receiver or transciever project
> and have been drawing blanks so far. The W1AW receiver in a QST of a
> year or two ago is intended for 80, 40, or 20 meters, and is crystal
> controlled. There's an earlier version of that simple direct conver-
> sion receiever a number of years back that use the NE602 with an L-C
> VCO and different amplification. There is also another project in
> the 1993 ARRL Handbook which uses the MC3362, bypassing the limiter/
> FM detector, which they indicated was good to 15 meters. (That chip
> goes to 2 meters normally and i think even 440 with an external VFO).
> My employment situation right now dictates trading off time for money
> and i don't currently have scope access. So i'm reluctant to do an
> R2 or miniR2 receiver and to try to figure out a 10 meter VFO, since
> the Handbook indicates that's hard to do above about 15 MHz without
> going to a frequency synthesizer. At the moment, what i'm interested
> most in receiving is the RS-10/11 downlinks, as that might give me
> some solid motivation to either teach myself or my computer to copy
> CW reliably. (It's an open question which is easier...) So, unless
> some local wants to elmer me, it'll have to be something that i can
> get working without sophisticated test equipment.
>
> So the next obvious question is how hard is it to modify something
> cheap, like a Radio Shack CB unit, at least to receive 10 Meters.
> Is it feasible, for example, to have an external VFO built out of
> a PPL synthesizer like the MC14515x, which i set frequencies from
> my computer? (A simple computer interface seems much easier to me
> than an ordinary QRP rig.) Is there some other approach which might
> be much better?
>

> -- KD6PAG (networking old-timer, RF newbie)Radio Shack htx100's are going for $100-125 nowadays & seem to work ok on
10m. I use one mobile that I got for $80 from an 11m op who bought it &
couldn't figure out how to modify it.
Mark

578. Re: Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: dave@diusys.cms.udel.edu
Message-ID: <4vi9q5$sf8@news.udel.edu>
Source record: 103108

Motorola app note EB104 describes an HF amp using 4 MRF150's.
It gives details on the transformers used. Communications
Concepts in Dayton, Ohio offers kits and parts for the amp.

73, dave wa3u

Kari Kuusinen (kari.kuusinen@orion.fi) wrote:
: Hi you all.
:
: Anybody know a good site where to find practical information
: of RF-transformers for impedance matching. Especially HP-transormers
: for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
: information about different core materials needed and where to obtain
: those cores. I need those to build up an linear for 2-30 MHz using
: 4 of MRF150/MRF140 FETs (600 W CW out).

: 73 de OH1DX / OH2LIG / Kari

579. 10 meter receiver vs. 11 -> 10 conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <321CB845.446B@alive.com>
Source record: 103109

moritz@ipers1.e-technik.uni-stuttgart.de wrote:
>
> >I would like to make my 11 meter Uniden pc-244 transmit and receive on the
> >10 meter amateur radio band.
>
> Hi Eric,
>
> A transverter that shifts RX/TX only by a small amount of frequency
> is difficult do design, because you have to suppress the *image
> frequency*. The common approach is to modify the 11m rig so that it works
> on 10m.
>
> 73, Moritz DL5UH

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-- KD6PAG (networking old-timer, RF newbie)

580. FS: Tektronix 453 scope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Tom Phillips <76252.2720@CompuServe.COM>
Message-ID: <4vikif$g8p$2@mhadf.production.compuserve.com>
Source record: 103110
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

For Sale; Dual Channel 50mhz Tektronix 453 scope. This scope has
a delay time multiplier, and extends the actual frequency meas. to
over 110mhz (actual measurments). Has original manual, and a 10x
probe. No dents, scrathes, and all funtions work. No bulbs or
LED's burnt out.

Price: $650.00
Contact Tom (AB5ZJ) at tomsrig@flash.net or leave reply here

581. Re: is anybody there using Rabbit for ATV TRX ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4viaui$14ku@newsgate.sps.mot.com>
Source record: 103111

JungHo Yu <kc8djq@amsat.org> wrote:
>hi, all.
>i 'm looking for infos about modifying Rabbit as 900Mhz ATV TRX.
>i would appreciate any infos.
>tnx.
>73s de Matt

Do you have a current source for Rabbits? I haven't seen the
900 MHz Rabbit for 10 years, since somebody "discovered" that
this was a full-blown ATV transmit/receive pair for << $100.

AFAIK, the only mod you need is to write your call sign on a piece
of cardboard and hold it in front of the camera once every 10 minutes.

582. Long squelch tail on RS HTX212

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Dave Hand <dhand@microdes.com>
Message-ID: <321C54A0.6BD1@microdes.com>
Source record: 103112

I purchased a HTX212 to use in an airplane. I tied the radio into
the aircraft audio system and that worked well.
My complaint is that the radio emits a rather anoying burst of static
with every carrier drop. Using headphones its especially anoying.
Anyone have any ideas on reducing or eliminating the squelch delay??

Dave Hand WB4HYP

583. converting cell phone to 900 Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960822225722.2622A-100000@primeline.net>
Source record: 103113

Does anybody have any advice ?

Unit is a Uniden CP-2000 (I have no handset), and need tech info on it.

Gary Tait,VE3VBF

584. need antenna info assistance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Thomas Medlin <tcmedlin@cris.com>
Message-ID: <321D196D.551@cris.com>
Source record: 103114
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

I am wanting to build some dual band 2mtr/440mhz antennas by using 450 ohm ladder line and possibly in a j-pole configuration. i would like to enclose these antennas in either 3/4 inch or 1 inch pvc pipe to make them rigid and to weather proof them. i could put a cap on the top and would like to mount a so-239 in the base so a coax could be connected. does anyone have any plans or information on the dimentions , gain, swr, etc that could be achieved. also looking for any other ideas even if not with the ladder line as long as it would mount in the pvc pipe. please email me at tcmedlin@cris.com

thanks, tom WA5KUB
please visit my web site at http://www.cris.com/~tcmedlin

585. New QRP HF traceiver kit available for only $75

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: wb6siv@cyberg8t.com
Message-ID: <wb6siv-2208962230270001@host46.cyberg8t.com>
Source record: 103115

Emtech has a new QRP transceiver kit available for only $75, which my ham supply company just started to carry. You can order either the 80, 40,30, or 20 meter version. It is a superhet single signal receiver, with a variable crystal filter (available as an option for $25). The transmiter will put out 4-5 watts max, and adjustable down to the MW range. The keying and muting is very smooth and features solid state antenna switching. The rig also comes with full QSK keying. You supply the cabinet, power plug,and knobs. The rig is guranteed to work as it is put together and tested in steps, you should not have any surprises. Full e-mail and phone tech support is available if needed.

I haven't even put this item in my products data base yet. Thought I would share it's capabilities with the group here first. If interested send me an e-mail and I'll provided more details. Best of 73's Ray
--
The Raymond Sarrio Co. a full feature Ham Radio Storefront and web site developer. Located at http://www.sarrio.com.

In association with Brillar Enterprises http://win-win.com/brillar provider of discount CD-Roms!

586. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-22 00:00:00 UTC
From: Ken Bessler <kg0wx@feist.com>
Message-ID: <321D2E19.196D@feist.com>
Source record: 103116
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

vaj mu'tlheghvam wIngachpu', qaɪ'a

Qapla'!!!

587. Re: is anybody there using Rabbit for ATV TRX ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Gary Watts <gwatts@qni.com>
Message-ID: <Pine.GSO.3.94.960823132702.5296E-100000@qni.com>
Source record: 102984

Jim,
Yes I have seen the wabbits at the local Wal-mart store a couple of years ago...
Radio shack was selling a video externder also but not quite sure of the exact frequency tho..
The rabbit and rs's device were am :-(
I have been playing around with some hst 900 mhz fm transmitters that work well but
I just purchased a wave??? 2.4 ghz fm tv extenders that work great
they have patch directional antennas.. even tho the output power was / is stated to be 1 MW we were able to get a p5 picture 1/2 mile away from bridge to bridge.. we will try futher distances and then mount the things infront of 2ft dishes to play with :-)
the cost is a little bit higher at about 160.00 tho

Keep an eye out for those rabbits ;-)

Good luck
Gary Watts de N0OXV
Kansas City Mo
81 GL1100I

On 22 Aug 1996, Jim wrote:

> JungHo Yu <kc8djq@amsat.org> wrote:
> >hi, all.
> >i 'm looking for infos about modifying Rabbit as 900Mhz ATV TRX.
> >i would appreciate any infos.
> >tnx.
> >73s de Matt
>
> Do you have a current source for Rabbits? I haven't seen the
> 900 MHz Rabbit for 10 years, since somebody "discovered" that
> this was a full-blown ATV transmit/receive pair for << $100.
>
> AFAIK, the only mod you need is to write your call sign on a piece
> of cardboard and hold it in front of the camera once every 10 minutes.
>
>
>
>

588. Re: Is ARRL's MicroSmith software any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <321E1D15.2861@crpl.cedar-rapids.lib.ia.us>
Source record: 102985

Jeff Duntemann wrote:
>
>
> Is MicroSmith useful for this sort of thing? Or is paper just as
> good?
>

Microsmith is an excellent software adjunct to the Smith chart. I have
used it for several years.

Bill W0IYH

589. Re: Radio w/ TV UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Gary Watts <gwatts@qni.com>
Message-ID: <Pine.GSO.3.94.960823132240.5296D-100000@qni.com>
Source record: 102986

David,
You could spend 100.00 and get a 2" or so LCD color TV to listen and watch
your
favorite soaps with !

I miss as the world turns also :-)

Good luck
Gary Watts de N0OXV
KAnsas City Mo
81 GL1100I

On Thu, 22 Aug 1996, Peter_Janssen wrote:

> David Ryan wrote:
> >
> > I'm looking for a portable radio that includes the ability to receive the
> > audio part of television broadcasts from the UHF band. I've founds lots
> > that work with the VHF but none of the UHF. I used to own one years ago.
> >
> > Where should I look to find this thing.
> >
> > I don't usually read this group so email responses would be welcome.
> >
> > Thanks,
> >
> > David Ryan
>
> You can buy a broadband scanner like the AOR 8000 or Yupiteru MTV7100.
> They cover the range from 500 khz to 1650 Mhz or higher, with no gaps
> (European models). I use my Yupiteru to listen to TV-broadcasting on
> holidays.
>
>

590. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: daniel@pandora.lugs.org.sg
Message-ID: <4vkf86$9ac_001@singnet.com.sg>
Source record: 102987

In article <1996Aug20.193222.617@main03>, landisj@nad.com (Joe Landis) wrote:
>>> for dumping into a laptop for some kind of spectral analysis. Anyone have
>>> recommendations for ultrasonic sensors? Different bat species use
>>> different frequencies, typically 40 kHz to 60 kHz, audio.
>>>
>>> BTW, I've seen some standalone commercial detectors for about $250 but
>>> it's no fun just buying one!
>>>
>>> Thanks, Tom KG6YJ

Try the following site. They are selling some good Polaroid units centred
around 50 kHz for about 16 dollars a piece and some other stuff. Of course
you will find cheaper units but they are different. These are more directional
compared to smaller units, and more sensitive. Any way check out the specs.

http://cec.wustl.edu/~blw2/index.html

600 Series Instrument Grade Electrostatic Transducer:

The Assembly Comes Complete with Protective Cover
Minimum Transmitting Sensitivity @ 50 kHz: 110 dB
Minimum Receiving Sensitivity @ 50 kHz: -42 dB
Suggested DC Bias Voltage: 150 V
Suggested DC Driving Voltage (peak): 150 V
Operating Conditions:
Temperature: -20 to 160 deg F
Relative Humidity: 5%-95%

73 de 9V1ZV Daniel

Daniel Wee | daniel@pandora.lugs.org.sg
9V1ZV | daniel.wee@f516.n600.z6.fidonet.org

591. Is ARRL's MicroSmith software any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4vklfh$6gh@globe.indirect.com>
Source record: 102988

I've been teaching myself impedence matching via Smith chart recently, and it's going reasonably well. I noticed that ARRL sells a software package that emulates the Smith chart, and I'm curious to hear of what other people think of it. Specifically I want to design simple power amps in the 5-30 watt range using transistors like Motorola's that are fully characterized for series input and output impedence. In other words, I don't have to guess; I have the complex numbers from the data sheets and just need to calculate the conjugates to create a good match on both sides.

Is MicroSmith useful for this sort of thing? Or is paper just as good?

Do let us know.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

592. Re: Simeple receiver plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2308961629300001@d127.w.interaccess.com>
Source record: 102989

In article <321E1A1E.232D@titan.oit.umass.edu>, Andy
<muldowne@titan.oit.umass.edu> wrote:

> Hello everyone. I'm looking for SIMPLE receiver plans.

Try looking around The Amreican Radio Relay League pages at
http://www.arrl.org/. They publish books about low-power and simpler
equipment.

Dave, K9SW

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

593. Simeple receiver plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Andy <muldowne@titan.oit.umass.edu>
Message-ID: <321E1A1E.232D@titan.oit.umass.edu>
Source record: 102990

Hello everyone. I'm looking for SIMPLE receiver plans. Ideally I would like it to be able to be made from Radio Shack parts, be cheap to make, receive somewhere in the HF bands and to be able to be sensitive enough to receive SSB and CW. Thanks...
Andy
KB0MMU

594. Data Book for Homebrewers special ends soon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: qrpbook@aol.com
Message-ID: <4vla5o$b33@newsbf02.news.aol.com>
Source record: 102991

The introductory price on the Electronic Data Book for Homebrewers and QRPers including QRP Yellow Pages expires August 31. The price September 1 will be $23 postpaid U.S.A.

The Data Book by Paul Harden, NA5N, includes the popular series from the Colorado QRP Club newsletter, The Low Down, as well as data pages on discrete and specific electronic components. It also includes lab test results on several popular QRP rigs and QRP sources and club listings. The book has 180 pages and is spiral bound.

There is no other book like the Electronic Data Book for Homebrewers and QRPers. A 'must' for the QRPer, homebrewer, electronics hobbyist and technician.

The book was introduced at the Dayton Hamvention this year and is available from Five Watt Press, 740 Galena Street, Aurora, CO 80010-3922. Fax: 1-800-344-0740. Credit cards accepted. Order form available by e-mail at QRPBOOK@aol.com.

The books are also available from G-QRP Club (U.K.) and CW Ops QRP Club (Australia) and from several ham radio outlets in the U.S.

The introductory price through August 31, 1996 is $17.50 postpaid U.S. and $19.50 postpaid outside U.S.A. Colorado residents add sales tax.

Great book! Very useful. I would buy a 2nd edition. - KOWTS (MO)

Super!!!!!!!!!!!!!!!!! - W3HMS (PA)

This book is so valuable that everyone should have two copies - one safe on your bookshelf and the other to be lost, buried under all the solder, wire and parts of your workbench. - VO1DRB (Newfoundland)

I've already used the book as a reference in my most recent QRP build. - KG5N (CO)

You got me into big doo doo at work! The books arrived and I spent the better part of the morning reading. To heck with the patients! Good work. - WA2YMW

595. Help:Recoton Tweak

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Stephen Puskar <spuskar@concentric.net>
Message-ID: <01bb9119$e215a5a0$2c65adce@crc3.concentric.net>
Source record: 102992

I live far out in the "sticks" with no neighbors for acres. I purchased a Recoton wireless headphone system to listen to DMX while I mow my hours of lawn. The system claims at least 150 range but doesn't seem to deliver that. Are there any tweaks possible to boost the signal a couple of 100 feet so I can listen without experiencing drop-offs or fades?
Thanks
spuskar@concentric.net

596. NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199608232319.JAA27959@oznet02.ozemail.com.au>
Source record: 102993

Hello,

I watch PANAMSAT-2 satelitte here in Australia, basically CNNi.

One problem is that it is received in the American NTSC format of
video transmission and here in Australia we use PAL.

I know that NTSC to PAL converters are available as a ready to use
item but would be interested in building one.

Does anyone know of kits or projects (cct's) for such a project?

Thanks for any help you can offer.

Mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

597. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-2308961844560001@k4dii.ksc.nasa.gov>
Source record: 102994
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <1996Aug21.155557.3774@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
> There is documented evidence that exposures of greater than 10 mW/cm^2
> can cause harm. In particular, cataracts or loss of focal flexibility
> due to RF heating of the lens of the eye, and in some cases cancers.

Gary-

I believe you! Now, how does that relate to the average Ham? Although 10 mW/cm^2 sounds like a miniscule amount, it doesn't sound so bad when you convert it to 100 W/M^2 (did I do that right?).

What are "real world" exposure levels that a Ham is likely to encounter in each of several areas of the Ham spectrum? Suppose I have a 100 Watt HF transceiver to a dipole, about 20 feet off the ground. Is anyone at risk while I'm on the air? What if I run a KW? What if I use a beam that is 50 feet up?

How about a typical Two Meter installation?

What I'm leading up to, is that the FCC might accomplish more, if they were to perform the math (or make the measurements) for common situations, and publish examples where harm might occur.

73, Fred, K4DII

598. INTRO PATTY,KA4EKK & DEE, W4PNT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: DEE ALMQUIST <SOUNDNMIND@rica.net>
Message-ID: <4vkg9c$1tc@nntp2.rmci.net>
Source record: 102995

HELLO TO ALL ON THIS GROUP

This being out first posting with this group, we would like to introduce ourselves. We are Patty and Dee & we have a hobby business called SOUND IN MIND. Some of you already know what we do that take ER or Collins Journal. Please read our posting in Rec Radio Swap. Also you might visit our webb sight at: http://home.rica.net/soundnmind.

WE SELL TRANSMITTER TUBES, RESTORE COLLINS, DRAKE (mostly "C" & "B"line) and E F JOHNSON. AND WE OFTEN HAVE VINTAGE PARTS.

Patty and I would like to help you find what you are looking for

Thanks

Dee, W4PNT

599. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <321E8B67.207D@pop.erols.com>
Source record: 102996
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Fred McKenzie wrote:
>
> In article <1996Aug21.155557.3774@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
> (Gary Coffman) wrote:
> > There is documented evidence that exposures of greater than 10 mW/cm^2
> > can cause harm. In particular, cataracts or loss of focal flexibility
> > due to RF heating of the lens of the eye, and in some cases cancers.
>
> Gary-
>
> I believe you! Now, how does that relate to the average Ham? Although 10
> mW/cm^2 sounds like a miniscule amount, it doesn't sound so bad when you
> convert it to 100 W/M^2 (did I do that right?).
>
> What are "real world" exposure levels that a Ham is likely to encounter in
> each of several areas of the Ham spectrum? Suppose I have a 100 Watt HF
> transceiver to a dipole, about 20 feet off the ground. Is anyone at risk
> while I'm on the air? What if I run a KW? What if I use a beam that is
> 50 feet up?
>
> How about a typical Two Meter installation?
>
> What I'm leading up to, is that the FCC might accomplish more, if they
> were to perform the math (or make the measurements) for common situations,
> and publish examples where harm might occur.
>
> 73, Fred, K4DII

You're on the right track. If you read the Report&Order, other services
like paging, cellular, etc, received exepmtions for specific scenarios
(like for a given antenna, antenna height, and power below some level).

Why the ARRL went with the silly "prudent avoidance" (whatever that
means)approach is beyond me. What exemption did we wind up with? One,
less than 50 watts (irrespective of freqy, mode, antenna type and height.
This makes no sense. The ARRL "dropped the ball" again.

S

600. Parts, kits, radios, COOL LIST!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: bry1@erols.com
Message-ID: <4vlo3u$8jq@news9.erols.com>
Source record: 102997
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.misc,rec.radio.shortwave

Re: MEGALIST
These files are available via e-mail by sending the following commands,
in the body of an e-mail, to listserv@lehigh.edu

GET QRP-L/COMPONENTS TUBES.TXT
GET QRP-L/COMPONENTS XTALS.TXT
GET QRP-L/MISC DEALERS.TXT
GET QRP-L/MISC MANUALS.TXT
GET QRP-L/MISC MEGALIST.TXT

They are also available via anonymous FTP from ftp.Lehigh.EDU:

ftp://ftp.lehigh.edu/pub/listserv/qrp-l/components/tubes.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/components/xtals.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/dealers.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/manuals.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt

Additional FTP locations:
ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
http://oak.oakland.edu:8080/pub/hamradio/docs/misc/megalist.
http://qrp.cc.nd.edu/QRP-L/index.html
http://www.nd.edu/~shideg/
http://www.innotts.co.uk/~asperges

Also via BBS sources:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679, (301) 933-8251

DOWNLOAD as MEGALIST.ZIP or individually as:
megalist.txt
manuals.txt
dealers.txt
tubes.txt
xtals.txt
========

Send all additions, corrections and updates to:
brian.carling@acenet.com

We are having E-MAIL problems with the Internet Server EROLS.
PLEASE cc: all messages to me as follows:
bry1@erols.com - Look at your To: line and make sure it reads properly!!
brian.carling@acenet.com
Send a copy to BOTH addresses. That way there is a better chance
that I will actually GET your message! Looking forward to hearing from you...

Brian Carling in Gaithersburg, MD USA

601. coils for direct conversion receiever using NE602

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Malcolm Fairleigh <lozmal@netwit.net.au>
Message-ID: <321CFB19.78C5@netwit.net.au>
Source record: 103117

I am interested to know if anybody is building or has built reveivers using the ne602 device.

I am particularly interested in the design of rf and oscilator coils for such devices and am interested in any
design specifications any one can submit.

EG preselector coils homebrew if coils home brew socilator coils home brew.

I would like to put together a database of designs that could be shared widely.

Thanks

Malcolm Fairleigh

602. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: future@blarg.net
Message-ID: <321d178c.1107574@news.blarg.net>
Source record: 103118
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

On Wed, 21 Aug 1996 04:46:16 GMT, jafo@cheetah.net (Gregg) wrote:

>>Vs lbh pna ernq guvf, lbh ernyyl bhtug gb trg bhg zber
>
>Url! Jung xvaq bs n penpx vf gung? :-D

Urururur.. V gubhtug EBG13 jnf bhg bs qngr.. guvf vf gur svefg gvzr
V'ir frra vg hfrq va dhvgr n juvyr ;)

--
Check out my home page at http://www.blarg.net/~future/index.html
I'm a volunteer at the Win95 Help Site. Drop by if you need help with Win95.
http://www.isisnet.com/terrymo/index.html

603. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: lennero1@ix.netcom.com
Message-ID: <321d3a44.10936127@nntp.ix.netcom.com>
Source record: 103119
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

On 22 Aug 1996 12:56:57 GMT, skubi@rodin.inria.fr (Marcin
Skubiszewski) wrote:

>The subject says it all.
>
>Is there a negative resistance region in these diodes, as in tunnel diodes ?

A Gunn Diode is a diode that is used to emit & detect waves in the
radar freq range... not sure about specs but i know you can get one
from one of those automatic Door companies that make doors for
shopping malls & the like... They might be called gunnplexers when
used in this way...

-Dan

604. Re: Designing transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.273.000FC3AD@TRL.OZ.AU>
Source record: 103120

>Date: Mon, 19 Aug 1996 09:47:57 -0700
>Anybody know a good site where to find practical information
>of RF-transformers for impedance matching. Especially HP-transormers
>for 1:9 and 9:1 ratios capable of handling up to 600 W CW. Also
>information about different core materials needed and where to obtain
>those cores. I need those to build up an linear for 2-30 MHz using
>4 of MRF150/MRF140 FETs (600 W CW out).
>73 de OH1DX / OH2LIG / Kari

Kari, one chapter in the excellent series by Norm Dye and the late Helge Granberg in; Electronics World & Wireless World should be of value to you; see if you can look up "Using RF Transistors" (one of a long series, and subsequently published as a book; Radio Frequency Transistors- principles and applications) Aug '94. p 694;, this chapter covers signal splitting and combining using B-B transformers.

73, Drew, VK3XU.

605. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: billn@PEAK.ORG
Message-ID: <4vjhu9$2ha@bashir.peak.org>
Source record: 103121
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

John--Mackey--KA0SSF (no--place@any-where.com) wrote:

: > With the 2.5 watts my little HT puts out, I get into some of the
: > repeaters in the area marginaly, others not at all. With the 5 watt
: > pack, I get into most of them full-quieting, some of them marginaly.

: Hmmm, strange, 2.5 to 5 watts is only 3db. 3db is only 1/2 an S unit,
: certainly not much if any practical difference.

Not audibly. However, when it comes to such things as triggering a
repeater, or obtaining "full quieting", it can make a great difference.

Bill

606. Re: hf amp kit ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2208961908380001@d136.w.interaccess.com>
Source record: 103122

In article <4viapo$14kv@newsgate.sps.mot.com>, Jim <jstrohm@texas.net> wrote:

> The closest you'll come to a full kit is to buy the individual
> parts baggies from Communications Concepts. Because of the
> problems with 11 neter amps, the FCC has outlawed selling complete
> kits of parts (a la Heathkit) for HF amps

Audio Amateur, the magazine for those of us who like roll their own audio equipment, is full of designs and there are probably ads for kits as well. They are at:

http://www.audioweb.com/newsstand/audioamateur/currentissue/index.html

Dave

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

607. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: carl@ais.net
Message-ID: <4viv8o$8ot@news.ais.net>
Source record: 103123

In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
>I don't get it. The HF bands are not useful for high speed digital work.
>
Rediculous ... all it takes is the right modulation and coding techniques and a progressive regulatory structure that permits it. Obviously higher data rate wider bandwidth transmissions are more easily accomodated at higher frequencies, but HF will support FAR beyond 300 baud FSK packet.

>If we remove the requirment to learn CW in order to be a radio amateur
>operator on HF, we effectively deny future generations of amateurs the
>opportunity to communicate with foreign hams who cannot afford the
>elaborate rigs that americans take for granted, and can only
>communicate with inexpensive, easily constructed CW HF rigs.
>
Again, I must disagree ... I've traveled quite a bit ... even in poor countries in latin America, the hams have rigs comparable to ours, complete with DSPs, etc. And you should see the antenna farms! (From my experience, foreign hams tend to be quite well-off financially for their own society ... much more so than American hams.)

>SSB is just as outmoded as a means of communication as FM and CW, if you
>only consider the amount of data you are able to pass in the shortest
>period of time.
>
Actually SSB is probably still by quite a margin the MOST efficient means of conveying voice information in terms of required RF bandwidth per Hz of baseband bandwidth. Digital techniques for speech transmission that can readily operate in less than 5kHz bandwidth (2.4kbps LPC, for example) sound like crap. (They're intelligible, but they sound like a robot talking in the bottom of a tin can.) The vocoders that provide good voice quality require quite a bit more transmission bandwidth.

73,
Carl - wa6vse
carl@ais.net

608. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Phil Wakely <pwakely@scigen.co.uk>
Message-ID: <4vk6r5$h44@Thomas.generics.co.uk>
Source record: 103124
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

```
future@blarg.net (Tim Gerchmez) wrote:
>On Wed, 21 Aug 1996 04:46:16 GMT, jafo@cheetah.net (Gregg) wrote:
>
>
>>>Vs lbh pna ernq guvf, lbh ernyyl bhtug gb trg bhg zber
>>
>>Url! Jung xvaq bs n penpx vf gung? :-D
>
>Urururur.. V gubhtug EBG13 jnf bhg bs qngr.. guvf vf gur svefg gvzr
>V'ir frra vg hfrq va dhvgr n juvyr ;)
>

Jung vf/jnf EBG13 ??
```

609. Solid state Mobile AMPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: LAXX43A@prodigy.com
Message-ID: <4vjber$np4@usenetp1.news.prodigy.com>
Source record: 103125

Has anyone built the HF Amp kit in Amateur radio trader from KD4YBC?
I remember hearing someone use one but it has been a while since I have talked to someone using it. How do you like it? Which one, the 500W or the 1KW. Is it worth the money and do you have any problem with the car computer konking out? Anything to be concerned about?
Mike W7CFL

610. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: sjnoll@ix.netcom.com
Message-ID: <4vjfpn$a89@dfw-ixnews4.ix.netcom.com>
Source record: 103126
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

skubi@rodin.inria.fr (Marcin Skubiszewski) wrote:

>The subject says it all.

>Is there a negative resistance region in these diodes, as in tunnel diodes ?

Yes.

611. Re: (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: me@whatever.com
Message-ID: <321d8c6f.1663568@news.smartt.com>
Source record: 103127

On 22 Aug 96 19:01:18 GMT, dedinger@ix.NETcom.COM (Dennis Edinger)
wrote:

>unsubscribe Ham-Homebrew@UCSD.EDU dedinger@ix.netcom.com
Hee Hee!

612. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <321DD7DB.28EC@gte.net>
Source record: 103128

carl@ais.net wrote:
>
> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
> >I don't get it. The HF bands are not useful for high speed digital work.
> >
> Rediculous ... all it takes is the right modulation and coding
> techniques and a progressive regulatory structure that permits it.
> Obviously higher data rate wider bandwidth transmissions are more easily
> accomodated at higher frequencies, but HF will support FAR beyond 300
> baud FSK packet.
> The cost/bandwidth/performance of HF high speed digital services
render such a thing impractical within the confines of the amateur bands.

> >If we remove the requirment to learn CW in order to be a radio amateur
> >operator on HF, we effectively deny future generations of amateurs the
> >opportunity to communicate with foreign hams who cannot afford the
> >elaborate rigs that americans take for granted, and can only
> >communicate with inexpensive, easily constructed CW HF rigs.
> >
> Again, I must disagree ... I've traveled quite a bit ... even in poor
> countries in latin America, the hams have rigs comparable to ours,
> complete with DSPs, etc. And you should see the antenna farms!
> (From my experience, foreign hams tend to be quite well-off financially
> for their own society ... much more so than American hams.)

If you don't use CW, then probably you wouldn't have QSOs with the
multitudes of foreign hams who use only CW, and have home made
equipment.

>
> >SSB is just as outmoded as a means of communication as FM and CW, if you
> >only consider the amount of data you are able to pass in the shortest
> >period of time.
> >
> Actually SSB is probably still by quite a margin the MOST efficient
> means of conveying voice information in terms of required RF bandwidth
> per Hz of baseband bandwidth. Digital techniques for speech
> transmission that can readily operate in less than 5kHz bandwidth
> (2.4kbps LPC, for example) sound like crap. (They're intelligible, but
> they sound like a robot talking in the bottom of a tin can.) The
> vocoders that provide good voice quality require quite a bit more
> transmission bandwidth.

You're correct, considering only efficiency. But remember that CW is a
much more efficient means of communication than SSB, in terms of

required RF bandwidth per Hz of baseband bandwidth.

I remember having similiar discussions using the same arguments on both sides, back in the sixties. As a young man working in the development of the integrated circuits for the LEM computer for the Apollo program, I walked away from ham radio as being too backward, outdated and out of touch. Telemetry of the time seemed to put CW in a category with smoke signals and stone knives.

A few years ago, I picked up a shortwave radio at a flea market, and tuned in W1AW code practice. To my amazement, I could still copy it after 30 years. I picked up the general class ticket the next month, and passed the Extra class one month later.

I find that I enjoy the CW most of all. It matters not that it is outmoded, I consider every aspect of ham radio outmoded, including satellite work. It's all old hat (But it's fun to fool with) in light of modern technology.

73,

Jim - AD4VL

613. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2308960756500001@d136.w.interaccess.com>
Source record: 103129

> Again, I must disagree ... I've traveled quite a bit ... even in poor
> countries in latin America, the hams have rigs comparable to ours,
> complete with DSPs, etc. And you should see the antenna farms!
> (From my experience, foreign hams tend to be quite well-off financially
> for their own society ... much more so than American hams.)

You must be traveling in elite circles. The yearly income in most countries is a fraction of what it is in the States. I'm sure the rich folks do have big antenna farms, but your average-income ham in Latin America is probably lucky to put up a dipole and get on CW or maybe SSB.

Dave

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

614. Solid state Mobile AMPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Kevin Muenzler <wb5rue@amsat.org>
Message-ID: <19960823102254.aaaa005hb@babyblue.cs.yale.edu>
Source record: 103130

LAXX43A@prodigy.com (Mike Saville) writes:

-Has anyone built the HF Amp kit in Amateur radio trader from KD4YBC?
-I remember hearing someone use one but it has been a while since I have
-talked to someone using it. How do you like it? Which one, the 500W or
-the 1KW. Is it worth the money and do you have any problem with the car
-computer konking out? Anything to be concerned about?
-Mike W7CFL

Be very careful putting a big HF amp in your car. I fried the computer
in my Saturn TWICE with a 500 watt amp on 40 meters. The first time
the dealer replaced it under warranty. The second time I told him that
it was probably my amplifier so I had to pay for it, big bux!
Most of the newer (95+) cars are pretty well protected against
RF but don't try it with any of the older ones.

Kevin, WB5RUE
wb5rue@amsat.org

615. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: David Kao <dtkao>
Message-ID: <4vj1cd$pp8@hpindda.cup.hp.com>
Source record: 103131

I would rather believe that it's hramful. There were poisoning reports from an electroinc assembly line in a factory in Taiwan 20 or maybe 30 years ago. Many assembly line workers got poisoned after working in the plant for about a year. After careful study of the case it was determined that the solder vapor was the cause of the poisoning.

Most of the workers were young women. A few workers died and some had brain damage and could never recover. Most workers had damaged liver. The factory was shutdown and went bankrupt forever later. Now if you look around labs and factory assembly lines you will see very effective ventilation system in place to secure worker's safety.

Hope this convinces you that solder vapor is actually extremely dangerous.

616. Re: hf amp kit ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4vkkmu$qer@globe.indirect.com>
Source record: 103132

robtrobn@ix.netcom.com(Robert Travis Lewis) wrote:

>Howdy, Does anyone know of a source for an HF amp kit? I'm not
>talking about just plans, but a full kit.

Robert--

Communications Concepts is a good source, though you'd better be at least a little familiar with constructing things before picking up their "parts assortments" and circuit boards. I just built their Motorola AN779L broadband 20W amp and it worked well, but there were some ambiguities in the board layout that I had to check against the schematic. If you can't read a schematic well you might have trouble. They advertise in QST.

RF Parts is another source who sells a booklet on building an HF amp, and just coincidentally sells the parts as well, though to avoid the moronic FCC restrictions on selling HF amp kits they don't make it real obvious what goes with what. I have the booklet but haven't built the amp. Definitely get their catalog, tho. (They also advertise in QST.) Pretty much the sole quantity-1 source for a lot of RF power transistors.

Both of these companies, by the way, have provided me with superb service over the years.

Good luck with it.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

617. Re: How to build 6 meter RC Rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-23 00:00:00 UTC
From: Peter Orban <Peter.Orban@nrc.ca>
Message-ID: <321DEF46.167E@nrc.ca>
Source record: 103133

Tim wrote:
>
>
> It's never been about price or time with the homebrew bunch.
>
> Check out the IC supply houses, I have seen a TX and RX chipset that provides all the
> encode/decode signals, you just need to add a transmitter and receiver. Sorry cant
> remeber where I've seen them but they were about $7.50 ea.
>

It is the National LM 1871/1872. They also have application notes to it.
Spraque used to have an encoder/decoder chip set, the National chips
have circuits in them for the RF parts as well.

--
Peter Orban
National Research Council of Canada
internet: peter.orban@nrc.ca

618. Need help with Yaesu FL2100-B amp relay

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: n5ejs@linknet.net
Message-ID: <8167cc$132410.13f@NEWS>
Source record: 102998

[I am posting this for a fellow Ham that has the problem. He does]
[not have access to Usenet but he has e-mail so please respond]
[to his address at the end of this message.]
==========

I have a problem with Yaesu FL-2100-B amplifier. When the
standby-operate switch is in the operate position, but listening,
received signals are greatly attenuated. An S7 sig is reduced to S1 or
2. Transmit operation seems normal. Examination of the TR Relay
reveals it is a sealed unit, preventing any spraying of contacts, if
indeed that is the problem.

I wonder if anyone out there has experienced a similar problem with
with a Yaesu or similar amps using 572B paired finals and similar
circuitry such as Heath SB series.

Also does anyone know where a replacement TR relay could be
obtained. Any help would be greatly appreciated.

K0JPW
Don
K0JPW@juno.com

619. Re: FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <321e5629.14714174@news.syspac.com>
Source record: 102999
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Fred <peerenbf@dmapub.dma.org> wrote:

snip

>>
>A terribly misdirected group. May be so may not be so. Do you have any
>facts to show that rf is harmless.

It is almost impossible to prove a negative. Please show me a definitive study with a properly established scientific basis that will show that RF is harmful. After all, it is your theory.

This is the same science that stated that bran was wonderful, only to state a few short months later that it was not. The same science that stated that ALAR would kill everyone in the free world, only to state later that the basis was flawed. This is the same science that said the cranberries would cause cancer in huge numbers of people, only to be shown to be false.

Chocolate is SIMILAR to marijuana? The center for science? and disease control is headed by a bunch of people who at best are self serving boobs, concerned only about perpetuating their high paying jobs.

I don't KNOW if RF is harmful or not but virtually everything in the human experience is harmful, or at least potentially harmful. Cars kill thousands every year but we raised the speed limit to 75 knowing that there will be an incremental increase in the highway death toll.

The prez has declared that tobacco (cigarettes) are a nicotine delivery system while VERY recently we de-drugged Nicorette gum. My mother has smoked for over 70 years and is in better shape than most 60 year olds I know. I do not condone smoking but I believe that the benefits to society COULD outweigh the negatives (agreed not likely but every bit as speculative as your hypothesis) BTW, could you name any ... ANY person who has been shown to have died from second hand smoke?? Why has the average lifespan increased in the last 200 years?

Point of speculation.... In 23 years scientists will determine that a pack of cigarettes a day will decrease your chances to contract PMS/Prostate trouble!

Every state (to my knowledge) has some sort of law regulating the sale of cigarettes to minors so enacting new laws is just plain stupid

until we try to enforce the current laws.

Get a clue folks, the government is rapidly taking ALL of yur
Constitutional Rights away. Read the Federalist Papers to understand
that the founding fathers were aware of this possibility and
considered it to be the biggest potential problem the country would
face.

> Have you ever been in the near field
>of a broadcast antenna at 1KW even. I have, not the facts or figures,
>but by personal experiance know that the inner ears heats up at a
>frequency of 1450 Khz and 1000 watts if you are there for any significant
>period of time (ie. 30 minutes or so) Granted, amateur transmissions are
>usually short, but would you like a 4 El beam being fed with 1.5Kw pep rf
>pointed at your house???? I think not if it were your neighbors
>antenna. Do not poo poo the harm that non-ionizing radiation may or may
>not do. It is best to treat it with a little respect and use good
>engineering practice at all times. Hey, a well meaning, but misdirected
>group got a law passed because no one else has been able to prove them
>wrong with hard facts and figures. I for one, after spending a few years
>in the position of a chief broadcast engineer, treat an radiation,
>non-ionizing or otherwise with respect. remember your microwave oven
>operates in the middle of on ham band a about 1.2 gigahertz or so. And
>it cooks things very swiftly. Agreed it is not 3.9 Khz or 7.2, but it
>may be that the only differance is the power level and the exposer time??
>who know for sure. I don't and have met few rf engineers that are sure.
>Who wants to be the test dummy for this one fellows. Do I hear any takers?

620. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4vlp3t$i37@news.accessone.com>
Source record: 103000
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

We've added a link to Ham Radio Online to the Frequently Asked Questions about Cellular, PCS and Human Health issues, prepared by John Moulder, Ph.D. You may find this information useful in this dicussion.

Some of the previous postings in this thread have contained interesting information, often based on true stories, but also quoted incorrectly or interpreted wrong. Unfortunately, I don't have time to respond in detail but though it important to note that some of the info here is not correct.

Visit us at http://www.hamradio-online.com

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

621. WTB: Dead KDK2033 2M X-ceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: ehaskell@airmail.net
Message-ID: <321e692e.1756774@news.iadfw.net>
Source record: 103001

I fried the u-controller in my KDK2033. Any body have dead unit with a
working controller for sale cheep? Please specify condition and price?
Eric Haskell
KC4YOE
ehaskell@airmail.net

622. Re: Help:Recoton Tweak

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4vlugt$nd8@crash.microserve.net>
Source record: 103002

"Stephen Puskar" <spuskar@concentric.net> wrote:

>I live far out in the "sticks" with no neighbors for acres. I
>purchased a Recoton wireless headphone system to listen to DMX
>while I mow my hours of lawn. The system claims at least 150 range
>but doesn't seem to deliver that. Are there any tweaks possible to
>boost the signal a couple of 100 feet so I can listen without
>experiencing drop-offs or fades?

Radio Shack sells a $20 omnidirectional FM antenna, about four
feet square, that would undoubtedly make an impressive difference.
Mounted on a football helmet with a short mast, it would almost
certainly resolve your problem.

Regards,
Jack WB3U

623. WTB: HP8444 Trac. Gen. need Output module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: ehaskell@airmail.net
Message-ID: <321e6c78.2599086@news.iadfw.net>
Source record: 103003

Please state 8444 price and condition.
Eric Haskell
ehaskell@airmail.net

624. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: carl@ais.net
Message-ID: <4vll4u$ni6@news.ais.net>
Source record: 103004

In <dmoorman-2308960756500001@d136.w.interaccess.com>, dmoorman@interaccess.com (Dave Moorman) writes:
>
>You must be traveling in elite circles. The yearly income in most
>countries is a fraction of what it is in the States. I'm sure the rich
>folks do have big antenna farms, but your average-income ham in Latin
>America is probably lucky to put up a dipole and get on CW or maybe SSB.
>
>Dave
>

Dave,

I'm not talking about traveling in elite circles ... I can't afford that ... I traveled on a virtual poverty budget by turist standards, living on my sailboat (at anchor, not in marinas), eating on the boat or in the local people's eateries not the turist spots, and being in very close contact with the locals.

I'm talking about normal working people and small business operators ... the local ham club group who meet at the Denny's (yup ... Denny's ... I swear to God ... there's a Denny's in Acapulco, for example) once a month for an eyeball QSO. Same story, local equivalent of Denny's, in other locations throughout Mexico, Nicaragua, Costa Rica, Panama, and Columbia.

I spent 2 years plus in those countries and everywhere I went were repeaters, packet radio BBSs, digipeaters, NETROM nodes, etc.

They have 2m FM in their cars (some dualbanders, some with HF rigs, too), HTs on their hips, and use the same Yaesu, Kenwood, Icom, and TenTec rigs that are typical here. A significant proportion have computers and run packet, AMTOR, etc.

What I am saying is that even in countries that are relatively "poor" by our salary standards, the ham community has very similar equipment (mostly brand-name "rice boxes", not homebrew "peanut whistles") as do we Americans.

Thus, the "you have to work CW to talk to most foreign stations" argument is a myth. It does NOT hold water.

A far more effective "requirement" to promote communication with foreign operators would be to require testing in a foreign language rather than in CW. And don't give me the standard crap that CW is the "universal language" ... Q signals are a bunch of bullshit ... essentially zero bandwidth ... compared to talking to someone in their own language.

Carl - wa6vse
carl@ais.net

625. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4vlskb$nd8@crash.microserve.net>
Source record: 103005

David Kao <dtkao> wrote:

>I would rather believe that it's hramful. There were poisoning
>reports from an electroinc assembly line in a factory in Taiwan
>20 or maybe 30 years ago.

<snip>

>A few workers died and some had brain damage and could never
>recover. Most workers had damaged liver.

I'd sure like to know what was in that solder! Thousands,
perhaps tens of thousands of U.S. technicians have worked in
similar environments for many years, with not so much as an
upset stomach.

>Hope this convinces you that solder vapor is actually
>extremely dangerous.

Sorry, no. Whatever the health hazards of solder vapor, the
dangers seem anything but extreme.

73,
Jack WB3U

626. *** SOLD**** Heathkit Power Supply HP 23 B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: gregwj@cwo.com
Message-ID: <4vlti1$b9r@news.xmission.com>
Source record: 103006
Cross-posted to: rec.antiques.radio+phono,rec.radio.swap,rec.ham-radio.swap,rec.radio.amateur.homebrew

Thanks to all of you who responded. To be fair I chose the first
response to my posting.
Greg
73's KB6WKW

627. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2408960615400001@d127.w.interaccess.com>
Source record: 103007

In article <4vll4u$ni6@news.ais.net>, carl@ais.net wrote:

...
> Thus, the "you have to work CW to talk to most foreign stations"
> argument is a myth. It does NOT hold water.
>
> A far more effective "requirement" to promote communication with foreign
> operators would be to require testing in a foreign language rather than
> in CW.

This is certainly true, Carl. Thanks for posting all of this information;
it's changed my understanding of the situation.

Dave

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

628. Re: need antenna info assistance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug24.111649.1747@ke4zv.atl.ga.us>
Source record: 103008
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

In article <321D196D.551@cris.com> tcmedlin@cris.com writes:
>
>I am wanting to build some dual band 2mtr/440mhz antennas by using 450
>ohm ladder line and possibly in a j-pole configuration. i would like to
>enclose these antennas in either 3/4 inch or 1 inch pvc pipe to make
>them rigid and to weather proof them. i could put a cap on the top and
>would like to mount a so-239 in the base so a coax could be connected.
>does anyone have any plans or information on the dimentions , gain, swr,
>etc that could be achieved. also looking for any other ideas even if
>not with the ladder line as long as it would mount in the pvc pipe.

Count on the PVC detuning the antenna. It will change the electrical
length of the antenna by a factor determined by its dielectric constant
and the ratio of antenna element diameter (and internal position) to
pipe diameter. Using a flexible conductor inside the pipe could make
this an intractable problem to calculate. Cut and try may be the only
way. OTOH, using a rigid conductor fixed in position inside the pipe
would make the design amenable to calculation (and make it reproducible).

Gary
--
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Lawrenceville, GA 30244 | |

629. Re: hf amp kit ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vn3qd$ss2@newsbf02.news.aol.com>
Source record: 103009

>> The closest you'll come to a full kit is to buy the individual
>> parts baggies from Communications Concepts. Because of the
>> problems with 11 neter amps, the FCC has outlawed selling complete
>> kits of parts (a la Heathkit) for HF amps

Not so. Kits are very much legal, they just reqire type acceptance.

Any person or manufacturer *selling parts with assembly instructions*
allowing customers to build a HF amplifer is required by law to have type
acceptance...even the guy selling solid state mobile amplfier kits that
doesn't.

Ther CCI kits are legal without TA because they are incomplete parts kits
without assembly instructions intended for engineering evaluation. That's
the case you have to make stick with the Feds..

73 Tom

630. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <321f2d85.69854737@news.syspac.com>
Source record: 103010
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) wrote:

>I believe you! Now, how does that relate to the average Ham? Although 10
>mW/cm^2 sounds like a miniscule amount, it doesn't sound so bad when you
>convert it to 100 W/M^2 (did I do that right?).
>
>What are "real world" exposure levels that a Ham is likely to encounter in
>each of several areas of the Ham spectrum? Suppose I have a 100 Watt HF
>transceiver to a dipole, about 20 feet off the ground. Is anyone at risk
>while I'm on the air? What if I run a KW? What if I use a beam that is
>50 feet up?
>
>How about a typical Two Meter installation?
>
>What I'm leading up to, is that the FCC might accomplish more, if they
>were to perform the math (or make the measurements) for common situations,
>and publish examples where harm might occur.
>
>73, Fred, K4DII

Now that makes sense Fred. Will it happen? Hell no. Because that
makes sense Fred.

631. Re: Need help with Yaesu FL2100-B amp relay

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: dmull2@esu2.esu2.k12.ne.us
Message-ID: <4vnb2l$qhu@news.nde.state.ne.us>
Source record: 103011

It would be a good idea to inject a signal into the antenna termaninal
and then trace the signal to see where the drop in signal strength is
this would be the quickest way to make sure it is the relay.

Dr Mull
Tech Communications

Russ (n5ejs@linknet.net) wrote:
: [I am posting this for a fellow Ham that has the problem. He does]
: [not have access to Usenet but he has e-mail so please respond]
: [to his address at the end of this message.]
: ====================================

: I have a problem with Yaesu FL-2100-B amplifier. When the
: standby-operate switch is in the operate position, but listening,
: received signals are greatly attenuated. An S7 sig is reduced to S1 or
: 2. Transmit operation seems normal. Examination of the TR Relay
: reveals it is a sealed unit, preventing any spraying of contacts, if
: indeed that is the problem.
:
: I wonder if anyone out there has experienced a similar problem with
: with a Yaesu or similar amps using 572B paired finals and similar
: circuitry such as Heath SB series.
:
: Also does anyone know where a replacement TR relay could be
: obtained. Any help would be greatly appreciated.
:
: K0JPW
: Don
: K0JPW@juno.com

632. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: No@Junk.Email
Message-ID: <4vnlch$kvc@uuneo.neosoft.com>
Source record: 103012
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

In article <n9jig-15089620304300001@0.0.0.0>, Rich Carlson said...
>
>Does anyone have the text of this ruling? I am trying to get my townhouse
>association to allow a DBS dish and a discone for scanning on my roof, and
>this may help push me over the edge as it were...
>

It looks like none of the other responders have mentioned that the
ruling does NOT apply to owners of townhomes/condiminiums where the
roof and surrounding real estate is not the sole property of the
owner, but is shared by the group.

If this is the case where you live, the ruling will not help you.
--
dsterner@neosoft.com

633. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: johnn@pacifier.com
Message-ID: <4vnoaj$537@news.pacifier.com>
Source record: 103013

Jim Conn (jconn@gte.net) wrote:
: As far as I am concerned, I use CW because it is fun. If we remove the

Great. You should continue to use and enjoy it.

: requirment to learn CW in order to be a radio amateur operator on HF, we
: effectively deny future generations of amateurs the opportunity to
: communicate with foreign hams who cannot afford the elaborate rigs that
: americans take for granted, and can only communicate with inexpensive,
: easily constructed CW HF rigs.

How does removing the CW testing requirement do this? Be careful. "Because
I think so" is not exactly an adequate explanation.
The fact of the matter is that if such delights are worthy in and of
themselves, the opportunity will always be there.

634. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: smith@mbnet.mb.ca
Message-ID: <4vo1o4$e3t@canopus.cc.umanitoba.ca>
Source record: 103014
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

In article <4vhlep$1bf@news-rocq.inria.fr>, skubi@rodin.inria.fr (Marcin Skubiszewski) says:
>
>The subject says it all.
>
>Is there a negative resistance region in these diodes, as in tunnel diodes ?

Boy, talk about a loaded question!

(Sorry.)

635. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug24.150005.2993@ke4zv.atl.ga.us>
Source record: 103015

In article <4vgea5$q3i@news.ais.net> carl@ais.net writes:
>
>Well said, Gary ... the concept of BANNING CW is foreign to MOST of us
>who feel that it should have been dropped asa REQUIREMENT *long* ago.
>
>I support the use of CW by those who like it and want to use it ...
>although I think the CW subbands are disproportionately large.

There *are no CW subbands* (at least not on HF). Leave the RTTY/data subbands alone! That's where the most rapid HF activity growth is occurring.

Gary

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636. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug24.153800.3149@ke4zv.atl.ga.us>
Source record: 103016

In article <dmoorman-2308960756500001@d136.w.interaccess.com> dmoorman@interaccess.com (Dave Moorman) writes:
>> Again, I must disagree ... I've traveled quite a bit ... even in poor
>> countries in latin America, the hams have rigs comparable to ours,
>> complete with DSPs, etc. And you should see the antenna farms!
>> (From my experience, foreign hams tend to be quite well-off financially
>> for their own society ... much more so than American hams.)
>
>You must be traveling in elite circles. The yearly income in most
>countries is a fraction of what it is in the States. I'm sure the rich
>folks do have big antenna farms, but your average-income ham in Latin
>America is probably lucky to put up a dipole and get on CW or maybe SSB.

The point is that there are very few "average income hams" except in a few industrialized countries where "average income" is a substantial sum. Amateur radio is not an activity in which those on subsistence incomes participate to any great extent. A simple examination of the relative numbers of amateurs in impoverished nations versus the number in wealthier nations should make this abundantly clear. Substantially only those elements of a society with disposable income participate. And that's mainly the well to do in societies where there is little middle ground between direst poverty and the upper class.

If you look at the pictures of foreign stations in QST and CQ, you'll see the same sort of Japanese transceivers found in most US amteurs' stations. It is rare indeed to see a homemade station, and when you do, it usually turns out to be quite elaborate (read expensive). That's because most foreign amateurs, just as most US amateurs, only homebrew because they *want to*, and not because they have to. It usually isn't cheaper to build a quality station than it is to buy one.

Some amateurs in the US and elsewhere *choose* to build and operate cheap CW stations of marginal performance, but in almost every case it *is* a choice, and not done by necessity. Homebrewing is great. It is fun and educational. But it isn't a viable route for those in dire poverty to enter amateur radio, even if they had the leisure time to do so (which they almost certainly do not).

Gary
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637. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug24.164839.3416@ke4zv.atl.ga.us>
Source record: 103017

In article <199608232319.JAA27959@oznet02.ozemail.com.au> vk3jma@ozemail.COM.AU (Mark Aitken) writes:
>I watch PANAMSAT-2 satelitte here in Australia, basically CNNi.
>
>One problem is that it is received in the American NTSC format of
>video transmission and here in Australia we use PAL.
>
>I know that NTSC to PAL converters are available as a ready to use
>item but would be interested in building one.
>
>Does anyone know of kits or projects (cct's) for such a project?
>
>Thanks for any help you can offer.

This used to be incredibly hard and incredibly expensive. Now it is merely hard and expensive. You're far better off attempting to modify a PAL TV set to accept NTSC than you are to build a standards converter.

Lets see what's involved. First you need to matrix decode the incoming NTSC video down to component RGB. Then using flash A/D converters slaved to a 14.318 MHz sample clock which is locked to 4x incoming color burst, you write those component samples into three frame store memories, interpolate them into secondary PAL frame memories to make the extra scan lines PAL has which NTSC doesn't, then clock them out of the memories to D/A converters slaved to a PAL sync generator, and finally feed them to a PAL matrix encoder to produce composite PAL video.

Since the frame rates of the two TV standards are different, you have to "slip" frames from time to time to keep from overflowing/underflowing the frame memories. Fortunately this is easier going from NTSC to PAL than it is going the other way (you have to repeat frames going the other way and so need a *third* set of frame store memories).

You need fast flash A/D and D/A converters, gobs of fast dual port memory, a fast interpolator, and several digital PLLs to keep everything in sync. Parts cost alone dwarfs the cost of a NTSC receiver. It's a lot easier to tweak the sync circuits in a monitor, modify the color matrix decoder, and retune the sound IF so that a PAL set can receive NTSC than it is to do a standards converter. Oh, perhaps you could do a nasty one on the cheap, but the picture quality would be worse than just using NTSC equipment.

Gary
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638. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug24.132419.2275@ke4zv.atl.ga.us>
Source record: 103018
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <frederick.mckenzie-1-2308961844560001@k4dii.ksc.nasa.gov>
frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) writes:
>In article <1996Aug21.155557.3774@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
>(Gary Coffman) wrote:
>> There is documented evidence that exposures of greater than 10 mW/cm^2
>> can cause harm. In particular, cataracts or loss of focal flexibility
>> due to RF heating of the lens of the eye, and in some cases cancers.
>
>Gary-
>
>I believe you! Now, how does that relate to the average Ham? Although 10
>mW/cm^2 sounds like a miniscule amount, it doesn't sound so bad when you
>convert it to 100 W/M^2 (did I do that right?).

That's right, and it's the field you'd see 36.1 cm from the radiation
center of a dipole with a 100 watt transmitter driving it, or 8.1 cm
from a 5 watt transmitter's antenna, IE a HT with a rubber duck held
in front of your face.

>What are "real world" exposure levels that a Ham is likely to encounter in
>each of several areas of the Ham spectrum? Suppose I have a 100 Watt HF
>transceiver to a dipole, about 20 feet off the ground. Is anyone at risk
>while I'm on the air? What if I run a KW? What if I use a beam that is
>50 feet up?

The HF transceiver and dipole would be generating a field in excess of
the standard for H-field exposure (depending on antenna orientation with
respect to the point of measurement). You're still in the near field at HF
frequencies, and the behavior there is more complex. We have to look at
E-field and H-field exposures separately, and not just at power density.
(You'd be Ok with respect to power density alone at that separation.)

A kW would aggrevate the situation. 10 db power gain equates to a 3.16
times larger exposure radius for the same field intensity. A beam on a
50 foot tower would generally be in compliance with the standard, even
at a kW (barring some obscure pattern anomaly caused by the particular
installation, IE feeder radiation). That's because its pattern isn't
isotropic, and the main lobe would be well above populated areas.

>How about a typical Two Meter installation?

An on-glass antenna installation with a 100 watt transmitter in a car
would exceed 10 mW/cm^2 exposure at the driver's (or passenger's)
position. A cowl mount might too. A roof mount would generally be Ok

(except for people standing next to the car). At home, a spacing of 1.61 meters from the operator would be outside 10 mW/cm^2, but would have to be 5.1 meters away to meet the 1 mW/cm^2 exposure standard. In general, the new standard requires a spacing of 3.16 times greater than the old ANSI-82 10 mW/cm^2 standard required on 2m. If you're using a gain antenna, things become more complicated. In the main lobe, safe exposure distances have to increase in proportion to the power gain, in the pattern nulls, safe exposure distances are lessened from what they would be with an isotropic source.

>What I'm leading up to, is that the FCC might accomplish more, if they
>were to perform the math (or make the measurements) for common situations,
>and publish examples where harm might occur.

They did. About a year ago, the FCC OET went out in the field and examined 9 amateur installations picked at random. The results are available as a PDF file on the FCC web site (148 kb file). While many amateur installations were within the NCRP-86 limits, they found some which weren't. And those weren't aberrant installations, but rather some fairly common ways amateurs set up their stations.

IMHO, the most common dangers for amateurs operating VHF+ are on-glass mobile antennas with typical VHF rigs at power levels of 25-45 watts, and using a 5 watt HT held in front of the face. (Note that these setups are exempt from the new regulations for *political* reasons, but that certainly doesn't mean that they are safe. It is no accident that 50 watts was chosen as the cutoff point. Look at the power output of the typical VHF mobile rig, they fall just under the exemption limit.)

For amateurs operating on HF, the big danger areas are indoor antennas and ground mounted verticals. The FCC did find some "hot spots" in stations using open wire feeders or end fed long wires. (Mobile setups are at risk too, but at HF the car body does offer some Faraday shielding for the operator. The big hazard is to members of the public standing outside a parked car that has an operating HF setup.)

A final note. The standard requires exposures to be averaged over a 6 minute period for operators, or a 30 minute period for the general public (whose standard exposure levels are lesser than for operators). So a station whose peak exposures violate the standard may still be Ok if the average exposure level is sufficiently lower than the peak. Again this is a somewhat *political* decision and doesn't mean it is safe.

A non-amateur example: a 250 kW pulse radar whose average power is only 100 watts might meet the standard but still fry your eyes in some situations. Peak power does matter in some cases. I've tried to heat hotdogs by holding them in front of radar dishes with a wooden stick. The dog's surface *explodes* into blisters, but the center remains cold because the *average* power is too

low to cook it through. When I do this using our satellite uplink truck's dish (800 watts FM), the dog cooks nicely because it's in a constant power field of sufficient intensity. Those explosive blisters could still do you harm, even if they don't cook you through like a beam with higher average power can.

Gary
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639. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-24 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com>
Message-ID: <321FE5DC.7EBF92D3@primenet.com>
Source record: 103019

John D. Seboldt wrote:
>
> I've built the CCI power amp kit -- based on Motorola AN779 (push-pull
> MRF454's). I might want to try a little bit of AM, and I know if you
> want to amplify AM with a linear you have to keep the PEP at the rated
> output, thus carrier at about 1/4 the PEP rating of the amp.
>
> Any remote chance one could collector modulate this amp (assuming you
> re-bias it for Class C? [easy to do])? Would the power ratings end up
> similar to linear amplification?

Yup, it's possible. Airborne VHF communications radios work that way. If you want to try this you need to be aware that the input and output matches for the transistor devices may need modifications. As you will recall, the input and output impedances for a class c amplifier are strongly dependant on the input and output power levels. With collector modulated AM, the power levels are constantly changing.

The inherent non-linear behavior is tough to model correctly and the RF devices don't have good specifications to work in that manner. The best I've seen done is just to diddle with the matches until is works... Any body else?

1/4 of PEP is correct. We use 100 Watt devices to get 25 Watts of carrier power.

640. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32202F50.1CCD@ici.net>
Source record: 102934

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

641. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32202FA6.51DA@ici.net>
Source record: 102935

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

642. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32203062.5C23@ici.net>
Source record: 102936

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

643. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <322030FF.71A0@ici.net>
Source record: 102937

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

644. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <3220316B.2301@ici.net>
Source record: 102938

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

645. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <322033CE.52D@ici.net>
Source record: 102939

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

646. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: provero@connix.com
Message-ID: <4vpucu$mf8@beast.connix.com>
Source record: 102940

>In article <199608232319.JAA27959@oznet02.ozemail.com.au> vk3jma@ozemail.COM.AU (Mark Aitken) writes:
>>I watch PANAMSAT-2 satelitte here in Australia, basically CNNi.
>>
>>One problem is that it is received in the American NTSC format of
>>video transmission and here in Australia we use PAL.
>>
>>I know that NTSC to PAL converters are available as a ready to use
>>item but would be interested in building one.
>>

Some manufacturers, such as Telefunken, used to make these. I helped a friend (PhD in EE) install one in Italy and it took about 25 man hours.

However, wherever U.S. servicemen are, base exchanges sell multisystem TVs. I still use a multisystem Toshiba (NTSC, PAL & SECAM, + variations, 11 systems in all). Some countries (those which have TV licenses) actually prohibit the sales of these to the general public, but others are more reasonable. Just find out what the model #s are and pester the regular distributor to get one.

It's not homebrew, but the money & time you save will let you do some non-broadcast homebrewing.

P.J. "Josh" Rovero email: provero@connix.com
Sonalysts, Inc.
Waterford, CT radio: KK1D

647. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: kharker@cs.utexas.edu
Message-ID: <kharker-2508961147130001@slip-9-2.ots.utexas.edu>
Source record: 102941
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In article <321fa55b.3452629@news.blarg.net>, future@blarg.net (Tim Gerchmez) wrote:

> On 23 Aug 1996 12:05:57 GMT, Phil Wakely <pwakely@scigen.co.uk> wrote:
>
> >future@blarg.net (Tim Gerchmez) wrote:
> >>On Wed, 21 Aug 1996 04:46:16 GMT, jafo@cheetah.net (Gregg) wrote:
> >>
> >>
> >>>>Vs lbh pna ernq guvf, lbh ernyyl bhtug gb trg bhg zber
> >>>
> >>>Url! Jung xvaq bs n penpx vf gung? :-D
> >>
> >>Urururur.. V gubhtug EBG13 jnf bhg bs qngr.. guvf vf gur svefg gvzr
> >>V'ir frra vg hfrq va dhvgr n juvyr ;)
> >>
> >
> >Jung vf/jnf EBG13 ??
> >
>
> Tvira gung lbh rapbqrq gur nobir, lbh onfvpnyyl nyernql xabj jung vg
> vf. Vg'f n fvzcyr Hfrarg rapbqvat zrgubq (sbetbg jurer vg bevtvangrq,
> fbzrbar ryfr pbhyq cebonoyl gryy lbh). V unqa'g rire frra vg hfrq
> orsber hagvy guvf guernq fgnegrq. Zl arjfernqre (Ntrag .99S) vapyhqrf
> n EBG13 rapbqre/qrpbqre, fb V'z abg qbvat guvf ol unaq ;)

Gur svefg checbfr V rire fnj EBG-13 hfrq sbe (onpx va 1991 be gurernobhgf) jnf gb uvqr rvgure gur chapuyvar bs be na ragver wbxr gung jnf cbgragvnyyl bssrafvir be bs n evfdhr angher, cercraqrq jvgu n pyrnegrkg qvfpynvzre, fb nf gb nyybj gur vaqvivqhny ernqre gur bcgvba bs jurgure be abg gb ivrj gur zngrevny. V'z fher gurer ner bgure tbbq ernfbaf sbe vg nf jryy.

Nf gb jurer vg bevtvangrq, vg'f n irel fvzcyr Pnrfne pvcure gung'f orra nebhaq n ybat juvyr (fvapr ng yrnfg gur qnlf bs Whyvhf Pnrfne) - lbh whfg fuvsg rirel yrggre 13 fcnprf va gur nycunorg (jenccvat nebhaq nf arprffnel.) V'z abg pregnva jung "EBG" zrnaf be jurer vg pnzr sebz, gubhtu.

--

Kenneth E. Harker kharker@cs.utexas.edu
University of Texas at Austin Amateur Call: N1PVB
Department of the Computer Sciences "Long Live Peent!"

Taylor Hall TAY 2.124 Maintainer of the Linux Laptop Home Page
Austin, TX 78712-1188 USA http://www.cs.utexas.edu/users/kharker/
---

648. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: John Rabson <word.factory@zetnet.co.uk>
Message-ID: <19960825161131682l3@zetnet.co.uk>
Source record: 102942

I tried this 30 years ago on a 160 m PA and found that the output capacitance of the PA varied enough with the instantaneous collector voltage to produce FM as well as AM. Do VHF airband rigs use collector modulation of the PA?

73 de
John G3PAI

649. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32204744.6979@ici.net>
Source record: 102943

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compressed in this line? Thanks, Bruce KD1MW shiso@ici.net

650. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4vq4vu$mat@li.oro.net>
Source record: 102944

Bob Doyle <doyle@primenet.com> shared the following priceless pearls of wisdom:

->The inherent non-linear behavior is tough to model correctly and the RF
->devices don't have good specifications to work in that manner. The best
->I've seen done is just to diddle with the matches until is works... Any
->body else?

Yup. Since aircraft VHF AM radio is where I've spent almost all my engineering career, the best way to do it is to amplify your modulating signal with an op-amp, sniff a little bit of the RF output, rectify it (detect it) and use this as the feedback signal to the op amp. You couldn't care LESS what the modulating signal at the collectors looks like so long as the OUTPUT is a faithful reproduction of the input.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

651. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2508961334350001@d127.w.interaccess.com>
Source record: 102945

In article <1996Aug24.153800.3149@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
(Gary Coffman) wrote:
> Homebrewing is great.
> It is fun and educational. But it isn't a viable route for those
> in dire poverty to enter amateur radio, even if they had the leisure
> time to do so (which they almost certainly do not).

It's still a more viable route than spending a few year's worth of their
family's income to buy a fancy transceiver. I would like to make sure
that the option to cobble together and operate a cheap CW station is open
to lower-income people who want to enjoy ham radio.

Dave, K9SW

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

652. Western Connecticut Hamfest 15-Sep Newtown CT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <32209551.2F3E@ix.netcom.com>
Source record: 102946
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

THE WESTERN CONNECTICUT HAMFEST
Sponsored by the Candlewood Amateur Radio Association

Sunday, Sept. 15, 1996 0900-1400
Edmond Town Hall Route 6, Newtown, CT
Tables inside Tailgating outside
ARRL Sanctioned Handicapped Access
Door Prizes Ample Parking
Gourmet Fare Rain or shine

Talk-in 147.12/.72 PL 141.3

General admission $4.00 at the door (what a deal!)

Tailgating $6.00, inside table reservations $10.00 each, (both
include 1 admission), mail to:
Candlewood Amateur Radio Association, PO BOX 3441, Danbury CT 06813

For more info, phone (203) 790 7041 or (203) 438 6782.

Hope to see you all there.
73 de KD1YV
Jim

653. sorry for screw up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32207324.7C58@ici.net>
Source record: 102947

It was my mistake to list my Hardline connector want so many times.
Sorry,!!! Bruce KD1MW..

654. Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug25.153840.2362@ke4zv.atl.ga.us>
Source record: 102948

In article <321DD7DB.28EC@gte.net> Jim Conn <jconn@gte.net> writes:
>carl@ais.net wrote:
>>
>> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
>> >I don't get it. The HF bands are not useful for high speed digital work.
>> >
>> Rediculous ... all it takes is the right modulation and coding
>> techniques and a progressive regulatory structure that permits it.
>> Obviously higher data rate wider bandwidth transmissions are more easily
>> accomodated at higher frequencies, but HF will support FAR beyond 300
>> baud FSK packet.
>> The cost/bandwidth/performance of HF high speed digital services
>render such a thing impractical within the confines of the amateur bands.

Nonsense. We have an off the shelf solution in Clover which gives us 750 bps (in OOK Morse terms that's 1125 WPM) in 500 Hz. We can go faster than that. Using a raised cosine FSM, we can put 38 non-overlapping 50 baud carriers in a 3 kHz channel. That gives 1900 bps while still maintaining a symbol rate compatible with HF multipath. If we use symbol overloading, as Clover does, we can boost that to 4500 bps. If we more aggressively overload symbols and use some simple coding tricks, we can jump to 7600 bps, still in a 3 kHz channel. If we throw in a bit of compression and some FEC, we can do 11.4 kbps. Subtracting overhead, we can achieve a net 9600 bps in a 3 kHz channel without sacrificing our ability to deal with multipath. And we can do that for less than $100 in DSP parts (or even do up through 4500 bps on a PC with just a sound card and a bit of software, IE essentially free).

We aren't limited by cost, there is sufficient bandwidth, but we aren't allowed to exploit it by the regulations, and performance of even the simplest system is so far ahead of OOK Morse as to not even make it a competition (an effective 9600 bps is equivalent to 14,400 WPM using the "PARIS" method of expressing WPM used by OOK Morse adherents, and that's using the full extended ASCII character set (or pure binary data), not just a subset of capital letters and some punctuation). That's more throughput than a whole band full of OOK Morse operators can manage to achieve, and we can do it in a 3 kHz channel. Who's wasting spectrum then?

Under very severe conditions, with large amounts of interference and very weak signals, we can do fallback the same way that Clover or PACTOR II do. Even at the lowest rate, our throughput would still be 47.5 WPM, and that's for a signal you couldn't even hear with your unaided ear. I know this works because I've had Clover contacts with stations I couldn't even detect with my ear, but the modem could. And Clover is not the best method

we could use (it may not even be the best off the shelf, SCS's PACTOR II box is said to be better right now).

>> >If we remove the requirment to learn CW in order to be a radio amateur
>> >operator on HF, we effectively deny future generations of amateurs the
>> >opportunity to communicate with foreign hams who cannot afford the
>> >elaborate rigs that americans take for granted, and can only
>> >communicate with inexpensive, easily constructed CW HF rigs.
>> >
>> Again, I must disagree ... I've traveled quite a bit ... even in poor
>> countries in latin America, the hams have rigs comparable to ours,
>> complete with DSPs, etc. And you should see the antenna farms!
>> (From my experience, foreign hams tend to be quite well-off financially
>> for their own society ... much more so than American hams.)
>
>If you don't use CW, then probably you wouldn't have QSOs with the
>multitudes of foreign hams who use only CW, and have home made
>equipment.

Probably not, their choice. If they choose not to use high performance modulations, they miss out on contacts with us. But experience shows that most of the more advanced digital operators *are* non-US operators *now*. Foreign hams seem to adopt technological advances quicker than we do. I know that GRAPES has had more foreign sales of its 56 kb RF modem than domestic sales, and I know I make more foreign contacts on HF digital than I do domestic ones. I believe that says something about the technical astuteness of US amateurs too. We have an off the shelf way to do packet 47 times faster than the typical US amateur does it now, and for about the same total station cost, but US amateurs have not been quick to seize the opportunity to advance. In proportion to their relative numbers, foreign amateurs are accepting the high performance challenge at a rate over 10 times that of US amateurs. If you want to talk about backward amateurs, there's no need to look overseas.

>> >SSB is just as outmoded as a means of communication as FM and CW, if you
>> >only consider the amount of data you are able to pass in the shortest
>> >period of time.
>> >
>> Actually SSB is probably still by quite a margin the MOST efficient
>> means of conveying voice information in terms of required RF bandwidth
>> per Hz of baseband bandwidth. Digital techniques for speech
>> transmission that can readily operate in less than 5kHz bandwidth
>> (2.4kbps LPC, for example) sound like crap. (They're intelligible, but
>> they sound like a robot talking in the bottom of a tin can.) The
>> vocoders that provide good voice quality require quite a bit more
>> transmission bandwidth.
>
>You're correct, considering only efficiency. But remember that CW is a
>much more efficient means of communication than SSB, in terms of
>required RF bandwidth per Hz of baseband bandwidth.

What's that supposed to mean? A dead carrier would be even more efficient by that metric. "CW" is really double sideband with carrier AM. The only reason it is narrow is that information content is very low. The relevant measure is information per Hertz per second, or in more Morse-centric units, words per minute per Hertz. If we take the ARRL recomended rise/fall time for a Morse element, a Morse signal occupies 250 Hz. Being generous, lets say the average amateur operator can sustain 20 WPM. That gives Morse a score of 0.08 WPM/Hz. By contrast, off the shelf Clover offers a score of 2.25 WPM/Hz. And poor old SSB has a score of 0.06 WPM/Hz (disregarding the nuances of inflection carried in the human voice). So OOK Morse beats SSB (barely), but is totally blown away by Clover. If we look at what we *could* do given proper regulations, we'd have a score of 4.8 for the system I mentioned (and that certainly isn't the last word on what's possible within amateur means today).

****
NOTE: replies to the following part should be directed to the policy newsgroup.
****

>I remember having similiar discussions using the same arguments on both
>sides, back in the sixties. As a young man working in the development
>of the integrated circuits for the LEM computer for the Apollo program,
>I walked away from ham radio as being too backward, outdated and out
>of touch. Telemetry of the time seemed to put CW in a category with
>smoke signals and stone knives.
>
>A few years ago, I picked up a shortwave radio at a flea market, and
>tuned in W1AW code practice. To my amazement, I could still copy it
>after 30 years. I picked up the general class ticket the next month,
>and passed the Extra class one month later.
>
>I find that I enjoy the CW most of all. It matters not that it is
>outmoded, I consider every aspect of ham radio outmoded, including
>satellite work. It's all old hat (But it's fun to fool with) in
>light of modern technology.

Fine. No one is telling you that you can't do that. You can use only old tube type radios too if that's what you want to do, or put any other *self-imposed* limitation on your capabilities that you like. But there certainly are better ways than smoke signals and stone knives. And many of those ways are well within amateur reach, regulations permitting. But the regulations don't permit in several important respects, and that's at least partially because of myths perpetuated about those old smoke signals and stone knives, and resistance to new methods imbued by the current amateur culture of Morse worship as the defining element of amateur radio.

Just look at the current furor over revising the SS regulations. That technology holds promise for large improvements in the way we use and share spectrum, but vested interests with a mindset that narrower is better (the narrowness is really in their own

minds) and that simplicity is a virtue (really they mean simple mindedness, VLSI has rendered arguments against circuit complexity virtually moot) are attempting to shout it down.

This same attitude has been echoed recently on Moon Net. Some EMEers are trying to discourage use of better modulations to displace the need for large amplifiers and huge arrays to do EME. Because those methods would obsolete OOK Morse as the weak signal mode of choice, some are arguing that the newer methods should not be used.

IMHO they're just afraid that their skills will become as obsolete inside amateur radio as they already are outside of amateur radio. So they've decided to try to hold amateur radio as a whole back rather than trying to update their own skill sets, or just accepting that their methods aren't the be all and end all they've been propagandizing for years that they were, and finally accept that they only use them by choice because that's all *they* want out of amateur radio. Now that's fine, *for them*, but it shouldn't be an unnecessary limit on what those who feel otherwise can do.

To those who want to build 2N2222 oscillators and hammer out Morse, I say fine, go for it, if that's what you want. Just don't try to be a roadblock for those who want to build something else, say something using an AD6432 to handle the RF, and a bit of firmware on an AD2181 to do a better modulation coding/decoding, for example, or even for those who want to slip a 20 cent varactor on that 2N2222 and FSK it.

Even Morse addicts are realizing that the receiver's the thing, and that a bit of quadrature and a touch of DSP can be useful in retrieving the modulation of a signal, even the AM of OOK Morse. But receivers work better with a coherent modulation that is tailored to the channel and the demodulating technology available. Hand keyed OOK Morse isn't that modulation, and a pair of headphone covered ears isn't the best decoder anymore either. Like the Boy Scout rubbing two sticks together, the old methods can sometimes still make a fire (especially in the muscles of your shoulders and back), but a magnesium starter is better, quicker, easier to master, and works even when the wood is wet and the wind is howling.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

655. Re: Is ARRL's MicroSmith software any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug25.154747.2503@ke4zv.atl.ga.us>
Source record: 102949

In article <4vklfh$6gh@globe.indirect.com> jeffd@coriolis.com (Jeff Duntemann) writes:
>I've been teaching myself impedence matching via Smith chart recently,
>and it's going reasonably well. I noticed that ARRL sells a software
>package that emulates the Smith chart, and I'm curious to hear of what
>other people think of it. Specifically I want to design simple power
>amps in the 5-30 watt range using transistors like Motorola's that are
>fully characterized for series input and output impedence. In other
>words, I don't have to guess; I have the complex numbers from the data
>sheets and just need to calculate the conjugates to create a good
>match on both sides.
>
>Is MicroSmith useful for this sort of thing? Or is paper just as
>good?

If you have all the relevant numbers, then a complex calculator
or a Mathcad worksheet are all you need. Where the Smith Chart
shines is in giving you an intuitive feel for what the networks
are doing. In that respect, I think the paper charts are better,
giving you a tangible hands on intuition. But the better Smith
Chart software usually includes a complex calculator, and the
graph on the monitor still gives you an intuitive look at the
network. It'll save you a bit of time, whether that's worth the
price is up to you.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

656. HARDLINE CONNECTORS WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <322071A4.4213@ici.net>
Source record: 102950

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compressed in this line? Thanks, Bruce KD1MW shiso@ici.net

657. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Ian Edwards <Ian@redsquir.demon.co.uk>
Message-ID: <dF+vuCA$wLIyEwCv@redsquir.demon.co.uk>
Source record: 102951

In article <1996Aug24.164839.3416@ke4zv.atl.ga.us>, Gary Coffman
<gary@ke4zv.atl.ga.us> writes
>In article <199608232319.JAA27959@oznet02.ozemail.com.au> vk3jma@ozemail.COM.AU
>(Mark Aitken) writes:
>>I watch PANAMSAT-2 satelitte here in Australia, basically CNNi.
>>
>>One problem is that it is received in the American NTSC format of
>>video transmission and here in Australia we use PAL.
>>
>>I know that NTSC to PAL converters are available as a ready to use
>>item but would be interested in building one.
>>
>>Does anyone know of kits or projects (cct's) for such a project?
>>
>>Thanks for any help you can offer.
>
>This used to be incredibly hard and incredibly expensive. Now it
>is merely hard and expensive. You're far better off attempting to
>modify a PAL TV set to accept NTSC than you are to build a standards
>converter.
>
>Lets see what's involved.

< big snip >

> but the picture quality would be worse than
>just using NTSC equipment.
>
>Gary

Gary is right. A modified TV or a multi-standard one is the cheapest
solution, unless of course, you wish to record the NTSC signal on a PAL
video.

Panasonic make a world-wide VHS machine known as the NV-W1. This
machine will play any VHS tape of any standard from anywhere in the
world and output the video signal to any TV standard you wish. It will
also record any TV standard from any other TV standard you care to feed
it with as it has a standards-converter built-in. It will replay, but
not record S-VHS tapes and does not have a built-in tuner.

Here in the UK, its sold for about 1800 pounds sterling.

Maybe, with the aid of a service manual, you could bastardise one of
these ? Hope you're able to work with surface-mount devices. :-)

Good luck,
--
Ian Edwards
(G7OLT)
Watford, England.

658. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: pip@shore.net
Message-ID: <4vqfae$2ar@shore.shore.net>
Source record: 102952
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In article <kharker-2508961147130001@slip-9-2.ots.utexas.edu>,
kharker@cs.utexas.edu says...

>Nf gb jurer vg bevtvangrq, vg'f n irel fvzcyr Pnrfne pvcure gung'f orra
>nebhaq n ybat juvyr (fvapr ng yrnfg gur qnlf bs Whyvhf Pnrfne) - lbh whfg
>fuvsg rirel yrggre 13 fcnprf va gur nycunorg (jenccvat nebhaq nf
>arprffnel.) V'z abg pregnva jung "EBG" zrnaf be jurer vg pnzr sebz,
>gubhtu.
>

My guess is ROT13 is short for ROTATE 13. If you imagine the alphabet on a
wheel, you would cipher the text by rotating the wheel 13 spaces

659. Re: WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32212376.5D96@worldnet.att.net>
Source record: 102953

Bruce KD1MW wrote:
>
> Hello all: I am looking for "N" type hardline ends -HCC 78-50NM,
> too fit a length of 1" hardline (flexwell) that I just picked up,
> used. The cable has lettered on it, Cablewave Systems
> 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one
> end on the line now with air valve and guage 0-5 PSI. Please
> advise, any help is appreciated. Also what gas gets compressed in
> this line? Thanks, Bruce KD1MW shiso@ici.net

Ever consider making your own? I like Hline for its' low loss, but
have a limited budget. Given that, I scrounge 1/2 and 7/8 inch 70 ohm
catv cable. If you sweet-talk 'em many cable companies will give you
the (relatively) short ends from a spool. The scrap man was gonna get
'em anyway... I use copper pipe, telescoping hobby shop brass tubing,
hose clamps (split copper/brass to clamp on Hline od), and a dose of
coax seal. Cover the entire mess with Scotch Super 33+ tape (never
use the cheap stuff - bad investment) and have a $5 or so end on the
cable.
73,
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

660. Worked any xmtr-to-skull lately?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: raven1 <raven1@netaccess.on.ca>
Message-ID: <4vqesf$44p@news.bellglobal.com>
Source record: 102954

This isn't a joke. If anyone has tried this or is
willing to try it, I would like to correspond about
this amazing technology. It is apparently patented
and therefore likely works.

Please reply to raven1@netaccess.on.ca (Canada)

A summary of the patents follow below:

Date sent: Sun, 7 Apr 1996 00:02:50 -0800 (PST)
To: MindNet@c2.org
From: vericomm@c2.org
Subject: MindNet Journal - Vol. 1, No. 59

==========
MindNet Journal - Vol. 1, No. 59
==========
V E R I C O M M / MindNet "Quid veritas est?"
==========
Sender: Owner-MindNet@c2.org
Precedence: bulk

The views and opinions expressed below are not necessarily the
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Editor: Mike Coyle <vericomm@c2.org>

Assistant Editor: Rick Lawler

Research: Darrell Bross

Editor's Note:

The diagrams mentioned in this article are available in GIF
format at our FTP site as: [mn159a.gif], [mn159b.gif],
[mn159c.gif].

==========

REVIEW OF PATENTS RELATING TO SYNTHETIC TELEPATHY

By Judy Wall

RESONANCE

Newsletter of the Bioelectromagnetics Special Interest Group

Judy Wall, Editor, 684 C.R. 535, Sumterville, FL 33585 USA

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Number 30, March 1996

Pages 38 to 44.

There are at least two patents dealing with the concept of transmitting sound, voices, and other audio phenomena directly to the brain, bypassing the normal auditory processes commonly associated with the sense of "hearing." In a previous article this situation was called "synthetic telepathy," and literature reviewed at that time revealed only the most rudimentary research had been done to support the existence of this phenomenon. Synopsis: In 1961, Allen Fry documented the ability of the human brain to "hear" certain microwave pulses. Joseph Sharp and Mark Grove, in 1973, successfully performed an experiment in which words were modulated onto a microwave frequency and communicated directly to the human brain. A.W. Guy et al. stated that the most likely mechanism for the interaction of the electromagnetic (EM) field with the brain was by the conversion of the EM energy to acoustic energy through thermal expansion.(1) Mike Coyle updates Frey's research [MC: see Appendix A. for this update] elsewhere in this issue to include the possibility of other mechanisms, including direct interaction with the magnetic fields around neurons.

FLANAGAN PATENT

Dr. Gillis Patrick Flanagan has over 300 inventions to his credit. At the age of 11 he invented his first device, a "sleep machine." At the ripe old age of 14 he invented the Neurophone, a radio transmitter that, when connected to the body through electrodes, sends electrical impulses through the human nervous system directly to the brain. He says, "When I first applied for a patent on the device, no one at the patent office believed such a device could possibly work." As a result, it took six years before he received the first patent, and that was "only after we made a nerve-deaf employee at the patent office 'hear' for the first time in fifteen years."(2)

The patent here described is U.S. #3,393,279, applied for March 13, 1962 and granted July 16, 1968, entitled "Nervous System Excitation Device" and the abstract reads:

"A method of transmitting audio information to the brain of a subject through the nervous system of the subject which method comprises, in combination, the steps of generating a radio frequency signal having a frequency in excess of the highest frequency of the audio information to be transmitted, modulating said radio frequency signal with the audio information to be transmitted, and applying said modulation radio frequency signal to a pair of insulated electrodes and placing both of the said insulated electrodes in physical contact with the skin of said subject, the strength of said radio frequency electromagnetic field being high enough at the skin surface to cause the sensation of hearing the audio information modulated thereon in the brain of said subject and low enough so that said subject experiences no physical discomfort."

Excerpts from the patent read:

"The present invention involves the discovery that certain electromagnetic waves induce responses in the nervous systems of mammals. In human beings a response is produced when some or all of a person's nervous system is placed within a field of electromagnetic waves having a radio frequency above the audible range. In addition, when the nervous system of a person is contacted by modulated electromagnetic carrier waves of such a frequency, the nervous system is responsive to the modulation of the carrier waves. Each individual nervous system is at least somewhat selective in respect to the frequencies to which it is most responsive. ...

"In the method of the present invention, a response is initiated in the nervous system of a mammal by disposing at least a portion of that nervous system within a field of electromagnetic waves of a radio frequency above the aural range. ..In a particularly preferred embodiment of this invention, at least a portion of the nervous system of a person is exposed to audio modulated electromagnetic waves having a radio frequency such that the person experiences the sensation of hearing, substantially free of distortion, the information which is conveyed by the modulation.

"The present invention may be used as a hearing aid, as an aid to teaching speech to a person who was born deaf, as a means of communicating with persons in locations in which the noise level is high, as a device by which a person can listen to an audio signal that cannot be heard by the others, etc."

This last sentence presaged a later application of the Neurophone to save the lives of American soldiers during a Vietnam War. Ordinary communication devices with their high extraneous noise levels, when used in the stillness of tunnels, would give away the soldier's location to the enemy and result in his immediate death. The Neurophone granted our soldiers access to communications while cloaked in acoustic imperceptibility.

This remarkable device can enable people born deaf to "hear" -- some immediately, others with some practice(5), but an amazing accomplishment nonetheless. At the time of invention Flanagan was offered one million dollars by a Corpus Christi company if he could adapt it to send visual images to the brain so that blind people could "see."(3)

The neurophone may be used for subliminal and/or superlearning as it transmits data directly into the brain's long-term memory storage banks, although Dr. Flanagan did not mention exactly when he first became aware of this remarkable property of the invention. He also said that the audio information could be modulated onto a microwave carrier, as in the following Stocklin patent.(5)

The original patent utilized vacuum tubes. Flanagan later applied for a patent on an improved digital version using transistors, U.S. #3,647,970, entitled "Method and System for Simplifying Speech Waveforms," patent applied for August 29, 1969, granted March 7, 1972. The abstract for the patent reads:

"A speech waveform is converted to a constant amplitude square wave in which the transitions between the amplitude extremes are spaced so as to carry the speech information. The system includes a pair of tuned amplifier circuits which act as high-pass filters having 6 decibel per octave slope 0 to 15,000 cycles followed by two stages, each comprised of an amplifier and clipper circuit, for converting the filtered waveform to a square wave. A radio transmitter and receiver having a plurality of separate channels within a conventional single side band transmitter bandwidth and a system for transmitting secure speech information are also disclosed."

Later in the patent we read:

"This invention is concerned with a method and system for simplifying a complex speech waveform so that it can be used for a multitude of applications... The simplified speech waveform can be transmitted directly through the earth or water as a pressure wave, and understood, either directly from the medium, or after simple amplification. The simplified waveform can easily be encoded by scrambling to provide secure voice communications..."

At this point, the Department of Defense slapped a secrecy order on Flanagan's invention and he was not allowed to work on it nor talk about it to anyone for the next five years.(4) He does not know why they did it nor was he compensated for the loss of time or money (as it was not yet in production, the argument went, there is no monetary value to be compensated for). He speculates it might have been for any of several possibilities, the "secure speech" being one.(5) Chuck Allen suggested it was for the "underwater communications possibilities" to contact submarines. An interesting thought occurred to me in comparing

the date of the patent with the date of the Sharp and Grove experiment. Did those scientists for the military get their inspiration from young Flanagan's patent?

Patrick Flanagan states that he does not believe that the Neurophone can be used to accomplish a state of "mind control" as is so often associated with the idea of "artificial" or "synthetic" telepathy. That type of situation requires a person to be in a state of hypnosis or lessened awareness, and disconnectedness between the two halves of one's brain. The Neurophone, on the contrary, effects the synchronization of the brainwaves between the two halves of the brain, into a state of phase efficiency which makes the brain hemispheres coherent, approaching the Zen meditative state, thus facilitating a super awareness and the superlearning ability.(5)

After the secrecy order was lifted, the Neurophone was marketed, but with only about 1,000 being produced. The good news is that this remarkable invention will again be available to the public in about 3 to 6 months' time. Patrick and his wife Gale Crystal are now in the process of setting up production. See the end of the article on how to contact them for more information.

STOCKLIN PATENT

A second quite remarkable patent, of more recent origin and complicated circuitry, by Philip L. Stocklin, is entitled simply "Hearing Device," dated August 22, 1989, and the patent number is U.S. #4,858,612. The abstract reads:

"A method and apparatus for simulation of hearing in mammals by introduction of a plurality of microwaves into the region of the auditory cortex is shown and described. A microphone is used to transform sound signals into electrical signals which are in turn analyzed and processed to provide controls for generating a plurality of microwave signals at different frequencies. The multifrequency microwaves are then applied to the brain in the region of the auditory cortex. By this method sounds are perceived by the mammal which are representative of the original sound received by the microphone."

This patent clearly picks up on the idea of beaming sounds directly to a person's brain by means of a microwave carrier frequency. Following are excerpts from the patent:

"Results of theoretical analysis of the physics of brain tissue and brain/skull cavity, combined with experimentally determined electromagnetic properties of mammalian brain tissue, indicate the physical necessity for the existence of electromagnetic standing waves, called "modes" in the living mammalian brain. The mode characteristics may be determined by two geometric properties of the brain; these are the cephalic

index of the brain (its shape in prolate spherical coordinates) and the semifocal distance of the brain (a measure of its size). It was concluded that estimation of brain cephalic index and semifocal distance using external skull measurements on subjects permits estimation of the subject's characteristic mode frequencies, which in turn will permit a mode by mode treatment of the data to simulate hearing...

"...This invention provides for simulation of microwave radiation which is normally produced by the auditory cortex. ...

"Neural stimulation results in the generation of a broad band of microwave photons by the change in rotational energy state of protons integral to the neuron membrane of the auditory cortex. The physical size and shape of the brain/skull cavity, together with the (semi-conductor) properties (conductivity and dielectric constant) of the brain tissue provide an electromagnetic resonant cavity. Specific single frequencies are constructively reinforced so that a number of standing electromagnetic waves, each at its own single electromagnetic frequency in the microwave frequency region, are generated in the brain. Each such standing electromagnetic wave is called a characteristic mode of the brain/skull cavity. ...

"The auditory cortex in the normally functioning mammalian brain is a source of microwave modes. The auditory cortex generates these modes in accordance with the neural stimulation of the auditory cortex by the cochlear nerve. ...

"In this invention, the function of the ear, the cochlear nerve, and the auditory cortex are simulated. Microwaves simulating the mode matrix are inserted directly into the region of the auditory cortex. By this insertion of simulated microwave modes, the normal operation of the entire natural hearing mechanism is simulated..."

A block diagram is shown of Figures 1 and 2 of the patent (here semi-combined), as well as Figures 8 and 10.

Basically, "A microphone pick-up is amplified and driven through a bank of 24 audio filters to produce 24 audio bands. These are used to amplitude modulate 24 RF milliwatt transmitters. The combined RF signals are transmitted through a suitable antenna into the person with impaired hearing due to damage to the ear, the cochlear nerve, or the auditory cortex." My thanks to Donald Stratton for this simplified version of the patent's operation. It appears to be much more complicated than the Flanagan patent. Those of you interested in the engineering details should obtain a complete copy of the patent for further perusal.

More excerpts from the patent concerning determination of the subject's microwave mode frequencies: The first method is by using a modified microwave hearing generator in which one oscillator signal is beamed at the subject and varied until the maximum perception value is discovered. "The perception, however, may consist of a buzzing or hissing sound rather than a tone because only one microwave frequency is being received. The first test of perception is to determine the subject's lowest modal□ frequency for audition (M=1). Once this modal frequency is obtained, the process is repeated for several higher modal frequencies..."

Another method is given: "Purely anatomical estimation of subject's modal frequencies is performed by first measuring the maximum lateral dimension (breadth) L Figure 8 of the subject's head together with the maximum dimension D (anterior to posterior) in the medial plane of the subject's head. D is the distance along Z axis as shown in Figure 10. The ratio L/D, called in anthropology the cephalic index, is monotonically related to the boundary value _E_o defining the ellipsoidal surface approximating the interface between the brain and the skull in the prolate spheroidal coordinate system. _E_o defines the shape of this interface: _E_o and D together give an estimate of a, the semi-focal distance of the defining ellipsoid. Using _E_o and a, together with known values of the conductivity and dielectric constants of the brain tissue, those wavelengths are found for which the radial component of the electric field satisfies the boundary condition that is zero at _E_o. These wavelengths are the wavelengths associated with the standing waves or modes; the corresponding frequencies are found by dividing the phase velocity of microwaves in brain tissue by each of the wavelengths."

A third method: "A subject's microwave modal frequencies may also be determined by observing the effect of external microwave radiation upon the EEG. The frequency of the M equal 1 mode may then be used as a base point to estimate all other modal frequencies ...the subject is laterally irradiated with a monochromatic microwave field simultaneous with EEG measurement and the microwave frequency altered until a significant change occurs in the EEG, the lowest such frequency causing an EEG change is found. This is identified as the M+1 mode."

REFERENCES

1. See Resonance #28, May 1995, "Synthetic Telepathy," pp. 17-26. [MC: see also: MindNet Journal, Vol. 1, No. 32]

2. Begich, Dr. Nick and Manning, Jeane, _Angels Don't Play This HAARP_, Earthpulse Press, Anchorage, AK; 1995, p.6.

3. Moeser, William, "Whiz Kid, Hands Down," _Life_, Vol. 53 (11), Sept. 14, 1962, p 69f.

4. Manning, Jeane, "Electronic Telepathy Device," unnamed source.

5. Telephone conversation by author with Patrick and Gale Crystal Flanagan, Feb. 24, 1996.

For more information about the Neurophone and other inventions, write to: Patrick Flanagan, 1109 S. Plaza Way, Flagstaff, AZ 86001 U.S.A.

Appendix A.

11/01/95

Judy Wall, editor
Resonance
684 C.R. 535
Sumterville, FL 33585

Dear Ms. Wall,

[...]

I read "Synthetic Telepathy" with interest as you reference a paper written by Allan H. Frey in _Aerospace Med._, 1961. I possess a copy of a paper he wrote in 1962 for the _Journal of Applied Physiology_ on the same subject titled "Human Auditory System Response to Modulated Electromagnetic Energy." This article seems to be a result of Frey's further work in this area and modifies his earlier statements, made in the 1961 article, about the location and mechanisms of the RF detector in the auditory system.□
In your article it is stated, "This produces an acoustic stress wave that is conducted through the bone to the cochlea.

THIS COPY OF MINDNET #59 BREAKS OFF HERE.

661. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4vqiur$clr@dfw-ixnews9.ix.netcom.com>
Source record: 102955
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In <4vqfae$2ar@shore.shore.net> pip@shore.net (GeorgeS) writes:
>
>In article <kharker-2508961147130001@slip-9-2.ots.utexas.edu>,
>kharker@cs.utexas.edu says...
>
>>Nf gb jurer vg bevtvangrq, vg'f n irel fvzcyr Pnrfne pvcure gung'f
orra nebhaq n ybat juvyr (fvapr ng yrnfg gur qnlf bs Whyvhf Pnrfne) -
lbh whfg fuvsg rirel yrggre 13 fcnprf va gur nycunorg (jenccvat nebhaq
nf arprffnel.) V'z abg pregnva jung "EBG" zrnaf be jurer vg pnzr sebz,
>>gubhtu.
>>
>
>My guess is ROT13 is short for ROTATE 13. If you imagine the alphabet
on a wheel, you would cipher the text by rotating the wheel 13 spaces
>

By goom, you're right! I did it the hard way - I noticed Ken Harker had capitalized a V in the middle of one of his sentences. I assumed this was "I" (what other single letter do we capitalize?) and translated (rotated) the alphabet accordingly. Everything fell out nicely from there.

After deciphering "If you can read this, you really ought to get out more," I decided the effort greatly outweighed the rewards!

- Jeff (wrss)

662. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: rohrwerk@pconline.com
Message-ID: <rohrwerk-2508961733250001@tsa-p14.pconline.com>
Source record: 102956

In article <4vq4vu$mat@li.oro.net>, rst-engr@oro.net wrote:

> Yup. Since aircraft VHF AM radio is where I've spent almost all my
> engineering career, the best way to do it is to amplify your
> modulating signal with an op-amp, sniff a little bit of the RF output,
> rectify it (detect it) and use this as the feedback signal to the op
> amp. You couldn't care LESS what the modulating signal at the
> collectors looks like so long as the OUTPUT is a faithful reproduction
> of the input.
>
> Jim

Good idea...

So we have this feedback suggestion to linearize modulation, and also the question of change in input/output impedances when re-biasing for Class C.

Big question: if you run the MRF454 transistors at about 100 watts carrier, can they take the peaks of current/voltage of 100% modulation? (Of course, all other associated output components would have to handle this also).

If not, maybe one should just be happy with the 30-some watts carrier power of all-linear amplification if only occasional AM is contemplated?

John Seboldt K0JD
rohrwerk@pcOnline.com

663. Re: Are vapors from solder harmfull?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: gradyr@mindspring.com
Message-ID: <gradyr-2508961956120001@news.mindspring.com>
Source record: 102957

As a new HAM operator and one who is studying and has done sampling for lead exposures as well as the constituents in solder, maybe I can shed a little light on the matter. Yes, solder fumes are harmful. The question though is how much dose and how often is the exposure should be your worry. I remind you that oxygen in large enough dosages is toxic also.

Solder may contain several metals. The two that come to mind readily are Lead and Tin.

For specific numbers on the solder you use, request a MSDS from the manufacturer. MSDS stands for Material Safety Data Sheet. The MSDS will tell you exactly what quantities of metals exist in the solder. It will also mention first aid procedures and symptoms related to over exposures.

Lead has a boiling point of 3164 degrees F and the melting point is 621 degrees F BUT the lead you will inhale while soldering is in the solid state. The heat from the soldering will help make the lead particulates rise up possibly into your breathing zone.

Lead is sufficient quantities can reside inside your body. It will affect your Central Nervous System and can cause sterility and birth defects. If you are of child bearing age and you/ or spouse want to have children, the effects of the lead can be serious. This is also true if you are a male. High lead levels can damage your sperm enough to cause birth defects in your unborn child.

To prevent exposures to lead (no exposure is ALWAYS the best exposure):

Set of a small vacuum system and filter the air. Nothing fancy needed. A dustvac with an extension up to your bench works wonders!

If anyone needs any advice,etc on the matter, drop me a line. I'll be glad to help where I can.

Grady Russell
KF4LDO
KF4LDO

==========

If you don't like it, don't read it.

==========

664. Re: Is ARRL's MicroSmith software any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.182.0011F8D3@azstarnet.com>
Source record: 102958

In article <4vklfh$6gh@globe.indirect.com> jeffd@coriolis.com (Jeff Duntemann) writes:
>From: jeffd@coriolis.com (Jeff Duntemann)
>Subject: Is ARRL's MicroSmith software any good?
>Date: Fri, 23 Aug 1996 15:13:34 GMT

>I've been teaching myself impedence matching via Smith chart recently,
>and it's going reasonably well. I noticed that ARRL sells a software
>package that emulates the Smith chart, and I'm curious to hear of what
>other people think of it. Specifically I want to design simple power
>amps in the 5-30 watt range using transistors like Motorola's that are
>fully characterized for series input and output impedence. In other
>words, I don't have to guess; I have the complex numbers from the data
>sheets and just need to calculate the conjugates to create a good
>match on both sides.

>Is MicroSmith useful for this sort of thing? Or is paper just as
>good?

Microsmith is fine; I have a copy. However, for what you want to do, Motorola
has a freeware program, "MIP", if I recall the name correctly. It has a
couple of little quirks, but the price is right.

I got a copy direct from Motorola on disk, but I think you probably can find
it online some place.

73, Wes -- N7WS

>Do let us know.

>--73--

>--Jeff Duntemann KG7JF
> Scottsdale, Arizona

665. NEW HAM wanting some advice! :-)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: gradyr@mindspring.com
Message-ID: <gradyr-2508962007500001@news.mindspring.com>
Source record: 102959

Was wondering if anyone could point me toward the right direction in obtaining schematics and/or kits for a couple of items.

Since I'm a no-code right now (working on it though!) I'd like to work the 6 meter and some of the MW range.

First off, what about a schematic and/or kit for a 6 meter radio?

And secondly, what about a schematic and/or kit for a RADAR Gun? I am assuming this one is legal of course. Correct me if I'm wrong here! Was wanting to build a RADAR gun and clock vehicles,check speeds,etc.

I'd prefer schematics and parts lists but will take what I can get.

TIA,
Grady
KF4LDO
KF4LDO

==========

If you don't like it, don't read it.

==========

666. Zener Diode For Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Carl Osborn <carl@sedona.net>
Message-ID: <32210E56.24A4@sedona.net>
Source record: 102960

Where can I get a 8.2 volt 1.5 amp zener diode for my Heathkit SB230 linear amplifier? It is a Motorola type 1N280 GA or possibly 1N2806 A (it is hard to read part no. in instruction book). Any help would be appreciated.

Carl W6RXP

667. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: docjim@getnet.com
Message-ID: <4vqnqv$oes_002@ax1-p11.getnet.com>
Source record: 102961

In article <31DD4192.4EAD@arrl.org>, Zack Lau <zlau@arrl.org> wrote:
>Path:
news.getnet.com!news.goodnet.com!opus1.com!sen.ca.gov!news.cais.net!hunter.pre
mier.net!newsfeed.internetmci.com!swrinde!elroy.jpl.nasa.gov!decwrl!pagesat.ne
t!a3bsrv.nai.net!mgate.arrl.org!news
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Re: Why difficult to generate high power at UHF?
>Message-ID: <31DD4192.4EAD@arrl.org>
>From: Zack Lau <zlau@arrl.org>
>Date: Fri, 05 Jul 1996 12:23:46 -0400
>References: <4rg6p0$hbd@server2.codetel.net.do>
>Organization: American Radio Relay League
>NNTP-Posting-Host: mgate.arrl.org
>Mime-Version: 1.0
>X-Mailer: Mozilla 2.0 (Win16; I)
>To: Bill Meara <w.meara@codetel.net.do>
>Lines: 21
>Status: N
>
>Bill Meara N2CQR/HI8 wrote:
>>
>>
>> Why is it that it becomes more difficult to generate RF power as we
>> increase frequency? Why do HF transceivers often have more power out on
>> 80 meters than they do on 10? Why is it so difficult to get lots of
>> power out in the VHF and UHF ranges?
>
>Radio gear is made to work on higher frequencies by making it
>smaller. However, there is no easy way to make the parts more
>conductive to keep the losses low. Thus, more exotic
>techniques are used to get the unwanted heat out.
>
>Trying to use excessively large parts doesn't work--you
>end up with power going around in circles just
>generating heat. Too much heat and the circuit fails.
>
>You can switch to different technologies to maintain a
>large size as you go to higher frequencies.
>
>Zack KH6CP/1

Or to add my two cents. All circuits have resistive and reactive components,
some on purpose and some parasitic. As frequency goes up, the reactance of,

say a stray capacitor, goes down. As a result, intentional resistances must be held low so the parasitic capacitors don't bypass (short) them.

The gain of a stage is, in the case of a simple grounded emitter stage, Rload/Remitter. Even if no emitter resistor is used (highest gain) there is resistance in the material the emitter is made out of. Result - less gain. Sad fact of life - the parasitic resistances don't change or maybe get a little higher with increasing frequency. A fancy way to say this is that a given device has a gain-bandwidth product. The higher the frequency it must pass, the less gain available.

Because we're keeping circuit resistance low to minimize the effect of stray capacitors, we are drawing more current from the power supply than we would at low frequencies. Thermal design limits the power I can put in to a stage and a low gain leads to low power out.

Ok, but why not use more stages to get any gain, and therefore power, we may want. You can, but it's going to cost you. Power is I^2 *R so we have to increase one or both. The transistor has a current limit and parasitic circuit elements dictate a low R - resulting in a maximum power.

Yes there are tricks and there are other technologies, but for reasonable cost, power, weight you quickly have to make the compromise you see the commercial equipment coming to. The good news is that less power is needed at higher frequencies. Don't think of antenna size in feet. Think of it in wavelengths. A given antenna area becomes a lot of wavelengths as frequency goes up resulting in more antenna gain. Less power and more antenna gain results in the same radiated signal strength.

Jim Gyer KC7RKL
(docjim@getnet.com)

668. 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: scottcr@wkuvx1.wku.edu
Message-ID: <1996Aug25.214331@wkuvx1.wku.edu>
Source record: 102962

Q. Can 4CX250Bs be operated grounded grid as a triode for HF ?

I've seen sweep tube amps (tetrodes) with both grids tied, operated as grounded grid triodes, for stability and to get by without a regulated screen supply.

I bought a very nice surplus commercial HF amp without supplies, that covers 2-30 mhz using two 250Bs, (and a driver stage which I removed). The whole thing is made very nicely, and is presently grid-driven and neutralized. If I matched the cathode impedance on the input, driving it with 50-100 watts, it sure would be nice to just supply a grid or cathode bias and plate voltage, omitting the neut circuit too...

I really want to make it work without neut. One alternative would be to use a 2:1 or 3:1 Unun on the input, and swamp it with a 300-400 ohm resistor on the grid side. But... still gotta mess with the screen supply.

Anyone done this?

WB9NEQ

--
Chris.Scott@WKU.EDU Chief Engineer, Public Radio- Western KY U
Telco: (502) 745-3834 Hm & Fax: (502) 781-1232
...just another insignificant VAX user. \\\//
(o o)
--ooO-(_)-Ooo----------------------

669. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com>
Message-ID: <32214165.519D5563@primenet.com>
Source record: 102963

John Seboldt wrote:
>
> In article <4vq4vu$mat@li.oro.net>, rst-engr@oro.net wrote:
>

[great idea snipped]

>
> So we have this feedback suggestion to linearize modulation, and also the
> question of change in input/output impedances when re-biasing for Class C.

I think you are stuck re-biasing no matter what you do, if you use class c. My guess is that the amplifier will oscillate without matching changes.

> Big question: if you run the MRF454 transistors at about 100 watts
> carrier, can they take the peaks of current/voltage of 100% modulation?
> (Of course, all other associated output components would have to handle
> this also).

I don't have my "Circle M" books handy... but about the only thing that doesn't have to be rated for 100W is the heat sink.

> If not, maybe one should just be happy with the 30-some watts carrier
> power of all-linear amplification if only occasional AM is contemplated?

You probably are. IMHO these changes go in the "not for the timid" category...

> John Seboldt K0JD
> rohrwerk@pcOnline.com

73,
Bob Doyle (WA3TGF)

670. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com>
Message-ID: <322132F3.65DE2A7E@primenet.com>
Source record: 102964

John Rabson wrote:
>
> I tried this 30 years ago on a 160 m PA and found that the output
> capacitance of the PA varied enough with the instantaneous collector
> voltage to produce FM as well as AM. Do VHF airband rigs use
> collector modulation of the PA?
>
> 73 de
> John G3PAI

Believe it or not... most that I know of, do.

Residual FM can be a real issue especially in countries with aggressive adjacent channel power specifications (Germany et. al.). Actually, to me, it is simpler to think of the issue as Phase Modulation, but the result is the same.

You'd think that in this age of high-tech, we'd have moved on by now...

Bob Doyle (WA3TGF)

671. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com>
Message-ID: <32213E0A.402D0F51@primenet.com>
Source record: 102965

Jim Weir wrote:
>
> Bob Doyle <doyle@primenet.com> shared the following priceless pearls
> of wisdom:
>
> ->The inherent non-linear behavior is tough to model correctly and the
> RF
> ->devices don't have good specifications to work in that manner. The
> best
> ->I've seen done is just to diddle with the matches until is works...
> Any
> ->body else?
>
> Yup. Since aircraft VHF AM radio is where I've spent almost all my
> engineering career, the best way to do it is to amplify your
> modulating signal with an op-amp, sniff a little bit of the RF output,
> rectify it (detect it) and use this as the feedback signal to the op
> amp. You couldn't care LESS what the modulating signal at the
> collectors looks like so long as the OUTPUT is a faithful reproduction
> of the input.
>
> Jim
>
> Jim Weir VP Engineering | You bet your sweet patootie I speak for the
> RST Engineering | company. If I don't, ain't nobody gonna.
> Grass Valley CA 95945 |
> http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
> jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

Oops, just to clarify a bit...

The "non-linearity" I was speaking of was the text book "Large Signal"
behavior of the class-c amplifier proper. This issue to be solved is
that the capacitances and other parameters of the amplifier are changing
with the instantaneous collector voltage of the device which is changing
with the modulation waveform. Incorrect matching in this scenario
yields spurrious and/or parametric oscillations!

A standard FM class-c amplifier only has to deal with much narrower
range of collector supply voltages and thus the matching issues with
respect to oscillations are much simpler.

I don't believe that what you suggested would cure any amplifier induced
oscillations. Basic amplifier stability would be a prerequisite.
Correct me if I'm wrong...

What this would cure is any distortion ("non-linearity") between the modulation signal and the generated RF envelope.

Never the less, your idea is valid. I may try it sometime. Many aircraft VHF radios already have forward and reflected power monitors which could be used for this purpose.

73,
Bob Doyle (WA3TGF)

672. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4vo55a$rg@nadine.teleport.com>
Source record: 103020
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

In article <4vo1o4$e3t@canopus.cc.umanitoba.ca>,
smith@mbnet.mb.ca (Tony Smith) wrote:

>>Is there a negative resistance region in these diodes, as in tunnel
diodes ?
>
>
>Boy, talk about a loaded question!
>
>(Sorry.)

You can always count on some hotshot to shoot his mouth off.

-- Another pointed (and maybe even poignant) comment by

Roy, W7EL

673. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: glittle@awod.com
Message-ID: <4vo8ha$2kn@battery.awod.com>
Source record: 103021
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.sca

In article <n9jig-15089620304300001@0.0.0.0>, n9jig@TheRamp.net (Rich Carlson) says:
>
>Does anyone have the text of this ruling? I am trying to get my townhouse
>association to allow a DBS dish and a discone for scanning on my roof, and
>this may help push me over the edge as it were...
>
>--
>Rich Carlson, N9JIG (n9jig@TheRamp.Net)
>
>ScannerMaster Illinois Communications Guide (800) 722-6701
>
>CARMA (Chicago Area Radio Monitoring Association) BBS (630) 852-1292
>PO Box 2681, Glenview IL 60025 SASE for sample newsletter.

It is available at www.fcc.gov. It is longgggg.

This is where I found it after being alerted by the FCC Daily Digest.

Also on the Daily Digest. Recently Centel Cellular was fined $3,000,000.00
for tower violations. Seems that they do not understand Air Safety Zones.
A tower 187 feet high, 2.8 miles from runway, no lights! Did not reply
to FCC for site data. Filed with FAA 5 months after tower operational
for permission to erect tower. What a list of problems. Fine reduced to
$2,000,000.00. After 6 zeros, what does it matter the number in front?

73
Glenn Little
WB4UIV

674. 4-400 & 4-125 TUBES for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Gary D Schlickelman <gschlick@ix.netcom.com>
Message-ID: <4vo62e$mrb@sjx-ixn2.ix.netcom.com>
Source record: 103022

Have one pr each 4-400/8438 and 4-125a/4D21 types. Will sell for best offer.

675. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: future@blarg.net
Message-ID: <321fa55b.3452629@news.blarg.net>
Source record: 103023
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

On 23 Aug 1996 12:05:57 GMT, Phil Wakely <pwakely@scigen.co.uk> wrote:

>future@blarg.net (Tim Gerchmez) wrote:
>>On Wed, 21 Aug 1996 04:46:16 GMT, jafo@cheetah.net (Gregg) wrote:
>>
>>
>>>>>>Vs lbh pna ernq guvf, lbh ernyyl bhtug gb trg bhg zber
>>>>
>>>>Url! Jung xvaq bs n penpx vf gung? :-D
>>
>>Urururur.. V gubhtug EBG13 jnf bhg bs qngr.. guvf vf gur svefg gvzr
>>V'ir frra vg hfrq va dhvgr n juvyr ;)
>>
>
>Jung vf/jnf EBG13 ??
>

Tvira gung lbh rapbqrq gur nobir, lbh onfvpnyyl nyernql xabj jung vg
vf. Vg'f n fvzcyr Hfrarg rapbqvat zrgubq (sbetbg jurer vg bevtvangrq,
fbzrbar ryfr pbhyq cebonoyl gryy lbh). V unqa'g rire frra vg hfrq
orsber hagvy guvf guernq fgnegrq. Zl arjfernqre (Ntrag .99S) vapyhqrf
n EBG13 rapbqre/qrpbqre, fb V'z abg qbvat guvf ol unaq ;)

--
Check out my home page at http://www.blarg.net/~future/index.html
I'm a volunteer at the Win95 Help Site. Drop by if you need help with Win95.
http://www.isisnet.com/terrymo/index.html

676. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4vof62$o5b@cc.iu.net>
Source record: 103024
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In <4vcg3p$6a7@shore.shore.net>, pip@shore.net (GeorgeS) writes:
>advent of the search engine (Alta vista, Lycos, Deja News etc...) it is easier
>and quicker to do an online search.

yeah, when they work they're grand. but there seems to be little if any rechecking to see if a url on file at a search location is really there - so you might get 1 of a million possible listings with about 999,000 of them unusuable at all.

of course, there's one location where you have to download files (getting a catalog), expand, run an installation program on the data, then you find you have a bunch of directories and a ton of HTML files to pull up in the browser to view 'em...(now, THAT'S comedy). <sigh>

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

677. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: marty@trucom.com
Message-ID: <4vomi5$858@thepit.trucom.com>
Source record: 103025
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

jadams@idirect.com (J Adams) wrote:

>Electronics Resource Internet Addresses Needed
> for Publisher.
>==
>To all Electronics Companies, Service Person-
>nel, Webmasters & Hobbyists,

>I am preparing a book tentatively titled "Sam's
>Internet Guide to the Electronics Industry", to
>be published by Howard W. Sams & Co. and PROMPT
>Publications. The book will contain site add-
>resses for electronics resources. Companies,
>organizations and individual web creators are
>encouraged to fill out a simple FORM at the ad-
>dress below.
>--
> http://web.idirect.com/~ifx/book/
>--
>In addition, any electronics related addresses
>or resources you run into while surfing please
>let me know by filling out said form.

>If you lack FORMS capability send an email with
>the info below. I am especially interested in
>sites offering simple electronics repair data,
>service specs and hobbyist help-pages. Other
>resources are more than welcome. Top Urls will
>be printed in this directory and updated in
>future issues.
>--
>Name:
>Company Name:
>Nature of Business:
>Address http:
>Other Addresses:
>FTP Site:
>E-mail Contact:
>E-mail Main (info):
>Webmaster:
>Listserv:
>How often is your website updated:

>What type of information can be found on your
> website or special features:
>Has the WWW helped your business:
>Comments:
>---
>Send to John Adams -- jadams@idirect.com

>If you know of any other Electronics related
>links please let me know in an email or a blank
>form.

>Thank you in advance. John Adams -- Author

>John J. Adams | "Forever Learning" |
>Author | "Forever Questioning" |
>Web Designer | "Forever Creating" |

>------------jadams@idirect.com------------

>INFINET-FX @ http://web.idirect.com/~ifx/

I assume that this book will be provided free to all who submit or are
just trying to get us all to:

1) Do all your work
2) Still pay for the book

Just curious... I gave up doing research for others without pay when I
got my degree.

Take Care & 73

Marty Albert - marty@trucom.com
Amateur Radio: KC6UFM@KC6UFM.#SEMO.MO.USA.NOAM

Heartland Internet Services

****
Cheap Long Distance! Just 12.9 cents per minute!
http://freedomstarr.com/?AL7837318
****

678. Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: rohrwerk@pconline.com
Message-ID: <4von0p$3u4@bell.pconline.com>
Source record: 103026

I've built the CCI power amp kit -- based on Motorola AN779 (push-pull MRF454's). I might want to try a little bit of AM, and I know if you want to amplify AM with a linear you have to keep the PEP at the rated output, thus carrier at about 1/4 the PEP rating of the amp.

Any remote chance one could collector modulate this amp (assuming you re-bias it for Class C? [easy to do])? Would the power ratings end up similar to linear amplification?

679. Re: 23 cm vertical polarization homebrewing?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4vp8di$46m@news.onramp.net>
Source record: 103027

I have seen lots of 23 Cm loop yagi just rotate 90 deg.

73
Bob Dallas

680. SOLVE THIS ONE PLEASE!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Stephen Puskar <spuskar@concentric.net>
Message-ID: <01bb9271$fd753fa0$1f65adce@crc3.concentric.net>
Source record: 103028

Is there anyway I can push a few more 100 feet broadcast range from a Recoton 900 MHz wireless headphone transmitter/receiver? I live far enough away from other hoses that it won't affect them yet I need the extra boost because I'm getting drop offs and can't use the system effectively for what I bought it for: to kill those long hours on the ridding mower...Thanks..smp

681. Ham Tin Gods (Some PBBS SYSOPS)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <322037EA.1E36@ccsnet.com>
Source record: 103029
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.sca

Have I hit on a sore point?

AA0NN sent me a message that he was deleting my message because he did not like the subject title about what makes a loser. Why are some SYSOPS Tin Gods? They are little wimpy men that are nothing in their everyday life that become Tin Gods here on packet.

Was the Wizard of Oz a ham radio SYSOP?

Of course there are SYSOPs that have self confidence and allow points of view they do not agree with

It appears Mr. Wolfe also is in violation of FCC rules as his address does not correspond with where he is SYSOPing.

AA0NN WOLFE, JOHN R LIC ISU 4-MAY-1995
EXTRA 6402 HAMPTON DR LIC EXP 22-MAR-2004
DOB 31-JUL-1962 ANCHORAGE AK 99504 LST UPD 4-MAY-1995

Burt

682. Re: FCC Ruling Prohibits Unreasonable Restrictions on TV Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: n9jig@TheRamp.net
Message-ID: <n9jig-2508960805380001@news.TheRamp.net>
Source record: 103030
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwaverec.radio.amateur.misc

Yes, that is correct, and it does not help me. I have decided to wait
until we move to a regular house, and get whatever the technology is then.

Thanks to all who assisted!

In article <4vnlch$kvc@uuneo.neosoft.com>, No@Junk.Email (Don Sterner) wrote:

** In article <n9jig-1508962030430001@0.0.0.0>, Rich Carlson said...
** >
** >Does anyone have the text of this ruling? I am trying to get my townhouse
** >association to allow a DBS dish and a discone for scanning on my roof, and
** >this may help push me over the edge as it were...
** >
**
** It looks like none of the other responders have mentioned that the
** ruling does NOT apply to owners of townhomes/condiminiums where the
** roof and surrounding real estate is not the sole property of the
** owner, but is shared by the group.
**
** If this is the case where you live, the ruling will not help you.
** --
** dsterner@neosoft.com

--
Rich Carlson, N9JIG (n9jig@TheRamp.Net)

ScannerMaster Illinois Communications Guide (800) 722-6701

CARMA (Chicago Area Radio Monitoring Association) BBS (630) 852-1292
PO Box 2681, Glenview IL 60025 SASE for sample newsletter.

683. Re: looking for FT-8500 ->PC pinouts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: shummy@dialnet.net
Message-ID: <4vpnd1$58p@news.dialnet.net>
Source record: 103031

I have not yet made the interface because I have been unable to find
the software, but the pinouts are in the book in the computer control
section.

ntimofee@binghamton.edu () wrote:

> I am would like to play around with the computer interface
>for my FT-8500. Has anyone had any luck at making a PC to 8500 data
>cable. I need the pinouts for such a beast.

>Thanks
>Mike
>N2XXA
>ntimofee@binghamton.edu

684. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32202EDE.1E86@ici.net>
Source record: 103032

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

685. WTB Hardline connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-25 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <32202F1E.71CD@ici.net>
Source record: 103033

Hello all: I am looking for "N" type hardline ends -HCC 78-50NM, too fit a length of 1" hardline (flexwell) that I just picked up, used. The cable has lettered on it, Cablewave Systems 16733-810929-00 HCC 78-50 TCC 650 972 FT Flexwell. There is one end on the line now with air valve and guage 0-5 PSI. Please advise, any help is appreciated. Also what gas gets compresed in this line? Thanks, Bruce KD1MW shiso@ici.net

686. Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: fiz <fiz@lamar.colostate.edu>
Message-ID: <32220A06.1A3F@lamar.colostate.edu>
Source record: 102884

Hi,

Does anyone know how much bandwidth a 14.4K modem would take up?

ttfn fiz (KG0YG)

687. 1kw SS class-C mod for class-AB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Mike Swaney <mikesw@pop3.harborcom.net>
Message-ID: <3221B345.6F31@pop3.harborcom.net>
Source record: 102885

I just finished an interesting paper by Ken Dierberger on a class-C ISM designed kw amp that includes a 300VDC PFC supply. The paper was presented at RF EXPO EAST 1995 and describes a push-pull transfomer coupled class-C amp designed to use Advanced Power TechnologY's ARF444 and ARF445 MOSFETs. The amp is designed for 13.56Mhz CW operation and is supposed to be over 80% efficient at full output.

According to the author, its PFC type supply will soon be required on all US RF amps at the 750w and above level and is currently required on all European equipment already. A neat feature of their design is that it directly switches rectified 110VAC to maintain the 300VDC output avoiding any DC-DC stages that other RF device might need for operating voltages. The RF devices for the design are also electrically insulated internally from their cases so they can be directly heat-sink mounted for maximum thermal efficiency (and min $$).

Since it is class-C and ISM rated, several changes would be required by anybody trying to construct communictions equipment around it. I am curious as to whether anybody else has run across this design and if they have any experiences with making the required changes for an HF amateur all-mode amp?

688. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: prografx@teleport.com
Message-ID: <4vt2ea$9gl@nadine.teleport.com>
Source record: 102886
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

ACSB (new acronym, same system) was resurrected in the mid 80's by Stephens Engineering Associates (SEA), a manufacturer of radio equipment (known primarily for their marine band stuff).

I don't know what happened to it, just that they were working on it in the 80's!

Steve
WB7PSD

689. 4cx800a on 2 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Mark Brown <kb0pyo@starpoint.net>
Message-ID: <32222CE7.743@starpoint.net>
Source record: 102887

Hi all
Has anybody seen or built a 2 meter linear using the Svetlana
4cx800a. I am looking for any info you might have on using this tube at 2
meters.
Thanks
Mark

690. I WOULD LIKE TO BE A MANAGER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: naglieri@facil.umass.edu
Message-ID: <32223AB1.21F2@facil.umass.edu>
Source record: 102888

Hello,

My name is Tony Naglieri my call is N1NYD qth Ware, Ma. home telephone is 413-967-7426. I would like to help out some ham by beening a manager.

Thank You

Tony

691. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Charles Hoffman <choffman@pelican.davlin.net>
Message-ID: <3221CEE9.1BE4@pelican.davlin.net>
Source record: 102889

Daniel Wee, 9V1ZV wrote:
>
> In article <1996Aug20.193222.617@main03>, landisj@nad.com (Joe Landis) wrote:
> >>> for dumping into a laptop for some kind of spectral analysis. Anyone have
> >>> recommendations for ultrasonic sensors? Different bat species use
> >>> different frequencies, typically 40 kHz to 60 kHz, audio.
> >>>
> >>> BTW, I've seen some standalone commercial detectors for about $250 but
> >>> it's no fun just buying one!
> >>>
> >>> Thanks, Tom KG6YJ
>
> Try the following site. They are selling some good Polaroid units centred
> around 50 kHz for about 16 dollars a piece and some other stuff. Of course
> you will find cheaper units but they are different. These are more directional
> compared to smaller units, and more sensitive. Any way check out the specs.
>
> http://cec.wustl.edu/~blw2/index.html
>
> 600 Series Instrument Grade Electrostatic Transducer:
>
> The Assembly Comes Complete with Protective Cover
> Minimum Transmitting Sensitivity @ 50 kHz: 110 dB
> Minimum Receiving Sensitivity @ 50 kHz: -42 dB
> Suggested DC Bias Voltage: 150 V
> Suggested DC Driving Voltage (peak): 150 V
> Operating Conditions:
> Temperature: -20 to 160 deg F
> Relative Humidity: 5%-95%
>
> 73 de 9V1ZV Daniel
>
> Daniel Wee | daniel@pandora.lugs.org.sg
> 9V1ZV | daniel.wee@f516.n600.z6.fidonet.org

Daniel, you might try dropping by Cornell University Bioacoustics Lab on
the web. They can give you a listserve on bioacoustics where there are
others recordists and scientists doing bats.

73 K5SBU

692. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <3221FF95.2FD1@vcd.hp.com>
Source record: 102890

Drew Diamond wrote:
>
> >And just as there was resistance to the change from spark, there
> >will be those who resist the changeover from OOK Morse to better
> >digital modulations and codings. Hopefully this time it won't
> >require regulations banning the more archaic form to force the
> >changeover. It makes me mildly unhappy that I can't play with
> >a modulated arc transmitter just for the hell of it, and I
> >suppose it would make Morse lovers unhappy if they couldn't
> >play with their hand and ear methods just for the hell of it
> >too.
> >--
> >Gary Coffman KE4ZV
>
> Well said, as usual. Thanks Gary.
>
> IMHO, the use of CW will not entirely die out, in the same way that
> old crafts and customs are carried on by enthusiasts. To this day we still
> have equestrian activities (did the automobile spell the end for the horse?),
> archery, calligraphy (is calligraphy a reaction to standardised letter
> writing?), blacksmithing, model steam loco building etc. etc...the list could
> go on.
>
> There are many remarkable things that persons do for the simple pleasure that
> the challenge brings. Jumping from heights with a parachute, climbing cliffs
> and mountains etc. They don't have to do these things- the challenge is the
> big attraction.
>
> Well, for some, it's a bit like that with CW. The magic is right there; what,
> with a few home-made items, it is possible to get in touch with some-one on
> the other side of the world- no satellites, no metallic connection, no fancy
> electronics, just an antenna and the ionosphere. And all the coding and
> decoding is done in "in the head", complete with nuances, laughter and so on.
> To me, that is the challenge.
>
> I spend my working day surrounded by hi-tech communications hardware and
> guru's. To use CW is just plain enjoyment. However, not for one moment would I
> force it upon an uninterested person.
>
> 73, Kind Regards, Drew, VK3XU. Telstra Research Laboratories.

Hello Drew,

Very well said. One might add that some CW ops even purchase
expensive NEW equipment and use it almost exclusively on CW. So it is

not necessarily cost-effectiveness or homebrewing that drives the CW enthusiast. He enjoys CW for the love of it. To do something for the love (pleasure, enjoyment, reward) of it, is, as has been pointed out earlier, the MEANING of the word AMATEUR.
Why is it that so many folks cannot understand why one would prefer to use something considered technologically obsolete? Perhaps they may not be amateurs at heart, doing what they love doing. Perhaps they are merely driven by the mentality of doing what is "new" or "in", or "the latest". Doing this, one puts oneself on an endless treadmill, at the mercy of marketing hype, constantly "upgrading" to the "latest", the "newest", etc etc ad nauseum. I have run into this when working AMTOR and PACTOR in recent years. Many whom I talk with on these modes have 'upgraded' rigs, computers, controllers, software, endlessly in search of the the newest and best. Many do not even know why one mode may or may not be "better" than an older one. They just buy it to have the "latest". Pity them. They are never satisfied, and never really understand what they are buying or why. They are mindless purchasers, the consumer mentality, who apparently never get buyer's remorse. They are a marketer's dream.
Far better to be a participant in something not new, maybe old-hat, and have a real love for it, cameraderie with fellow enthusiasts who communicate with it every day, have knowledge of what it can and cannot do, and possess the skill for expert usage. For myself, I have found nothing to equal it in my 41 continuous years of ham radio operating. Fortunately, I am not alone.

73,
Don, W6JL

693. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4vt9c5$dhg@nadine.teleport.com>
Source record: 102891
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

In article <mar-2608961148530001@chaos-mac.nrl.navy.mil>,
mar@zoltar.nrl.navy.mil (Douglas J. Mar) wrote:

>. . .
>Nitpick: the term should probably be "negative differential resistance" or
> "negative incremental resistance", for both Gunn and tunnel diodes,
since
> the slope of the I-V curve is always positive. The "negative
resistance"
> region is that over which the resistance _decreases_ for increasing
bias,
> but it still remains positive. (It's possible to use active devices to
> construct a negative resistance (or impedance).

The I-V curve of a tunnel diode _does_ have a region where the slope is
negative. In this region, V/I is positive, so technically the resistance is
positive, but the incremental resistance (sometimes called "dynamic
resistance") is negative due to the negative slope. I don't know about Gunn
diodes.

Roy Lewallen, W7EL

694. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4vtbpm$442@news.onramp.net>
Source record: 102892

Old X10 light control base units had an ultrasonic sensor
for use with remotes.

695. GANE $$$$$ EN INTERNET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: juan@barrancas.com
Message-ID: <8474-197219308@barrancas.com>
Source record: 102893

NO ES CASINO. GANE DINERO DESDE AQU�, EN INTERNET.

Hola !!!. Si alguna vez te preguntaste "C�mo puedo ganar una cantidad
de dinero importante en muy poco tiempo ? ? ?", o si ten�s deudas
que deseas cancelar,tengo algo que te puede interesar. Sentate c�modo,
relajate, y preparate para escuchar esta interesante propuesta ! ! !

Quiero comenzar diciendo que YO LO LOGRE ! . Realmente lo encontr�.
Yo particularmente no me conformo con ciertos esquemas de marketing
de productos, o con cadenas, o con listas de la amistad, o con
.... la lista ser�a bastante larga. Desde muy joven particip� en todo
tipo de "negocios rentables" de los que no logr� lo que realmente
quer�a,
y como resultado de eso, gast� $35 por aqu�, $64 por alla, y $105
mas all�. ESTABA EQUIVOCADO ! !.

Hace algunos meses, navegando por un NEWSGROUP, v� un art�culo que
dec�a COMO OBTENER CASH RAPIDO ! !. Lo primero que pens� ... "Aqu� , en
Internet ??, bueno, todo es cuesti�n de informarme para luego sacar mis
conclusiones". El art�culo describ�a la manera de ENVIAR POR
CORRESPONDENCIA UN BILLETE DE 1 DOLAR A CINCO PERSONAS, Y GANAR
$50.000.-
EN EFECTIVO EN 4 SEMANAS !!!. Cuanto mas pensaba en esto, mas aumentaba
mi curiosidad. Por qu� ?. Por la manera en que esto funcionaba Y PORQUE
MI INVERSION SOLO SERIA DE 5 DOLARES. ESO ES TODO LO QUE YO PAGUE !!!.

Est� bien, en ese momento $50.000- me parec�a demasiado dinero para
este sistema, pero era posible. Sab�a que de todas maneras podr�a
obtener $1.000 o $2.000.-. Entonces lo hice !!!. Segu� las
instrucciones del art�culo, mand� un billete de 1 d�lar a cada una de
las 5 personas que aparec�an en la lista. Inclu� una peque�a nota con
el d�lar que dec�a :"Please Add Me To Your List". Luego borr� el
primero de los nombres de la lista de cinco, desplac� los otros cuatro
una posici�n mas arriba, y coloqu� mi nombre en la posici�n 5 de la
lista. De esta manera es como el dinero comienza a entrar !!!.
Luego envi� el art�culo (ya modificado con mi nombre) a TODOS LOS
NEWSGROUPS, BOLETINES LOCALES Y BBS QUE CONOCIA. Luego me qued� viendo
como llegaban los billetes. Yo esperaba recibir $1000 o $1500, pero todo
esto se volvi� muy excitante al ver que las cartas llegaban !!!. Recib�
cartas de paises de todo el mundo. No recib� ni $1000 ni $5000..
Recib� un total de $22.422.- !!!. No pod�a creerlo !!!.

Tengamos en cuenta que NO HAY CIENTOS, NI HAY MILES, HAY
CIENTOS DE MILES DE NUEVOS USUARIOS DE INTERNET TODOS LOS
MESES ! ! ! ! !

En estos momentos no solo dispongo de dinero para seguir pagando mis estudios, sino que pude comprar una computadora mas moderna con los accesorios que siempre quise. Ahora, despu�s de 5 meses, estoy listo para intentarlo nuevamente. Llegar a los $50.000.- DEPENDE EXCLUSIVAMENTE DE VOS !!!. Deber�s dejar este art�culo en todos los lugares. Donde se te ocurra.

Veamos nuevamente las razones por las cuales debes hacer esto : El �nico costo son 5 dolares y 5 estampillas para enviar los sobres. Luego simplemente mande su art�culo por cada hueco de Internet (CON SU NOMBRE, POR SUPUESTO). Ahora si�ntese (ironicamente) y espere a que lleguen las cartas. Ver� que invirtiendo 5 dolares, y un peque�o esfuerzo, OBTENDRA RETORNOS DE $15,000 A $25000 EN UN PERIODO DE 3-5 SEMANAS ! ! !. POR LO TANTO, HOY NO JUEGUE ESOS NUMEROS A LA LOTERIA, O COMA EN SU CASA ESTA NOCHE PARA NO IR AL Mc. DONALDS, E INVIERTA ESOS 5 DOLARES EN ESTE SISTEMA AHORA !!! NO PUEDE PERDER ! ! !.

Qu� es exactamente lo que hay que hacer ?. Aqu� me encargu� de dejar todas las instrucciones detalladas de la manera mas sencilla. ENTONCES, ESTAS LISTO PARA GANAR DINERO !!!??? AQU� VAMOS !!!

*** LA LISTA DE NOMBRES ESTA AL FINAL DE ESTE ARTICULO ***

Bien, lea esto correctamente. Ser�a bueno que imprimiera esta informaci�n.

INSTRUCCIONES

1. Tome un trozo de papel, y escriba en �l : "Please add my name to your list". Esto es lo que hace que este sistema se legal. Porque no estamos enviando un d�lar a cualquiera en forma aleatoria, sino que se lo enviamos a alguien que nos est� prestando un servicio. Aseg�rese de colocar con letra legible su nombre y direcci�n completa.

2.- Con este trozo de papel envuelva el billete de un d�lar, coloquelo en un sobre, y env�elo a una de las cinco personas listadas.
Es importante que el billete quede envuelto para asegurarnos que la carta llegue a destino.

3.- Ahora lea atentamente, as� es COMO VA A LLEGAR SU DINERO. Vea la lista de 5 personas ; borre el primer nombre de la posici�n 1.
Ahora mueva hacia arriba la posici�n de cada uno de los cuatro restantes. O sea que el nombre de la posici�n 2 ahora va a la posici�n 1, la posici�n 3 a la 2, la 4 a la 3, y la 5 a la 4.
Ahora coloque su nombre, direcci�n, c�digo postal y PAIS en la posici�n 5, la �ltima posici�n de la lista.

4.- Ahora mande este art�culo a todos los lugares que se le ocurra (Newsgroups, Boletines locales, Areas de mensajes y archivos, BBS, etc.).
Col�quele al art�culo una descripci�n llamativa, como : NECESITA DINERO RAPIDO ? AQU� ESTA !!!, o GANE 50000 EN 4 SEMANAS !!!, etc. Cuanto mas se distribuya, mas dinero ganar�.

5.- Si necesita ayuda y no sabe dejar mensajes, consulte con el sysop
de su BBS. Dentro del ámbito de Internet siempre encontrará personas
dispuestas a ayudarlo. Aconsejamos alquilar una Casilla de Correo.
La cantidad de cartas que van a recibir es realmente importante.

LA HONESTIDAD ES LO QUE HACE QUE ESTO FUNCIONE.

****
L I S T A DE N O M B R E S
****

1.- KEVIN C. MCNAMARA,
26-02 24 AVE, ASTORIA, NY 11102
EEUU

2.- TATIANA GOMES
AV. PRINCESA ISABEL, 611 APT.701
40130-030 BARRA AV.
SALVADOR - BAHIA
BRASIL

3.- CRISTIANY G. TELLES
LAFINUR 2794
(1879) - QUILMES, BS.AS.
ARGENTINA

4.- SERGIO PASINI
JUAN B. JUSTO 3260
(1879) - QUILMES, BS.AS.
ARGENTINA

5.- JUAN F. MAZZARELLA
CC 19 (2942) BARADERO
BUENOS AIRES
ARGENTINA

****

Trate de archivar una lista de las personas que le envian
dinero a usted, y no pierda de vista los newsgroups para
asegurarse que todos estemos jugando limpio.

A DISFRUTAR !

--

JUAN F. MAZZARELLA
JUAN@BARRANCAS.COM---
---

696. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vtqht$lmq@newsbf02.news.aol.com>
Source record: 102894

In article <1996Aug25.214331@wkuvx1.wku.edu>, scottcr@wkuvx1.wku.edu (Chris Scott) writes:

>Anyone done this?
>
>WB9NEQ

The contrl grid of the 250 is too fragile, and grid spacings are not correct for zero bias GG operation. You can use the tube cathode driven, but will still need screen and bias voltages.

The screen must be very well regulated, or IMD will be unpredictable.

Three or four hundred ohms of grid swamping is too high, unless you plan on driving the tubes with less than a few watts.

73 Tom

697. Re: Zener Diode For Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vtqho$lmp@newsbf02.news.aol.com>
Source record: 102895

In article <32210E56.24A4@sedona.net>, Carl Osborn <carl@sedona.net>
writes:

>
>Where can I get a 8.2 volt 1.5 amp zener diode for my Heathkit SB230
>linear amplifier? It is a Motorola type 1N280 GA or possibly 1N2806 A
>(it is hard to read part no. in instruction book). Any help would be
>appreciated.
>
> Carl W6RXP

Any zener around that voltage will work, cahanges from 5 volts to 10 volts
will make no measurable difference in SB 230 performance.

If the zener is bad, you likely had a tube flashover. I'd add a 25 to 50
ohms 50 watt high voltage energy dissipating resistor in the anode path.
It will protect the tube and zener in case of a momentary tube fault from
gas.

73 Tom

698. celluler phone to 900Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960826223639.2889C-100000@primeline.net>
Source record: 102896

Any suggestions on how to convert a Uniden CP 2000 cellular phone
to 900 Mhz. Namely I need Programming info, and RF modification info.

Can anbody help me?

Gary Tait , VE3VBF

699. Re: What is a Gunn diode?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9607268410.AA841098485@mail.creo.bc.ca>
Source record: 102897

In article <4vhlep$1bf@news-rocq.inria.fr>, skubi@rodin.inria.fr (Marcin Skubiszewski) asks:

> The subject says it all.
>
> Is there a negative resistance region in these diodes, as in
> tunnel diodes ?

Gunn diodes do indeed exhibit negative resistance. If you plot voltage versus current it starts off linear, then levels out and goes downward with increasing voltage (the negative resistance region) and then goes back up again.

The diodes themselves are made out of specially doped gallium arsenide. They are called diodes because they have two terminals, but have no rectifying properties. The negative resistance comes from the presence of two conduction bands within the semiconductor lattice - you might think of the atoms being in small pits, with hills between them. To move an electron between atoms, you need to push it up out of one pit and let it fall into the next.

The way things work out is that there are two possible paths between atoms, with different energy levels and different electron velocities. Initially, the electrons are in the fast paths. By applying increasing voltage across the GaAs, thus increasing the electric field inside, electrons start to move to the slow path. Slower electrons means fewer electrons passing a given point, which means lower current. Thus, negative resistance. Couple this to a resonant cavity and you gave a Gunn oscillator.

There is more. You'll find details in all the usual references.

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

700. radio amateurs from Apeldoorn

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: adriaan <adpe1khp@pi.net>
Message-ID: <32214DA4.29A9@pi.net>
Source record: 102966

```
Radiozendamateurs in Apeldoorn / Hams from Apeldoorn
----------------------------------------------------

Nieuwe opzet / New page

Op de volgende homepage: www.pi.net/~adpe1khp/home.html , zijn velen
activiteiten te vinden van de Radiozendamateurs in Apeldoorn.
Zoals een foto boek over de velddag 1996.
En een groot aantal verwijzingen de wereld in.

On the hoempage: www.pi.net/~adpe1khp/home.html, you can find a lot
of activits of hams from Apeldoorn. But also links to the ham world.
With a lot of pictures of the fieldday 1996.

Send me a file if you like what you did see....

Greetings from Apeldoorn.
Groeten uit Apeldoorn

Adriaan pe1khp
```

701. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: carl@ais.net
Message-ID: <4vqqes$i64@news.ais.net>
Source record: 102967

In <1996Aug25.153840.2362@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

A whole bunch of REALLY GOOD, sensible, coherent arguments against the
rediculous mythology of the "CW forever" crowd.

That was good stuff, Gary ... I'm glad we agree ... I'd hate to have to
try and come up with a response purporting to refute what you said.

73,
Carl - wa6vse
carl@ais.net

702. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: jshaffer@mail.csrlink.net
Message-ID: <19960826.79FE6D0.EC9@localhost.UUCP>
Source record: 102968
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In article <kharker-2508961147130001@slip-9-2.ots.utexas.edu> kharker@cs.utexas.edu (Kenneth E. Harker) writes:
> Nf gb jurer vg bevtvangrq, vg'f n irel fvzcyr Pnrfne pvcure gung'f orra
> nebhaq n ybat juvyr (fvapr ng yrnfg gur qnlf bs Whyvhf Pnrfne) - lbh whfg
> fuvsg rirel yrggre 13 fcnprf va gur nycunorg (jenccvat nebhaq nf
> arprffnel.) V'z abg pregnva jung "EBG" zrnaf be jurer vg pnzr sebz,
> gubhtu.

"rot" means "rotate".

--
* From the disk of: | jshaffer@mail.csrlink.net | "there's a hell of
Jim Shaffer, Jr. | IRC: JustnCase // | a good universe
37 Brook Street | "Real AM radios // | next door; let's go"
Montgomery, PA 17752 | go up to 30000." \\// | (e.e. cummings)

703. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: greggIns@ix.netcom.com
Message-ID: <322127f2.2696521@dfw-ixnews10.ix.netcom.com>
Source record: 102969
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

On 25 Aug 1996 22:09:31 GMT, Jeff Anderson posted:

<snipped; see thread>

>By goom, you're right! I did it the hard way - I noticed Ken Harker
>had capitalized a V in the middle of one of his sentences. I assumed
>this was "I" (what other single letter do we capitalize?) and
>translated (rotated) the alphabet accordingly. Everything fell out
>nicely from there.
>
>After deciphering "If you can read this, you really ought to get out
>more," I decided the effort greatly outweighed the rewards!

Jeff, you're using the built-in newsreader in the Netcruiser software.
It's crap. Try using Free Agent -- and, if you like it, you can buy
Agent -- and you can do ROT13 with a couple of mouse clicks. Much
more importantly, you can also do most of your Usenet news stuff
offline.

>- Jeff (wrss)

Shouldn't that be... Wrss ?

--
... Gregg

704. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: jwchrist@cp.duluth.mn.us
Message-ID: <4vr89v$m3o@poplar.computerpro.com>
Source record: 102970
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

In article <4vqiur$clr@dfw-ixnews9.ix.netcom.com>, jeffa@ix.netcom.co says...
>
>In <4vqfae$2ar@shore.shore.net> pip@shore.net (GeorgeS) writes:
>>
>>In article <kharker-2508961147130001@slip-9-2.ots.utexas.edu>,
>>kharker@cs.utexas.edu says...
>>
>>>Nf gb jurer vg bevtvangrq, vg'f n irel fvzcyr Pnrfne pvcure gung'f
>orra nebhaq n ybat juvyr (fvapr ng yrnfg gur qnlf bs Whyvhf Pnrfne) -
>lbh whfg fuvsg rirel yrggre 13 fcnprf va gur nycunorg (jenccvat nebhaq
>nf arprffnel.) V'z abg pregnva jung "EBG" zrnaf be jurer vg pnzr sebz,
>>>gubhtu.
>>>
>>
>>My guess is ROT13 is short for ROTATE 13. If you imagine the alphabet
>on a wheel, you would cipher the text by rotating the wheel 13 spaces
>>
>
>By goom, you're right! I did it the hard way - I noticed Ken Harker
>had capitalized a V in the middle of one of his sentences. I assumed
>this was "I" (what other single letter do we capitalize?) and
>translated (rotated) the alphabet accordingly. Everything fell out
>nicely from there.
>
>After deciphering "If you can read this, you really ought to get out
>more," I decided the effort greatly outweighed the rewards!
>
>- Jeff (wrss)

Gurer vf nabgure ernyyl rnfl jnl gb qrpvcure guvf. Vs lbh ner hfvat Jvaivz nf n arjf ernqre, nyy lbh unir gb qb vf uvg PGEY. E naq vg punatrf gur grkg evtug orsber lbhe irel ryes.

Jim
>

705. Adding AM stereo to a digital tuned AM reciever, using Sony SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDwqAMr.FGq@netcom.com>
Source record: 102971

AM STEREO modification of digital AM/FM stereo receivers, using a Sony SRF42 AM stereo walkman radio chassis

You probably have a stereo FM/ mono AM receiver for your home stereo system. And it probably is a PLL digitally tuned radio, maybe even tunes up to 1700KHz. But still mono. It's nearly impossible to find an AM stereo set, the only one you can hope to find is a portable, a Sony SRF42. But it's analog tuned, but it is possible to use the innards of this Sony to demodulate AM stereo signals tuned by your PLL digital mono set's front end. Idea is to disable the Sony's front end, and feed the IF (intermediate frequency) from the PLL digital circuit to the IF amp section of the Sony. And take the left and right outputs and substitute those in your reciever for the mono AM signal.

This is not a project for beginners, you'll need some experience with radio circuits and fine soldering.

Before you tear into the SRF42, tear into your receiver, and look for the AM circuitry. Probably a chip. Helps if you have the service manual. Look for a small squarish plastic part, probably colored orange. Hopefully it has a marking like "450". Other shapes these filters come in are a rounded brown 3 leaded thing, marked "450" (AM) or "107" (FM). The IF frequency of the AM section needs to be 450 KHz, because that's the frequency used in the SRF42. Other IF freqs used are 455KHz, which is too much of a mismatch for the below to work.

Open up the Sony SRF42. First, remove the volume control knob (pulls out). No need to remove the tuning knob, and don't try to remove the on=off switch knob. unscrew three screws, and the front comes off. Unsolder the battery connections to then be able to remove the radio's circuit board. You'll see a plastic gear that controls the tuning capacitors. replace the volume control knob on the volume control shaft (so you can vary the output level later). Now for the interesting part: connect a jumper wire across the AM local oscillator coil, located next to tuning cap trimmer CT4. Jumper goes from ground to the pad connecting the coil to the tuning cap. This disables the Sony's front end.

Now connect a small cap (about 0.01 uF ceramic) to the SRF 42 at this point: Look for pin 12 of IC1, and follow the pad to R26, the point you want to connect the cap to is the pad on the other side of R26 away from the IC1. Keep the leads short on the cap. Connect a length of shielded wire to the free end of the cap, and the shield connects to a 0.1uF cap, and that connects to a local

ground (look for the connection of the metal shield of a nearby IF transformer). Purpose of this cap is to provide an RF ground, but to block DC and audio frequencies.

At the other end of the shielded cable connect a 1K resistor to the center conductor. Now you will need to do a bit of poking around in your reciever with the power on, and power up the SRF42 and listen with headphones (you should only hear some hiss, no stations). Tune a local AM stereo station on your reciever (though your reciever only gets it in mono now). Look around the above mentioned IF frequency modules you checked before you took the SRF42 apart. Now tune the volume on the reciever down, and the SRF42 up some, and start poking around with the 1K resistor attached to the cable. Oh yeah, connect the minus power terminal of the SRF42 to the reciever's ground. Poke near modules marked "450" and you should soon hear the SRF42 playing the station you tuned the reciever to. Try a number of locations and note which sounds better (less distortion, a reasonable amount of high audio freqs, and when you select a point, check a few other stations. When I selected a point to tap, I connected a 1K resistor to the top of a 1K trimpot, the other end grounded, and the wiper feeding the cable. Then I could tweak the level for a reasonable signal, decent signal to hiss, vs distortion if the signal gets too strong. If the point you selected has a DC bias on it, use a 0.01 cap in series with the 1K resistor to avoid loading the DC.

To power the SRF42 "chassis", I used a 5V regulator chip, and the 5V output I passed thru a large red LED and the other end of the LED connects to the plus power terminal of the SRF42. Which should be about 3V (2V drop thru the LED).

To cut some of the high frequency audio hiss and noise, I connected 0.015 uF caps to ground, and the other end of one to a pad connected to IC5 pin 2 and the other cap to pin 4. A more convenient attachment points are located just under the volume control. Not the pot connections themselves, but look for 2 pads closer to the board edge that lead to the IC5 pins 2 and 4.

I just connected the headphone jack to the audio amp, and used the SRF42 volume control to set a reasonable and undistorted signal level.

706. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.274.00115C17@TRL.OZ.AU>
Source record: 102972

>And just as there was resistance to the change from spark, there
>will be those who resist the changeover from OOK Morse to better
>digital modulations and codings. Hopefully this time it won't
>require regulations banning the more archaic form to force the
>changeover. It makes me mildly unhappy that I can't play with
>a modulated arc transmitter just for the hell of it, and I
>suppose it would make Morse lovers unhappy if they couldn't
>play with their hand and ear methods just for the hell of it
>too.
>--
>Gary Coffman KE4ZV

Well said, as usual. Thanks Gary.

IMHO, the use of CW will not entirely die out, in the same way that old crafts and customs are carried on by enthusiasts. To this day we still have equestrian activities (did the automobile spell the end for the horse?), archery, calligraphy (is calligraphy a reaction to standardised letter writing?), blacksmithing, model steam loco building etc. etc...the list could go on.

There are many remarkable things that persons do for the simple pleasure that the challenge brings. Jumping from heights with a parachute, climbing cliffs and mountains etc. They don't have to do these things- the challenge is the big attraction.

Well, for some, it's a bit like that with CW. The magic is right there; what, with a few home-made items, it is possible to get in touch with some-one on the other side of the world- no satellites, no metallic connection, no fancy electronics, just an antenna and the ionosphere. And all the coding and decoding is done in "in the head", complete with nuances, laughter and so on. To me, that is the challenge.

I spend my working day surrounded by hi-tech communications hardware and guru's. To use CW is just plain enjoyment. However, not for one moment would I force it upon an uninterested person.

73, Kind Regards, Drew, VK3XU. Telstra Research Laboratories.

707. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkDwqtB7.H9A@netcom.com>
Source record: 102973
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

GeorgeS (pip@shore.net) wrote:

: My guess is ROT13 is short for ROTATE 13. If you imagine the alphabet on a
: wheel, you would cipher the text by rotating the wheel 13 spaces

The reason for rot13 is not to encrypt a file to keep unwanted recipients
from seeing it. It's just a way someone can post something which can't
be read accidentally. Like posting a joke which someone might find
offensive to a humor group. If someone is just rifling thru the jokes
they won't be offended unless they deliberately decode the rot13.
Another use might be for a post which "spoils" or gives away the plot of
a book or movie.

708. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <3221CA3B.6166@gte.net>
Source record: 102974

John Nelson wrote:
>
> Jim Conn (jconn@gte.net) wrote:
> : As far as I am concerned, I use CW because it is fun. If we remove the
>
> Great. You should continue to use and enjoy it.
>
> : requirment to learn CW in order to be a radio amateur operator on HF, we
> : effectively deny future generations of amateurs the opportunity to
> : communicate with foreign hams who cannot afford the elaborate rigs that
> : americans take for granted, and can only communicate with inexpensive,
> : easily constructed CW HF rigs.
>
> How does removing the CW testing requirement do this? Be careful. "Because
> I think so" is not exactly an adequate explanation.
> The fact of the matter is that if such delights are worthy in and of
> themselves, the opportunity will always be there.

John,

"Because I think so" is just as valid as your "Because I think not".

73,

Jim

709. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: greggIns@ix.netcom.com
Message-ID: <3221a646.2641092@dfw-ixnews10.ix.netcom.com>
Source record: 102975
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

On 26 Aug 1996 04:13:51 GMT, Jim Christensen posted:

>Gurer vf nabgure ernyyl rnfl jnl gb qrpvcure guvf. Vs lbh ner hfvat Jvaivz nf n
>arjf ernqre, nyy lbh unir gb qb vf uvg PGEY. E naq vg punatrf gur grkg evtug
>orsber lbhe irel ryes.

Same with Agent. Highlight the ROT text, do control-R, naq gurer lbh
tb.

--
... Gregg

710. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <3221D187.4C65@gte.net>
Source record: 102976

Gary Coffman wrote:
>
> In article <321DD7DB.28EC@gte.net> Jim Conn <jconn@gte.net> writes:
> >carl@ais.net wrote:
> >>
> >> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
> >> >I don't get it. The HF bands are not useful for high speed digital work.
> >> >
> >> Rediculous ... all it takes is the right modulation and coding
> >> techniques and a progressive regulatory structure that permits it.
> >> Obviously higher data rate wider bandwidth transmissions are more easily
> >> accomodated at higher frequencies, but HF will support FAR beyond 300
> >> baud FSK packet.
> >> The cost/bandwidth/performance of HF high speed digital services
> >>render such a thing impractical within the confines of the amateur bands.
>
> Nonsense. We have an off the shelf solution in Clover which gives us
> 750 bps (in OOK Morse terms that's 1125 WPM) in 500 Hz. We can go faster
> than that. Using a raised cosine FSM, we can put 38 non-overlapping 50
> baud carriers in a 3 kHz channel. That gives 1900 bps while still
> maintaining a symbol rate compatible with HF multipath. If we use symbol
> overloading, as Clover does, we can boost that to 4500 bps. If we more
> aggressively overload symbols and use some simple coding tricks, we can
> jump to 7600 bps, still in a 3 kHz channel. If we throw in a bit of
> compression and some FEC, we can do 11.4 kbps. Subtracting overhead,
> we can achieve a net 9600 bps in a 3 kHz channel without sacrificing
> our ability to deal with multipath. And we can do that for less than
> $100 in DSP parts (or even do up through 4500 bps on a PC with just a
> sound card and a bit of software, IE essentially free).
>
> We aren't limited by cost, there is sufficient bandwidth, but we aren't
> allowed to exploit it by the regulations, and performance of even the
> simplest system is so far ahead of OOK Morse as to not even make it a
> competition (an effective 9600 bps is equivalent to 14,400 WPM using
> the "PARIS" method of expressing WPM used by OOK Morse adherents, and
> that's using the full extended ASCII character set (or pure binary data),
> not just a subset of capital letters and some punctuation). That's more
> throughput than a whole band full of OOK Morse operators can manage to
> achieve, and we can do it in a 3 kHz channel. Who's wasting spectrum
> then?
>
> Under very severe conditions, with large amounts of interference and
> very weak signals, we can do fallback the same way that Clover or PACTOR II
> do. Even at the lowest rate, our throughput would still be 47.5 WPM, and

> that's for a signal you couldn't even hear with your unaided ear. I know
> this works because I've had Clover contacts with stations I couldn't even
> detect with my ear, but the modem could. And Clover is not the best method
> we could use (it may not even be the best off the shelf, SCS's PACTOR II
> box is said to be better right now).
>
> >> >If we remove the requirment to learn CW in order to be a radio amateur
> >> >operator on HF, we effectively deny future generations of amateurs the
> >> >opportunity to communicate with foreign hams who cannot afford the
> >> >elaborate rigs that americans take for granted, and can only
> >> >communicate with inexpensive, easily constructed CW HF rigs.
> >> >
> >> Again, I must disagree ... I've traveled quite a bit ... even in poor
> >> countries in latin America, the hams have rigs comparable to ours,
> >> complete with DSPs, etc. And you should see the antenna farms!
> >> (From my experience, foreign hams tend to be quite well-off financially
> >> for their own society ... much more so than American hams.)
> >
> >If you don't use CW, then probably you wouldn't have QSOs with the
> >multitudes of foreign hams who use only CW, and have home made
> >equipment.
>
> Probably not, their choice. If they choose not to use high performance
> modulations, they miss out on contacts with us. But experience shows
> that most of the more advanced digital operators *are* non-US operators
> *now*. Foreign hams seem to adopt technological advances quicker than
> we do. I know that GRAPES has had more foreign sales of its 56 kb RF
> modem than domestic sales, and I know I make more foreign contacts on
> HF digital than I do domestic ones. I believe that says something about
> the technical astuteness of US amateurs too. We have an off the shelf
> way to do packet 47 times faster than the typical US amateur does
> it now, and for about the same total station cost, but US amateurs
> have not been quick to seize the opportunity to advance. In proportion
> to their relative numbers, foreign amateurs are accepting the high
> performance challenge at a rate over 10 times that of US amateurs.
> If you want to talk about backward amateurs, there's no need to
> look overseas.
>
> >> >SSB is just as outmoded as a means of communication as FM and CW, if you
> >> >only consider the amount of data you are able to pass in the shortest
> >> >period of time.
> >> >
> >> Actually SSB is probably still by quite a margin the MOST efficient
> >> means of conveying voice information in terms of required RF bandwidth
> >> per Hz of baseband bandwidth. Digital techniques for speech
> >> transmission that can readily operate in less than 5kHz bandwidth
> >> (2.4kbps LPC, for example) sound like crap. (They're intelligible, but
> >> they sound like a robot talking in the bottom of a tin can.) The
> >> vocoders that provide good voice quality require quite a bit more
> >> transmission bandwidth.

> >
> >You're correct, considering only efficiency. But remember that CW is a
> >much more efficient means of communication than SSB, in terms of
> >required RF bandwidth per Hz of baseband bandwidth.
>
> What's that supposed to mean? A dead carrier would be even more efficient
> by that metric. "CW" is really double sideband with carrier AM. The only
> reason it is narrow is that information content is very low. The relevant
> measure is information per Hertz per second, or in more Morse-centric units,
> words per minute per Hertz. If we take the ARRL recomended rise/fall time
> for a Morse element, a Morse signal occupies 250 Hz. Being generous, lets
> say the average amateur operator can sustain 20 WPM. That gives Morse a
> score of 0.08 WPM/Hz. By contrast, off the shelf Clover offers a score of
> 2.25 WPM/Hz. And poor old SSB has a score of 0.06 WPM/Hz (disregarding the
> nuances of inflection carried in the human voice). So OOK Morse beats
> SSB (barely), but is totally blown away by Clover. If we look at what we
> *could* do given proper regulations, we'd have a score of 4.8 for the system
> I mentioned (and that certainly isn't the last word on what's possible
> within amateur means today).
>
> **
> NOTE: replies to the following part should be directed to the policy
> newsgroup.
> **
>
> >I remember having similiar discussions using the same arguments on both
> >sides, back in the sixties. As a young man working in the development
> >of the integrated circuits for the LEM computer for the Apollo program,
> >I walked away from ham radio as being too backward, outdated and out
> >of touch. Telemetry of the time seemed to put CW in a category with
> >smoke signals and stone knives.
> >
> >A few years ago, I picked up a shortwave radio at a flea market, and
> >tuned in W1AW code practice. To my amazement, I could still copy it
> >after 30 years. I picked up the general class ticket the next month,
> >and passed the Extra class one month later.
> >
> >I find that I enjoy the CW most of all. It matters not that it is
> >outmoded, I consider every aspect of ham radio outmoded, including
> >satellite work. It's all old hat (But it's fun to fool with) in
> >light of modern technology.
>
> Fine. No one is telling you that you can't do that. You can use only
> old tube type radios too if that's what you want to do, or put any other
> *self-imposed* limitation on your capabilities that you like. But there
> certainly are better ways than smoke signals and stone knives. And
> many of those ways are well within amateur reach, regulations permitting.
> But the regulations don't permit in several important respects, and that's
> at least partially because of myths perpetuated about those old smoke
> signals and stone knives, and resistance to new methods imbued by the

> current amateur culture of Morse worship as the defining element of
> amateur radio.
>
> Just look at the current furor over revising the SS regulations.
> That technology holds promise for large improvements in the way
> we use and share spectrum, but vested interests with a mindset
> that narrower is better (the narrowness is really in their own
> minds) and that simplicity is a virtue (really they mean simple
> mindedness, VLSI has rendered arguments against circuit complexity
> virtually moot) are attempting to shout it down.
>
> This same attitude has been echoed recently on Moon Net. Some
> EMEers are trying to discourage use of better modulations to
> displace the need for large amplifiers and huge arrays to do
> EME. Because those methods would obsolete OOK Morse as the
> weak signal mode of choice, some are arguing that the newer
> methods should not be used.
>
> IMHO they're just afraid that their skills will become as obsolete
> inside amateur radio as they already are outside of amateur radio.
> So they've decided to try to hold amateur radio as a whole back
> rather than trying to update their own skill sets, or just accepting
> that their methods aren't the be all and end all they've been
> propagandizing for years that they were, and finally accept that
> they only use them by choice because that's all *they* want out
> of amateur radio. Now that's fine, *for them*, but it shouldn't
> be an unnecessary limit on what those who feel otherwise can do.
>
> To those who want to build 2N2222 oscillators and hammer out Morse,
> I say fine, go for it, if that's what you want. Just don't try to be
> a roadblock for those who want to build something else, say something
> using an AD6432 to handle the RF, and a bit of firmware on an AD2181
> to do a better modulation coding/decoding, for example, or even for
> those who want to slip a 20 cent varactor on that 2N2222 and FSK it.
>
> Even Morse addicts are realizing that the receiver's the thing, and
> that a bit of quadrature and a touch of DSP can be useful in retrieving
> the modulation of a signal, even the AM of OOK Morse. But receivers work
> better with a coherent modulation that is tailored to the channel and
> the demodulating technology available. Hand keyed OOK Morse isn't that
> modulation, and a pair of headphone covered ears isn't the best decoder
> anymore either. Like the Boy Scout rubbing two sticks together, the old
> methods can sometimes still make a fire (especially in the muscles of
> your shoulders and back), but a magnesium starter is better, quicker,
> easier to master, and works even when the wood is wet and the wind is
> howling.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | Due to provider problems

> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

Gary,

I do believe you missed my entire point. Ham radio is more than RTTY, or ATV or SSB or CW. It is all of the above. Because a large number of hams use CW, it should be included in the testing, in my opinion.

I stand by my argument about the HF bands. I'll offer one more argument. If the HF bands are such a valuable resource for high speed communications, why isn't the FCC planning to auction HF spectrum?

Could it be that commercial interests know that you don't get enough bang for the buck on HF? Foreign broadcast encroachment is our greatest threat for our HF bands, not commercial high speed digital services.

No doubt there are many foreign hams who are affluent enough to purchase fancy ham gear of all types, but I have communicated with many who are operating homemade gear, both receiver and transmitter. Others were using converted military or commercial surplus.

73,

Jim

711. Re: Zener Diode For Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <3221D61B.3B2@gte.net>
Source record: 102977

Carl Osborn wrote:
>
> Where can I get a 8.2 volt 1.5 amp zener diode for my Heathkit SB230
> linear amplifier? It is a Motorola type 1N280 GA or possibly 1N2806 A
> (it is hard to read part no. in instruction book). Any help would be
> appreciated.
>
> Carl W6RXP

Hi Carl,

try K2AW "Silicon Alley"
175 Friends Lane, Westbury, NY 11590
516-334-7024

His prices are reasonable, and service is excellent. I've bought
zeners for my SB220 from him. He had 'em in stock.

73,
Jim - AD4VL

712. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: mar@zoltar.nrl.navy.mil
Message-ID: <mar-2608961148530001@chaos-mac.nrl.navy.mil>
Source record: 102978
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

In article <4vjfpn$a89@dfw-ixnews4.ix.netcom.com>, sjnoll@ix.netcom.com
(Steve J. Noll) wrote:

> skubi@rodin.inria.fr (Marcin Skubiszewski) wrote:
>
> >The subject says it all.
>
> >Is there a negative resistance region in these diodes, as in tunnel diodes ?
>
>
> Yes.

Agreed.

Nitpick: the term should probably be "negative differential resistance" or
"negative incremental resistance", for both Gunn and tunnel diodes, since
the slope of the I-V curve is always positive. The "negative resistance"
region is that over which the resistance _decreases_ for increasing bias,
but it still remains positive. (It's possible to use active devices to
construct a negative resistance (or impedance).

Gunn diodes are used in oscillators at microwave frequencies.

DM

+--+
| Douglas J. Mar mar@zoltar.nrl.navy.mil |
| Materials Physics Branch, Code 6343 202-767-6244 (office) |
| Naval Research Laboratory 202-767-6295 (lab) |
| 4555 Overlook Avenue SW 202-767-1697 (fax) |
| Washington DC 20375-5000 Bldg 3, Room 409 |
+--+

| The views expressed above do not necessarily reflect those of U.S. |
| Government, the Department of Defense, the Navy, or my wife. |
+--+

713. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <3221F4D8.7585@erols.com>
Source record: 102979

Yeah, a Gunn diode is a sort of cousin to the tunnel diodes. There
are substantial differences, though. Basically, you stick them in
a resonant microwave cavity, apply a voltage within a certain range
and they oscillate.
--
Jake Brodsky, mailto:frussle@erols.com
PP-ASEL-IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

714. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: The Mad Hatter <madhatter@craig.mv.com>
Message-ID: <32213156.DA7@craig.mv.com>
Source record: 102980

Jim Conn wrote:> > Lawrenceville, GA 30244 | |
>
> Gary,
>
> I do believe you missed my entire point. Ham radio is more than RTTY,
> or ATV or SSB or CW. It is all of the above. Because a large number of
> hams use CW, it should be included in the testing, in my opinion.
>
> I stand by my argument about the HF bands. I'll offer one more argument.
> If the HF bands are such a valuable resource for high speed
> communications, why isn't the FCC planning to auction HF spectrum?
>
> Could it be that commercial interests know that you don't get enough
> bang for the buck on HF? Foreign broadcast encroachment is our greatest
> threat for our HF bands, not commercial high speed digital services.
>
> No doubt there are many foreign hams who are affluent enough to purchase
> fancy ham gear of all types, but I have communicated with many who are
> operating homemade gear, both receiver and transmitter. Others were
> using converted military or commercial surplus.
>
> 73,
>
> Jim

I always thought the HF wasn't used in commericial applications because
of the antenna. Who wants a pager or cellular phone with a 40ft antenna
;^>. Besides as someone who is learning morse now I think it will be fun
and should stay a req. but I also think some digital apps would be fun
to mess around in too.
--
"...Nothing you can make that can't be made,
No one you can save that can't be saved,
Nothing you can do but you can learn to be you in time,
Its Easy!...

"All you need is love..."
"Love is all you need..."
--John Lennon "All you need is Love",
The Magical Mystery Tour

715. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Charles Hoffman <choffman@pelican.davlin.net>
Message-ID: <3221DEF6.15F8@pelican.davlin.net>
Source record: 102981
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

mikemiller@dsm1.dsmnet.com wrote:
>
> In article <4h1tmr$n7p@crchh327.rich.bnr.ca>, cnc23a@b4pph13e.bnr.ca (Ken Edwards)
writes:
> >
> >A few years ago ther was alot of talk about Amplitude Compandored Single-Side
> >Band communications.
> >
> >Haven't heard much about it lately.
> >
> >Any pointers on info ?
> >
> >--
> >===
> >
> >Ken M. Edwards, PE Nortel, Research Triangle Park, NC
> >(919) 905-4769 email: cnc23a@bnr.ca
> >
> >All opinions are my own and do not necessarily reflect the views of
> >my employer or co-workers, family, friends, congress, or president.
> I believe that United Parcel Service commissioned some techies in the
> Seattle area to try some prototype radios on 220Mhz using ACSSB, but
> the project failed for some techical reason (range?, quality and
> reliability of comms?, etc.) They went to SMR trunked radio I believe.
> Haven't heard any more about it - haven't seen any commercial radio magazines.
> Time to go to altavista for gory details.
>
> Mike N0JAS Des Moines, IA

Amplitude Compandered Single Sideband (ACSS) received considerable
experimental status about 1976-7 when the topic made two covers of QST.
I still have some of the original equipment. It was promoted in the
amateur radio community primarily as a spectrum-saving new mode. A
better presentation would have been as a mode with a 12-15 db better
signal to noise improvement. Our amateur radio community might have
perked up a bit more. So, it sort of faded after the experiments.

But Tom Lott, of Hong Kong (?), who wrote the original algorithems and
base-band conversion circuits became disenchanted with the amateur radio
experimental scene, I gathered, and sold the concept to the Chinese
government to use as their government radio system. I lost track of Tom
after that.

Also, about that time E. F. Johnson acquired some rights to produce a radio that their marketing department decided to dub amplitude compandered single sideband and introduced a new concept for business band VHF radio, using repeaters (or translators). They were advertised on the basis of a system that would double the range of existing FM repeater systems using the same frequency and tower height. Again, another marketing fault.

When the system would not talk any farther than regular FM, albeit with a better signal to noise radio at the radio horizion, the system flopped big time.

So it appeared that a new technology, a really desirable technical radio communications mode using digital technology failed due to non technical reasons. It happens; no doubt you can think of other technical systems that were displaced or never got off the ground due to non technical reasons.

My recollection may not be entirely complete and perhaps someone else closer to the manufacturing or engineering aspects of the mode could contribute some interesting comments. This is a wheel that does not need to be reinvented, just pulled out of the barn and dusted off! One of the technical problems in 1977 was the lack of digital LSIC that were able to survive the r.f. environment and avoid RFI.

73 K5SBU

716. Re: $$Money4U$$

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: "Brian D. McKinley, Ph.D." <bdmck@epix.net>
Message-ID: <32220AE9.219@epix.net>
Source record: 102982
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner

Dear Sir,

In reply to your recent post to a Amateur Radio News group. A couple of notes:

1. Pyramid games are quite illegal. Always have been, always will be. You should be investigated. Your internet privlidges should be permanently revoked, and you buns should rot in jail for the next 8-15 years.

THE INTERNET is not some new vehicle for tired old cons. We wjo use the internet and don't want to see it regulated worry about "holes" like you.

2. No one who reads these groups accept those named "illegal activities" care about your con and wish you would stop wasting space. If you were proud of what you were doing, your NAME would appear in the header instead of some insane name like "MoneyMan"

3. Scum like you are the lowest form of predator in the world, you and all the pedophiles of the world should be the victims of WW III.

Sincerely,

Brian D. McKinley, Ph.D.
56 Church Street
Kingston, PA 18704

bdmck@epix.net

MoneyMan wrote:
>
> NO - NOT AT A CASINO - RIGHT HERE ON THE INTERNET!
>
> Taking 5 minutes to read this text may be one of the best decisions you
> ever made.
>
> My name is not important. What is important is what happened to me.

Deleted out of fairness to the readers

> STEP 1. Write your name and address on 5 separate pieces of paper with
> the words "PLEASE ADD ME TO YOUR MAILING LIST". Fold a $1 note or money
> order or bank draft in each of the pieces of paper and mail them to the
> following five addresses:

MORE DRIBBLE

> You are now in the Mail Order Investment Business and you will start
> receiving $1 returns by mail within a week or two. The more news groups
> you post to, the bigger your return will be. You may want to rent a
> Post Office Box to handle the volume of mail you are likely to receive.

So the authorities can't find you????

717. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-26 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <3221EACB.308@sedona.intel.com>
Source record: 102983
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Fred McKenzie wrote:
> What I'm leading up to, is that the FCC might accomplish more, if they
> were to perform the math (or make the measurements) for common situations,
> and publish examples where harm might occur.

Hi Fred, according to Ed Hare on "Ham Radio and Moore" :-) either the
FCC or ARRL will be publishing a worksheet/checklist that will take about
an hour to do, and will show whether one is safe, unsafe, or borderline.

73, Cecil, W6RCA, OOTC (not speaking for my employer)

718. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: billsohl@planet.net
Message-ID: <4vthkt$8sa@jupiter.planet.net>
Source record: 102898
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>A final note. The standard requires exposures to be averaged
>over a 6 minute period for operators, or a 30 minute period
>for the general public (whose standard exposure levels are
>lesser than for operators). So a station whose peak exposures
>violate the standard may still be Ok if the average exposure
>level is sufficiently lower than the peak. Again this is a
>somewhat *political* decision and doesn't mean it is safe.

Wouldn't a typical case for an amateur set-up be one in which
the result is at least divided by two as a result of the typical
amateur QSO being a 2 way communication with an average
duty cycle being 50%?

Additionally, for general public exposure, it would seem that
most situations would result in even lower exposure levels
because of movement by the "public" through an area
as opposed to sitting in one place. Granted there may be
some exceptions to that, but I can't think of any at the
moment.

In another post, Clay N4AOX said:
> Hmmm, based on what you say, it seems that other thinkgs being equal a
>low duty cycle mode like Morse OOK CW would be provide a lower exposure
>to operators and the public when averaged over the same amount of time
>than say an FSK mode. In other words Morse code, among other positive
>attributes is more healthy than some of the newer fad modes. ;-)

That too would improve (i.e. leesen an otherwise high or excessive
value that might be generated by calculation). As Clay notes,
CW is not a continuous transmission, so a duty cycle for transmit
only can probably be fairly easy to calculate. On that same
basis, SSB transmissions do not contain the Peak levels
except at certain speech patterns, so some average value
or correction factor would be helpful when calculating SSB
averages.

Bill Sohl K2UNK
ARRL Local Gov't Liaison, Mt. Olive Township, NJ

719. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <3222ACA7.168B@pop.erols.com>
Source record: 102899
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Nine stations surveyed is not anywhere near a statistically significant
sampling. Further, the findings were not used to provide any exemptions
for scenarios which did not exceed the regulation.

Most other services received exemptions for particular scenarios.
Amateur radio received none, except the 50 watt PEP output (no mention of
antennas config or EIRP) which is not technically sound.

The 9 station study is/was essentially useless.

S

Gary Coffman wrote:
>
> In article <frederick.mckenzie-1-2308961844560001@k4dii.ksc.nasa.gov>
frederick.mckenzie-1@kmail.ksc.nasa.gov (Fred McKenzie) writes:
> >In article <1996Aug21.155557.3774@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
> >(Gary Coffman) wrote:
> >> There is documented evidence that exposures of greater than 10 mW/cm^2
> >> can cause harm. In particular, cataracts or loss of focal flexibility
> >> due to RF heating of the lens of the eye, and in some cases cancers.
> >>
> >Gary-
> >>
> >I believe you! Now, how does that relate to the average Ham? Although 10
> >mW/cm^2 sounds like a miniscule amount, it doesn't sound so bad when you
> >convert it to 100 W/M^2 (did I do that right?).
>
> That's right, and it's the field you'd see 36.1 cm from the radiation
> center of a dipole with a 100 watt transmitter driving it, or 8.1 cm
> from a 5 watt transmitter's antenna, IE a HT with a rubber duck held
> in front of your face.
>
> >What are "real world" exposure levels that a Ham is likely to encounter in
> >each of several areas of the Ham spectrum? Suppose I have a 100 Watt HF
> >transceiver to a dipole, about 20 feet off the ground. Is anyone at risk
> >while I'm on the air? What if I run a KW? What if I use a beam that is
> >50 feet up?
>
> The HF transceiver and dipole would be generating a field in excess of
> the standard for H-field exposure (depending on antenna orientation with
> respect to the point of measurement). You're still in the near field at HF
> frequencies, and the behavior there is more complex. We have to look at

> E-field and H-field exposures separately, and not just at power density.
> (You'd be Ok with respect to power density alone at that separation.)
>
> A kW would aggrevate the situation. 10 db power gain equates to a 3.16
> times larger exposure radius for the same field intensity. A beam on a
> 50 foot tower would generally be in compliance with the standard, even
> at a kW (barring some obscure pattern anomaly caused by the particular
> installation, IE feeder radiation). That's because its pattern isn't
> isotropic, and the main lobe would be well above populated areas.
>
> >How about a typical Two Meter installation?
>
> An on-glass antenna installation with a 100 watt transmitter in a car
> would exceed 10 mW/cm^2 exposure at the driver's (or passenger's)
> position. A cowl mount might too. A roof mount would generally be Ok
> (except for people standing next to the car). At home, a spacing of
> 1.61 meters from the operator would be outside 10 mW/cm^2, but would
> have to be 5.1 meters away to meet the 1 mW/cm^2 exposure standard.
> In general, the new standard requires a spacing of 3.16 times greater
> than the old ANSI-82 10 mW/cm^2 standard required on 2m. If you're
> using a gain antenna, things become more complicated. In the main lobe,
> safe exposure distances have to increase in proportion to the power gain,
> in the pattern nulls, safe exposure distances are lessened from what
> they would be with an isotropic source.
>
> >What I'm leading up to, is that the FCC might accomplish more, if they
> >were to perform the math (or make the measurements) for common situations,
> >and publish examples where harm might occur.
>
> They did. About a year ago, the FCC OET went out in the field and
> examined 9 amateur installations picked at random. The results are
> available as a PDF file on the FCC web site (148 kb file). While
> many amateur installations were within the NCRP-86 limits, they
> found some which weren't. And those weren't aberrant installations,
> but rather some fairly common ways amateurs set up their stations.
>
> IMHO, the most common dangers for amateurs operating VHF+ are
> on-glass mobile antennas with typical VHF rigs at power levels
> of 25-45 watts, and using a 5 watt HT held in front of the face.
> (Note that these setups are exempt from the new regulations
> for *political* reasons, but that certainly doesn't mean that
> they are safe. It is no accident that 50 watts was chosen as
> the cutoff point. Look at the power output of the typical VHF
> mobile rig, they fall just under the exemption limit.)
>
> For amateurs operating on HF, the big danger areas are indoor
> antennas and ground mounted verticals. The FCC did find some
> "hot spots" in stations using open wire feeders or end fed long
> wires. (Mobile setups are at risk too, but at HF the car body does
> offer some Faraday shielding for the operator. The big hazard is

> to members of the public standing outside a parked car that has
> an operating HF setup.)
>
> A final note. The standard requires exposures to be averaged
> over a 6 minute period for operators, or a 30 minute period
> for the general public (whose standard exposure levels are
> lesser than for operators). So a station whose peak exposures
> violate the standard may still be Ok if the average exposure
> level is sufficiently lower than the peak. Again this is a
> somewhat *political* decision and doesn't mean it is safe.
>
> A non-amateur example: a 250 kW pulse radar whose average power
> is only 100 watts might meet the standard but still fry your eyes
> in some situations. Peak power does matter in some cases. I've
> tried to heat hotdogs by holding them in front of radar dishes
> with a wooden stick. The dog's surface *explodes* into blisters,
> but the center remains cold because the *average* power is too
> low to cook it through. When I do this using our satellite uplink
> truck's dish (800 watts FM), the dog cooks nicely because it's in
> a constant power field of sufficient intensity. Those explosive
> blisters could still do you harm, even if they don't cook you
> through like a beam with higher average power can.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

720. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: billn@PEAK.ORG
Message-ID: <4vtu78$8r@bashir.peak.org>
Source record: 102900
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

Gregg (gregglns@ix.netcom.com) wrote:
: >
: >After deciphering "If you can read this, you really ought to get out
: >more," I decided the effort greatly outweighed the rewards!

: Jeff, you're using the built-in newsreader in the Netcruiser software.
: It's crap. Try using Free Agent -- and, if you like it, you can buy
: Agent -- and you can do ROT13 with a couple of mouse clicks. Much
: more importantly, you can also do most of your Usenet news stuff
: offline.

Or, if you use 'tin' as the newsreader, you can do so by simply pressing
a lower case d key while in read mode.

Bill

721. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <3222B1F1.3775@pop.erols.com>
Source record: 102901

Jim Conn wrote:
>
> Gary Coffman wrote:
> > <<<Mucho stuff cut>>>
>
> I do believe you missed my entire point. Ham radio is more than RTTY,
> or ATV or SSB or CW. It is all of the above. Because a large number of
> hams use CW, it should be included in the testing, in my opinion.
>
> I stand by my argument about the HF bands. I'll offer one more argument.
> If the HF bands are such a valuable resource for high speed
> communications, why isn't the FCC planning to auction HF spectrum?
>
> Could it be that commercial interests know that you don't get enough
> bang for the buck on HF? Foreign broadcast encroachment is our greatest
> threat for our HF bands, not commercial high speed digital services.

This is patently untrue. More and more commercial service are
looking at and beginning to use or reuse HF as a lower cost alternative
to satellite links. Adavanced HF coms functionality like ALE, burst
modems, and FH/SS allow more reliable, higher data rate coms than in the
past. Even with all this technology, the cost is often cheaper than the
satellite route.

Don't be to sure the HF spectrum is safe from commercial interests.

>
> No doubt there are many foreign hams who are affluent enough to purchase
> fancy ham gear of all types, but I have communicated with many who are
> operating homemade gear, both receiver and transmitter. Others were
> using converted military or commercial surplus.
>
> 73,
>
> Jim

Whether or not the CW requirements should be removed, I believe
more digital comms questions should be on the test. That is, if your
license class allows you to use a mode (digital or otherwise) you should
have to answer questions on it.

It's been a while since I took the tests but I don't recall questions on
any modes, except CW,FM,SSB on the tests up thru Advanced. As I recall,
most of the "advanced" modes were covered in the Extra class exam. This
does not mak sense to me. I'm allowed to run packet, ATV, SSTV, and RTTY
and I don't have to have any knowledge of them?? Is this still the

case??

S

722. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <3222B405.6E9A@pop.erols.com>
Source record: 102902

John D. Seboldt wrote:
>
> I've built the CCI power amp kit -- based on Motorola AN779 (push-pull
> MRF454's). I might want to try a little bit of AM, and I know if you
> want to amplify AM with a linear you have to keep the PEP at the rated
> output, thus carrier at about 1/4 the PEP rating of the amp.
>
> Any remote chance one could collector modulate this amp (assuming you
> re-bias it for Class C? [easy to do])? Would the power ratings end up
> similar to linear amplification?

You've already received some good info. One other thing to
remember, you should also modulate the driver stage to improve the
modulation linearity and peak modulation cpapbilty. For complete info,
see Lenk's book Solid State RF Design.

If the output transistors can take it, you should get at least
twice the power output vice linear mode.

S

723. Re: where to find ultrasonic sensor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: mfraser@vanbc.wimsey.com
Message-ID: <4vu1v2$3pj@wolfe.wimsey.com>
Source record: 102903

I acquired four ultrasonic motion detectors that look unused. c/w instruciton sheets - how about $25+shipping for the lot?

/mark

Bob Winingham (kc5ejk@onramp.net) wrote:
: Old X10 light control base units had an ultrasonic sensor
: for use with remotes.

724. Portable VHF mark ALINCO model DJ180E

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Paolo Tealdi <s76511@athena.polito.it>
Message-ID: <3222B28E.41C67EA6@athena.polito.it>
Source record: 102904
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.amateur.scanner,rec.radio.amateur.shortwave,rec.radio.amateur.swap

A friend of mine is a radio amateur and he has got this transceiver
radio:
RTX mark ALINCO
ELECTRONICS INC. JAPAN
Portable VHF
model DJ180E

He has got two questions about this radio:
1) How can he modify his radio to extend the band from 144/146 MHz to
130/170 MHz?
2) Can he receive the "manual for use" of this radio? (A photocopy of
the manual is acceptable too!)

For details, please conctact me through my personal e-mail address.
Thank you very much!

Paolo Tealdi - Italy
E-mail: s76511@athena.polito.it
WWW: http://www.polito.it/~s76511/index.html

725. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4vuj36$162@newsbf02.news.aol.com>
Source record: 102905

In article <4von0p$3u4@bell.pconline.com>, rohrwerk@pconline.com (John D. Seboldt) writes:

>Any remote chance one could collector modulate this amp (assuming you
>re-bias it for Class C? [easy to do])? Would the power ratings end up
>similar to linear amplification?
>
>

You also need to modulate the driver, because of high feedthrough power and failure of the transistors to follow square law rules over a large collector voltage range.

Without modulating the driver, the audio will be distorted and 100% modulation on negative peaks can never be reached.

Be sure the transistors can take the peak collector voltage of signal plus audio plus SWR.

For linear amplifier operation, you neeed to set the impedance for a conjugate match at the maximum power output level, and then reduce drive. You will be darned lucky if the devices allow a 4:1 ratio to be enough for good linearity and safe power dissipation.

73 Tom
73 Tom

726. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199608271018.UAA14560@oznet02.ozemail.com.au>
Source record: 102906

At 09:02 AM 24/08/96 -0700, you wrote:

>: I watch PANAMSAT-2 satelitte here in Australia, basically CNNi.
>: One problem is that it is received in the American NTSC format of
>: video transmission and here in Australia we use PAL.
>: I know that NTSC to PAL converters are available as a ready to use
>: item but would be interested in building one.
>: Does anyone know of kits or projects (cct's) for such a project?
>
>You might be better off checking the used computer market for
>a display for one of the older computers that may have got to Oz
>that used composite NTSC or a dual mode monitor for it's display.
>Tandy Color Computers, The old Pre-IBM Clone Zenith Z-100, Apple II,
>maybe Commodore or Amiga, some of the early NEC multisync displays.
>Or maybe a multitude of Japanese models that I've never seen.

Hi Mark,

Thanks for your reply. The thing with your suggestion is that it would be ok
in the shack, but as I have linked the RF output from the satelitte receiver
to the antenna system of the household, via splitter/combiner's, it would
not allow me to see the converted PAL in the rest of the house.

So I need some kit/project/unit that would allow me to tave the VIDEO &
AUDIO from the sockets on the back of the satellite RX and then arrive at
the required PAL signal, hopefully already RF modulated.

either way I appreciated your time in responding.

73

Mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

727. Re: Worked any xmtr-to-skull lately?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <t1Z3uBAt7rIyEwmc@ddwyer.demon.co.uk>
Source record: 102907

In article <4vqesf$44p@news.bellglobal.com>, raven1
<raven1@netaccess.on.ca> writes
>This isn't a joke. If anyone has tried this or is
>willing to try it, I would like to correspond about
>this amazing technology. It is apparently patented
>and therefore likely works.
Not always true.

---------I have seen your posts elsewhere relating to your personal
experiences, it is not friendly to send so much text, however .--------
---
If you stand too close to a functioning radar antenna you will hear a
buzzing, this is because of the instentaneous heating of the brain by RF
that generates tiny shock waves due to slight thermal expansion, the
shockwaves are picked up as sound in the inner ear. This could be the
mechanism employed, would not be of use if the auditry cortex was not
functioning.
Ps dont stand too near! or dont try this at home as they say on the kids
programmes.
There is also documentry evidence that carefully directed varying
magnetic fields can affect mood and vision, the effect must be small as
the fields employed with PET scans are enormous and I have not heard
that patients mention any ill effects.

Regards
Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,
TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_Precision/

728. Re: Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Mark <kb9khm@expert.cc.purdue.edu>
Message-ID: <3222D596.25A2@expert.cc.purdue.edu>
Source record: 102908

fiz wrote:

>
> Does anyone know how much bandwidth a 14.4K modem would take up?

The bandwidth of a standard phone line is only 3Khz, so it can't
be more than that.

Mark
<KB9KHM>

729. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199608271156.VAA18993@oznet02.ozemail.com.au>
Source record: 102909

Hi Guys,

Firstly thankyou for responding to my request for help/info.................

So far we have written.............

[I said]

>In article <1996Aug24.164839.3416@ke4zv.atl.ga.us>, Gary Coffman
><gary@ke4zv.atl.ga.us> writes
>>In article <199608232319.JAA27959@oznet02.ozemail.com.au>
vk3jma@ozemail.COM.AU
>>(Mark Aitken) writes:
>>>I watch PANAMSAT-2 satelitte here in Australia, basically CNNi.
>>>
>>>One problem is that it is received in the American NTSC format of
>>>video transmission and here in Australia we use PAL.
>>>
>>>I know that NTSC to PAL converters are available as a ready to use
>>>item but would be interested in building one.

[Gary said]

>>
>>This used to be incredibly hard and incredibly expensive. Now it
>>is merely hard and expensive. You're far better off attempting to
>>modify a PAL TV set to accept NTSC than you are to build a standards
>>converter.
>>

[Ian said]

>
>
>Gary is right. A modified TV or a multi-standard one is the cheapest
>solution, unless of course, you wish to record the NTSC signal on a PAL
>video.
>
>Panasonic make a world-wide VHS machine known as the NV-W1. This
>machine will play any VHS tape of any standard from anywhere in the
>world and output the video signal to any TV standard you wish. It will
>also record any TV standard from any other TV standard you care to feed
>it with as it has a standards-converter built-in. It will replay, but
>not record S-VHS tapes and does not have a built-in tuner.
>

[The saga continues......]

OK, a new multi-standard TV or Video is out of the question, otherwise I would be the proud
owner of one right now, but thanks for the suggestion.

Modifying a PAL telly is also out of the question as the wife would shoot me!

The reason why a dedicated NTSC>>PAL converter is required is that I have distrubuted the
RF from the Satellite receiver into my households TV antenna system, ie

ANTENNA--------- -----TV1
COMBINER-------SPLITTER-----TV2
SAT-RXOUT ----- -----TV3

So it would require 3 new video's or telly's with the multi-standard option.

My only option is now to take the LINE_LEVEL audio & video out of the satelite receiver, run it through a NTSC>>PAL converter and then re-distrubute the re-modulated and converted signal as I do now.

That is why I need a dedicated converter.

I have seen one here in Australia at a satelite company but like always I attempt to
shop around for alternatives.

Again, your input is most appreciated.

73

Mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

730. 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199608271226.IAA12202@service1.cc.uky.edu>
Source record: 102910

At 10:24 PM 8/26/96 PDT, you wrote:

>From: scottcr@wkuvx1.wku.edu (Chris Scott)
>Subject: 4CX250B as GG TRIODE amp ???
>
>Q. Can 4CX250Bs be operated grounded grid as a triode for HF ?
>
>I've seen sweep tube amps (tetrodes) with both grids tied, operated
>as grounded grid triodes, for stability and to get by without a
>regulated screen supply.
>
I have seen this done but if you do it by just connecting the
grid-1 and grid-2 to ground you will vaporize the control grid.
You can connect the control grid to the cathode and ground the
screen grid. But the output power will be low.
I knew a guy that tried to use series resistors on the control
grid and also tried to tap the control grid down the cathode choke
to reduce the drive to it but neither worked very well.
Eimac recommends not to use triode configuration for the 4cx series
or the 4-65.

73
Bill wa4lav

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

731. Re: Zener Diode For Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: "C. J. Hawley" <c-hawley@uiuc.edu>
Message-ID: <3222E84D.1DB2@uiuc.edu>
Source record: 102911

W8JI Tom wrote:
>
> In article <32210E56.24A4@sedona.net>, Carl Osborn <carl@sedona.net>
> writes:
>
> >
> >Where can I get a 8.2 volt 1.5 amp zener diode for my Heathkit SB230
> >linear amplifier? It is a Motorola type 1N280 GA or possibly 1N2806 A
> >(it is hard to read part no. in instruction book). Any help would be
> >appreciated.
> >
> > Carl W6RXP
>
> Any zener around that voltage will work, cahanges from 5 volts to 10 volts
> will make no measurable difference in SB 230 performance.
>
> If the zener is bad, you likely had a tube flashover. I'd add a 25 to 50
> ohms 50 watt high voltage energy dissipating resistor in the anode path.
> It will protect the tube and zener in case of a momentary tube fault from
> gas.
>
> 73 Tom

RF parts has a good selection of Zeners.
1-800-RF PARTS

Chuck, KE9UW

732. Wanted - SC connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Aug27.124812.62201@ucl.ac.uk>
Source record: 102912

Someone tells me that SC connectors have been available readily at rallies in the UK. Does anyone who is selling them ?

I'm looking for some N to SC adaptors, plus some SC connectors for a decent coax - LDF 450 or LDF 550.

Dave Kirkby G8WRB.
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

733. Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: n2ucn@wa2soc.ampr.ORG
Message-ID: <261@wa2soc.ampr.org>
Source record: 102913

> Date: Sun, 25 Aug 96 23:32:47 GMT
> From: docjim@getnet.com (Jim Gyer)
> Subject: Why difficult to generate high power at UHF?
>
> Yes there are tricks and there are other technologies, but for reasonable
> cost, power, weight you quickly have to make the compromise you see the
> commercial equipment coming to. The good news is that less power is needed at
> higher frequencies. Don't think of antenna size in feet. Think of it in
> wavelengths. A given antenna area becomes a lot of wavelengths as frequency
> goes up resulting in more antenna gain. Less power and more antenna gain
> results in the same radiated signal strength.

Less power and more antenna gain results in the same radiated
signal strength, but as frequency increases, path loss increases the
same amount that antenna gain increases (all other factors
being held constant, including coax loss). So the *same*
power is required.

Chuck, N2UCN

amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

734. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <4vuu68$lia@vixen.cso.uiuc.edu>
Source record: 102914
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

>Gary Coffman wrote:
>>
>> In article <321DD7DB.28EC@gte.net> Jim Conn <jconn@gte.net> writes:
>> >carl@ais.net wrote:
>> >>
>> >> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
>> >> >I don't get it. The HF bands are not useful for high speed digital work.
>> >> >
>> >> Rediculous ... all it takes is the right modulation and coding
>> >> techniques and a progressive regulatory structure that permits it.
>> >> Obviously higher data rate wider bandwidth transmissions are more easily
>> >> accomodated at higher frequencies, but HF will support FAR beyond 300
>> >> baud FSK packet.
>> >> The cost/bandwidth/performance of HF high speed digital services
>> >render such a thing impractical within the confines of the amateur bands.
>>
>> Nonsense. We have an off the shelf solution in Clover which gives us
>> 750 bps (in OOK Morse terms that's 1125 WPM) in 500 Hz. We can go faster
>> than that. Using a raised cosine FSM, we can put 38 non-overlapping 50
>> baud carriers in a 3 kHz channel. That gives 1900 bps while still
>> maintaining a symbol rate compatible with HF multipath. If we use symbol
>> overloading, as Clover does, we can boost that to 4500 bps. If we more
>> aggressively overload symbols and use some simple coding tricks, we can
>> jump to 7600 bps, still in a 3 kHz channel. If we throw in a bit of
>> compression and some FEC, we can do 11.4 kbps. Subtracting overhead,
>> we can achieve a net 9600 bps in a 3 kHz channel without sacrificing
>> our ability to deal with multipath. And we can do that for less than
>> $100 in DSP parts (or even do up through 4500 bps on a PC with just a
>> sound card and a bit of software, IE essentially free).
>>

I cannot TYPE 1125 wpm. In fact, I can send CW faster than I can type!
I'm not even sure I can TALK 1125 wpm.

This is still a HOBBY ... only a HOBBY. It is what you want to put into
it, and the wonderful thing about it is that it is so diversified there
is something for everyone.

There are those who wish only to chat on 2 meter FM with HT's. Fine ...
there's a place for them and I enjoy their company. There are those who
wish to play around with technology ... fine, they have their places too.
I also enjoy reading about that aspect of the hobby.

Some of us (myself included) are DXers, contesters and VHF DXers/contesters who build their own VHF equipment. We have our places in the hobby, too.

The thing is that it is a communication hobby as well as a technology hobby. Live communication. I'm not trying to send a novel to the guy at the other end; I can do that on Internet. But considering my typing speed I don't need to send data at 2500 wpm or whatever; I just want to communicate with they other guy in real time and if I can send CW at 60 wpm, type at 45 wpm or talk at 300 wpm I'll still exchange ideas.

So for those who wish to see how many novels per hour they can send via CLOVER, well - have fun. I still enjoy reading about your results. But I still like those slower forms of communication, CW and speech. They are also fun in this hobby, to me at least. And to a few others ... I've had several one-hour CW and SSB ragchews recently.

73, Zack W9SZ
--

735. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <NMEBmEAXaqIyEwRi@ifwtech.demon.co.uk>
Source record: 102915

W8JI Tom wrote:
>In article <1996Aug25.214331@wkuvx1.wku.edu>, scottcr@wkuvx1.wku.edu
>(Chris Scott) writes:
>
>>Anyone done this?
>>
>>WB9NEQ
>
>The contrl grid of the 250 is too fragile, and grid spacings are not
>correct for zero bias GG operation. You can use the tube cathode driven,
>but will still need screen and bias voltages.
>
>The screen must be very well regulated, or IMD will be unpredictable.
>
>Three or four hundred ohms of grid swamping is too high, unless you plan
>on driving the tubes with less than a few watts.

Agreed - it's a tube-killer and the intermodulation is severe.

Any tetrode can be used with cathode drive and both grids grounded to
RF, but only if the correct bias voltages are applied to both grids.
Older tetrodes with control grids rated for Class-C operation will
survive with both grids directly grounded, but modern tetrodes such as
the 4CX series will not.

See my article on exactly this subject in the September issue of
'Radio Communication' (RSGB).

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

736. Order!! Please!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9607278411.AA841169132@mails.imed.com>
Source record: 102916

Folks:
The last time I looked this group is the Homebrew group whose
focus is on *building* amateur radio equipment (with an occasional
polite interuption by those who don't know better). All of the CW vs
No-code vs Digital modes *does* have a place: it's called ham-policy.
I am, in fact, interested in this discussion, but this is the *wrong*
forum!

Could we *please* get back to building radios?

Ray Mack
WD5IFS
mack@mails.imed.com

737. External antenna for radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: fiz <fiz@lamar.colostate.edu>
Message-ID: <322330B7.1AD8@lamar.colostate.edu>
Source record: 102917

Hi,
I've got a small Rat Shack radio (AM/FM) in the lab here with a telescoping whip antenna. Unfortunately, I'm back in a corner, on the bottom floor, or a steel structure building and have horrible reception on the very few stations I can get. Does anyone have any ideas on how to hook up an antenna (a longwire variety) to this radio that I can toss out the window, without having to make major alterations to the radio itself. I'm considering simply opening the case and soldering a wire onto the place where the whip is attached. I would rather have some type of antenna which would couple to the whip without being permanently attached.
ttfn fiz (KG0YG)

738. Re: External antenna for radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: joe@vantage.demon.co.uk
Message-ID: <841169986.22491.0@vantage.demon.co.uk>
Source record: 102918

fiz <fiz@lamar.colostate.edu> wrote:

>Hi,
>Does anyone have any ideas on how to
>hook up an antenna (a longwire variety) to this radio that I can toss out
>the window, without having to make major alterations to the radio itself.
>I'm considering simply opening the case and soldering a wire onto the
>place where the whip is attached. I would rather have some type of
>antenna which would couple to the whip without being permanently
>attached.
>ttfn fiz (KG0YG)

Hi,

Wouldn't suggest soldering a longwire to the place where the whip is
attached; chances are you'd overload. Here in Europe we have a lot of
HF broadcasters on the lower HF bands that just overload everything -
as do the local FM and AM broadcasters.

I've wound a few turns of INSULATED lead in wire around the telescopic
aerial itself; the capacitive pick up gets the signal in but reduces
the risk of overloading; the more turns, the more pickup.

Hope this helps

Joe, G0RNC

There's only one decision to make;
get busy living or get busy dying.

Andy Dufresne, The Shawshank redemption.

739. Re: is anybody there using Rabbit for ATV TRX ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: howardsh@postoffice.ptd.net
Message-ID: <howardsh-2708961557240001@cs6-7.con.ptd.net>
Source record: 102919

Matt,
I just saw your post. I have a rabbit rx/tx that I am not using. Are you telling me that they can be used for ATV? I was going to sell the set up for $60. are they worth it and is there a market for threm?

Regards, Howard AE3T

740. Re: Zener Diode For Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4vvgf4$4gm@blixen.aquilagroup.com>
Source record: 102920

Carl Osborn <carl@sedona.net> wrote:

>Where can I get a 8.2 volt 1.5 amp zener diode for my Heathkit SB230
>linear amplifier?

1.5 A, or Watts?

If really amps, then big problem is power dissipation (12 + W).

You could use a NPN power transistor. Connect the collector where cathode (stripe) went, emitter where anode went. Now connect a ~7.5V (*), 1 or 1/2 W zener from collector (cathode) to base (anode). thus:

```
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```

voila! a high power zener. Current through zener is reduced by beta of the transistor... at least 25 for most NPN power transistors, so 1/2 Zener device is fine, the transistor does all the hard work, so heat sink it .

Alternativly, you could go the " Vbe multiplier" route. Replace that zener with 1K ohm 1/2 or 1 watt resistor. Add 50 ohm pot + 67 ohm fixed (1/4 W OK) from base to emitter. Adjust pot to obtain 8.2 V. This will drift more with temperature (lower voltage with more heat) than "zener booster" will.

Both solutions use parts available at Radio Shack. (though you might need to series some zeners to get 7.5 V)

-KF-

* 7.5V = ~ (8.2V - Vbe)

741. Re: is anybody there using Rabbit for ATV TRX ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: stevem@best.com
Message-ID: <4vvm53$7h0@shellx.best.com>
Source record: 102921

In article <howardsh-2708961557240001@cs6-7.con.ptd.net>,
Howard Sherer <howardsh@postoffice.ptd.net> wrote:
>Matt,
>I just saw your post. I have a rabbit rx/tx that I am not using. Are you
>telling me that they can be used for ATV? I was going to sell the set up
>for $60. are they worth it and is there a market for threm?
>
>Regards, Howard AE3T

There are some newer products which are on 2.4GHz and use FM video
modulation. I had a chance to play with one (sorry I don't remember
the brand) and discovered they work quite well. They use standard
NTSC pre-emphasis and a 4.5MHz audio subcarrier. You could Hot-Rod
them by adding a preamp to the RX and a power stage to the TX to
make a very good quality video link system.

Steve M.
WF6R

742. Re: GANE $$$$$ EN INTERNET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4vvlbq$d09@newsgate.sps.mot.com>
Source record: 102922

Eres muy tonto.

Este idea es contra la ley en Los Estados Unidos.

743. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: John Nelson <johnn@pacifier.com>
Message-ID: <32237140.5689@pacifier.com>
Source record: 102923
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Zack Widup wrote:

> So for those who wish to see how many novels per hour they can send via
> CLOVER, well - have fun. I still enjoy reading about your results. But I
> still like those slower forms of communication, CW and speech. They are
> also fun in this hobby, to me at least. And to a few others ... I've had
> several one-hour CW and SSB ragchews recently.
>

Sorry Zack, but for the privilege of using CW and speech, you must demonstrate proficiency in the setup and use of CLOVER? What? You say you'll never use it? Doesn't matter, for it is the one true "mode that get's through when nothing else will".

Do try to get the point here. Most of us "un-washed no-coders" agree with you that CW use may be entertaining, charming, even useful, but we are NOT forcing you to demonstrate proficiency in something ELSE to use it.

744. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug27.173655.2879@ke4zv.atl.ga.us>
Source record: 102924
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <3222ACA7.168B@pop.erols.com> Steve Ickes <thebizlk@pop.erols.com> writes:
>Nine stations surveyed is not anywhere near a statistically significant
>sampling. Further, the findings were not used to provide any exemptions
>for scenarios which did not exceed the regulation.

They didn't intend to conduct a statistically valid poll, nor was there
any intent to offer categorical exemptions (the FCC didn't intend to offer
any until the ARRL put political pressure on them to do so). It wasn't
a survey of the amateur population. All they were doing was getting
some real world baseline engineering measurements of real world amateur
radio stations to see if they conformed to the engineering models used
for field strength calculation. The stations measured were typical of
the real world sorts of stations amateurs operate. The nine stations
measured had a sufficient universe of antenna types and mounting
environments to confirm the engineering models.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

745. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: MADJID VE2GMI <orion@odyssee.net>
Message-ID: <32233CB8.7AD0@odyssee.net>
Source record: 102925
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Fred McKenzie wrote:
>
> In article <1996Aug21.155557.3774@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
> (Gary Coffman) wrote:
> > There is documented evidence that exposures of greater than 10 mW/cm^2
> > can cause harm. In particular, cataracts or loss of focal flexibility
> > due to RF heating of the lens of the eye, and in some cases cancers.

In fact standards are lower than that:
The ANSI-95.1,1982, adopted by the FCC in 1985,
limit the peak SAR to 8 W/kg and the SAR averaged over the body to
0.4 W/kg.

For exposure to incident power density, the 1982 ANSI-C95.1
exposure limits are frequency-dependent:
. 1 mW/cm2 at 150 MHz
. 1.5 mW/cm2 at 450 MHz
. 2.75-2.83 mW/cm2 from 824 to 850 MHz (cellular)

Some info on these can be found at URL's below:
http://www.ieee.org/usab/DOCUMENTS/FORUM/LIBRARY/POSITIONS/positions.menu.html
http://www.ieee.org/usab/DOCUMENTS/FORUM/LIBRARY/POSITIONS/portable.htmlhttp://www.ieee.org/usab/DOCUMENTS/FORUM/LIBRARY/POSITIONS/humanxrf.html

746. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: tsw@3do.com
Message-ID: <tsw-2708961732250001@cypher.3do.com>
Source record: 102926

In article <ddiamond.274.00115C17@TRL.OZ.AU>, ddiamond@TRL.OZ.AU (Drew Diamond) wrote:

> >And just as there was resistance to the change from spark, there
> >will be those who resist the changeover from OOK Morse to better
> >digital modulations and codings. Hopefully this time it won't
> >require regulations banning the more archaic form to force the
> >changeover. It makes me mildly unhappy that I can't play with
> >a modulated arc transmitter just for the hell of it, and I
> >suppose it would make Morse lovers unhappy if they couldn't
> >play with their hand and ear methods just for the hell of it
> >too.
> >--
> >Gary Coffman KE4ZV
>
> Well said, as usual. Thanks Gary.
>
> IMHO, the use of CW will not entirely die out, in the same way that
> old crafts and customs are carried on by enthusiasts. To this day we still
> have equestrian activities (did the automobile spell the end for the horse?),
> archery, calligraphy (is calligraphy a reaction to standardised letter
> writing?), blacksmithing, model steam loco building etc. etc...the list could
> go on.
>

One must consider:
What happens when the mic breaks?
What happens when the computer program handling the DSP has a bug in it?
What happens when the TNC dies?
You still have 12 volts from the car battery (the lights went out like they did a weekend or two ago) and the transmitter puts out SOME signal that can be tuned, and the receiver although crude, does still work, then what do you do?

Even with my tech license, I can send a few WPM of CW and could get the message out if I needed to. Maybe I'd need to have the response sent to me slowly, but I could understand it, and I'd be communicating!!

Something to consider....

de WA6HCW (my cousin would be proud of me!!)

--
Tom Watson
tsw@3do.com (Home: tsw@johana.com)

747. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: frohro@wwc.edu
Message-ID: <frohro-2708962120440001@hrf.wwc.edu>
Source record: 102927
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

A couple of my engineering students and I picked up the frequency companding idea and implemented it on the TI DSK DSP evaluation board. It was written up
in QEX a while back. The editors allowed me to put a copy on my web page. You can see it at http://www.wwc.edu/~frohro/qex/qex-art.html. We didn't implement the amplitude compandor, but that could be added in. Our testing indicated that it was a feasible system, but I doubt it will ever catch on, as there are better ways of reducing the spectrum with DSP.

--
Rob Frohne
E.F. Cross School of Engineering
Walla Walla College
204 S. College Ave.
College Place, WA 99324

frohro@wwc.edu
http://www.wwc.edu/~frohro

748. NEED DISCONE PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: dave.formilan@hobbs.com
Message-ID: <8C73225.0028002473.uuout@hobbs.com>
Source record: 102928

Looking for plans to build a discone antenna for RX 25-1300MHz and TX 6M/2M/440/900/1200MHz. I have access to materials, but need plans.

Any help or even recommendations on commercial kits would be appreciated.

Thanks,

Dave Formilan
dave.formilan@hobbs.com
---
* OLXWin 1.00a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

* Origin: CyberNet BBS Lyndhurst, NJ (1:2604/151)

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749. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-27 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDwuz55.5u9@netcom.com>
Source record: 102929

in <199608271018.UAA14560@oznet02.ozemail.com.au>, Mark Aitken wrote:
: Thanks for your reply. The thing with your suggestion is that it would be ok
: in the shack, but as I have linked the RF output from the satelitte receiver
: to the antenna system of the household, via splitter/combiner's, it would
: not allow me to see the converted PAL in the rest of the house.

: So I need some kit/project/unit that would allow me to tave the VIDEO &
: AUDIO from the sockets on the back of the satellite RX and then arrive at
: the required PAL signal, hopefully already RF modulated.

In that case, I'd go with the cheap and sloppy method of setting up
an NTSC or multistandard monitor and aiming an old camera/camcorder
at it. Give it it's own channel on your MATV setup, so you can watch
incoming PAL on another channel, undegraded.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

750. Re: Ham-Homebrew Digest V96 #363

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: sfylaqc@scfn.THpl.lib.fl.US
Message-ID: <Pine.SUN.3.93.960827212116.23530C-100000@scfn>
Source record: 102834

unsubscribe

751. Re: Ham-Homebrew Digest V96 #364

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: sfylaqc@scfn.THpl.lib.fl.US
Message-ID: <Pine.SUN.3.93.960827212610.23530K-100000@scfn>
Source record: 102835

unsubscribe

752. Re: Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: carl@ais.net
Message-ID: <500b1c$inm@news.ais.net>
Source record: 102836

In <3222D596.25A2@expert.cc.purdue.edu>, Mark <kb9khm@expert.cc.purdue.edu> writes:
>fiz wrote:
>
>>
>> Does anyone know how much bandwidth a 14.4K modem would take up?
>
>The bandwidth of a standard phone line is only 3Khz, so it can't
>be more than that.
>
>Mark
><KB9KHM>

True ... However, it's not likely to work over a SSB radio channel
<grin>.

Carl - wa6vse
carl@ais.net

753. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: carl@ais.net
Message-ID: <500f9k$lfh@news.ais.net>
Source record: 102837
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <4vuu68$lia@vixen.cso.uiuc.edu>, w9sz@prairienet.org (Zack Widup) writes:
>
>>Gary Coffman wrote:
>>>
>>> In article <321DD7DB.28EC@gte.net> Jim Conn <jconn@gte.net> writes:
>>> >carl@ais.net wrote:
>>> >>
>>> >> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
>>> >> >I don't get it. The HF bands are not useful for high speed digital work.
>>> >> >

>> Rediculous ... all it takes is the right modulation and coding
>> techniques and a progressive regulatory structure that permits it.
>> Obviously higher data rate wider bandwidth transmissions are more easily
>> accomodated at higher frequencies, but HF will support FAR beyond 300
>> baud FSK packet.

>>> >> The cost/bandwidth/performance of HF high speed digital services
>>> >render such a thing impractical within the confines of the amateur bands.
>>>

First I'd like to point out that I only wrote the stuff I
"unindented" to
">>" above ...

>I cannot TYPE 1125 wpm. In fact, I can send CW faster than I can type!
>I'm not even sure I can TALK 1125 wpm.

I'm sure the pervious statements are correct ... however, typing in
real time is not the point. If I can buffer up data and "burst"
transmit it across the channel at 1125 wpm, then I only have to use the
channel 1/225th of the time to maintain a constant apparent throughput
of 5 wpm.

This permits time division multiplex multiple access use of the
(same) channel by up to 224 other pairs of users (assuming a protocol
that would allow 100% efficient channel access ... YMMVS)

The protocol could alternatively coordinate the use of the channel by,
for example, 4 users transferring files (to four other users) at 250 wpm
and 25 user pairs doing keyboard-keyboard or other low rate data
exchanges at 5 wpm. (again, YMMVS)

Can you see that, with a little imagination of what's possible beyond
CW, one can invent a lot of other interesting (and useful) uses for the
spectrum?

BTW, one could send CW by key, have the computer convert it into a simple stream of "1" and "0" symbols (or multi-level code it to represent di, dah, letter space, and word space), code that data stream with a FEC EDAC code so that it could be decoded reliably at signal levels at which CW signals could not begin to be copied by ear, transmit it to an appropriate receiver which would decode it and restore it to the audio symbols di, dah, etc. and output the "CW" audio.

"Why?" You might ask.

Because, to illustrate the benefits of spectrally-efficint modern technology in terms the average CW user might comprehend, I'll bet if someone (or a small group) were interested enough in "CW" to take the trouble, they could design (assuming they had the requisite technical know-how) a protocol/modulation/coding scheme that would support this hypothetical type of "CW" virtually error/interference-free at an occupancy level of something like 2500 simultaneous 20 wpm QSOs in a chunk of spectrum no bigger than the 20m CW sub-band.

Assuming a conventional receiver bandwidth of 500Hz, that same 150kHz (last time I checked) sub-band would only support 300 simultaneous non-interfering QSOs using conventional CW (and that's assuming, VERY gratutiously, that those conventional receivers had ideal, "brick wall" filter response).

Let's see, that's 2500/300 = an 8.33:1 efficiency edge for the digital "CW" crew ...

>The thing is that it is a communication hobby as well as a technology
>hobby. Live communication. I'm not trying to send a novel to the
>guy at the other end; I can do that on Internet. But considering my
>typing speed I don't need to send data at 2500 wpm or whatever; I just
>want to communicate with they other guy in real time and if I can send CW
>at 60 wpm, type at 45 wpm or talk at 300 wpm I'll still exchange ideas.
>

Again, the advantage is not necessarily sending it faster so you can send more, but sending it faster so you can "go away for a while" and let other folks have a crack at using the same spectrum ... it's another form of efficiency.

>So for those who wish to see how many novels per hour they can send via
>CLOVER, well - have fun. I still enjoy reading about your results. But I
>still like those slower forms of communication, CW and speech. They are
>also fun in this hobby, to me at least. And to a few others ... I've had
>several one-hour CW and SSB ragchews recently.
>

Fine ... multiplex your "CW" bits in with the others and rag-chew all you want ... just don't force me to do it ... I'd rather use my bits in other ways.

If we don't use our spectrum more efficiently, we'll lose it to those who will invent more efficient, productive used for it.

Carl - wa6vse
carl@ais.net

754. Re: CORRECTION - RF Calculation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: djfinn@ibm.net
Message-ID: <500evp$378u@news-s01.ny.us.ibm.net>
Source record: 102838
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

ke4zv@radio.org wrote:

>In Article<1996Aug17.151315.10257@ke4zv.atl.ga.us>, <gary@ke4zv.atl.ga.us>
>writes:

>> For example, the Rrad of a dipole is roughly 50 ohms (would be 73 ohms
>> in free space). At 100 watts, that gives a feedpoint current of 1.414
>> amperes. The magnetic field declines inversely with distance in the
>> near field (not the inverse square as is the case for power). So 1.414/0.163
>> = 8.67 meters. That's the near field safe distance from the current node
>> in the antenna for the controlled magnetic field exposure. For the
>> uncontrolled exposure, the minimum safe distance is 19.8 meters. Similarly,
>> for the electric field, the safe distances are the same, but from the
>> antenna voltage nodes (the ends for a dipole) instead of the feedpoint.

>I made an error here. I forgot to include the factor of 2*pi in the
>above figures. That reduces the safe distance for controlled exposure
>to just 1.38 meters, and for uncontrolled exposures to 3.15 meters.
>That's much better.

Although the FCC report and order says nothing about the near field
problem when calculating HF limits, IEEE C95.1 1991 says in a 'note'
to the tables for controlled and uncontrolled that the MPE is the rms
E and H limits given in the tables. Thus, IEEE C95.1 1991 essentially
tells you to use the far field values. In the case of your isotropic
example that uses 100W ERP, E= 1842/f or 61.4V/m and H=16.3/f or
54A/m for controlled exposures. This yields a radius of .89m for E
and .27m for H (whether near or far field). For uncontrolled, E
=823.8/f=27.46 V/m and H=the same as for contolled = .54A/m.
This yields radii of 2m for E field in uncontrolled and the same .27m
for H in uncontrolled.

Note that when doing the power density calculation, f**2 should be
used, not "f". When calculating power density for the 3-30MHz range,
the power density is the same E field 1mW/cm**2 mentioned on the ARRL
website. The H field power density limit is 10000/f**2 or
11.11mW/cm**2 for controlled and uncontrolled. You will obtain the
same radii for E and H using the "S" for E and H (power densities)
column as you do when using the E and H field columns in all cases.

Using the isotropic antenna at 100W ERP, the standard tells you to
stay .89m away from the isotropic antenna in controlled environments
and 2m away from uncontrolled environments. With a real dipole type of
antenna, the hotspots will be the feedpoint (H field) and the

endpoints (E field). Theoreticaly, the distances should not exceed the worse case example of the isotropic antenna. When adjusting for 1000W ERP, the radii do not increase by 10 because it is a SQRT relationship, so the distances are not as high as one might initially think.

Although the calculation is easiest to make on an isotropic antenna, I have not been able to find or build a good one ;)

73

KR4AJ

755. Re: celluler phone to 900Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32242369.7FD6@worldnet.att.net>
Source record: 102839

Steven Kerns wrote:
>
> Gary,
>
> One problem I have run into with surplus cellular gear is that the
> PA brick will not operate much high in frequency than it is designed
> to. Some are quite wide but I have played with others that drop off
> before 900 mhz... Just a somthing to think about

I have made 'em work pretty well...sometimes. Had to re-match input by carefully controlling the (a) coax length to the input. With many lengths, I got no pwr out. Certain other lengths gave near full output.

Most feel that conversion is sooooo much work it's not worth it. Gotta add t/r switching (from full duplex), probably change some filters than can't be tuned, and do an awfull amount of software rework.

>
> Steven Kerns N3FTI
> skerns@mail.talon.net
> Penn Biomedical Support, Inc.
>
> In article <Pine.LNX.3.94.960826223639.2889C-100000@primeline.net>,
> tait@primeline.net says...
> >
> >Any suggestions on how to convert a Uniden CP 2000 cellular phone
> >to 900 Mhz. Namely I need Programming info, and RF modification info.
> >
> >Can anbody help me?
> >
> >Gary Tait , VE3VBF
> >

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

756. Re: CORRECTION - FCC Ruling Will Require Some Hams to File Environmental Impact Reports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Cliff-s <Cliff-s@worldnet.att.net>
Message-ID: <01bb9491$8645a2e0$35a4eea5@Pop3.worldnet.att.net>
Source record: 102840
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Gary Coffman <gary@ke4zv.atl.ga.us> wrote in article
<1996Aug27.173655.2879@ke4zv.atl.ga.us>...
> In article <3222ACA7.168B@pop.erols.com> Steve Ickes
<thebizlk@pop.erols.com> writes:
> >Nine stations surveyed is not anywhere near a statistically significant
> >sampling. Further, the findings were not used to provide any exemptions

> >for scenarios which did not exceed the regulation.
>
> They didn't intend to conduct a statistically valid poll, nor was there
> any intent to offer categorical exemptions (the FCC didn't intend to
offer
> any until the ARRL put political pressure on them to do so). It wasn't
> a survey of the amateur population. All they were doing was getting
> some real world baseline engineering measurements of real world amateur
> radio stations to see if they conformed to the engineering models used
> for field strength calculation. The stations measured were typical of
> the real world sorts of stations amateurs operate. The nine stations
> measured had a sufficient universe of antenna types and mounting
> environments to confirm the engineering models.
>
> Gary
>

Gary:
I have a copy of the report on my desk. This report amounts
to just a lot of measurments. There was no calculation of fields strenghts,
then the confirmation of these calculations. Far and Near fields were mixed
together and no organized approach was used. If fact when I was in school
if I submitted a report such as this I would have received a grade of "F".
On the first page it infers that this is a product instigated by one Dr.
Wayne Overbeck(a concerned citizen) whos qualifications or political
affiliations aren't mentioned. Somehow the FCC took Wayne Overbecks
word verbatum and put into law. The title "concerned citizen" is from the
FCC 96-326's discription of Wayne Overbeck. Interesting.
It sure would have been nice that if the time that was spent
taking
all the measurments were coordinated using known and accepted Engineering
principals. The 50 watt limit is right off the top of one Wayne Overbecks
head is completely without scientific validity. The commercial limits were
only set as to not upset existing installations the 1KW ERP limits are just
as invalid.
Congressional mandate requires that rules be valid and

scientifically
defensable to be written into law. This issue demands good science as the issue of hazards need to be resolved, not the advancement of political causes.
Amazing was the fact that the issue of RF burns was only given passing mention. The issue of induced currents into house AC and Phone wiring wasn't considered even though it in some of the cases influenced the value of the measurments. There needs to be a study made using accepted methods to obtain real data as to the field strengths in the various installations. This should have been done before the ARRL submitted their comments. The ARRL has set themselves up as the voice of Amateur radio yet they have done little else than appoint a committee. Hey, folks this issue came up more than 10 years ago, lets not rush into anything.

Cliff, W7VVA

757. Homebrewing for the less-than-affluent (was: "Commercial CW use")

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <3223CD95.15FB@alive.com>
Source record: 102841

Gary Coffman wrote:
>
> If you look at the pictures of foreign stations in QST and CQ, you'll
> see the same sort of Japanese transceivers found in most US amteurs'
> stations. It is rare indeed to see a homemade station, and when you
> do, it usually turns out to be quite elaborate (read expensive). That's
> because most foreign amateurs, just as most US amateurs, only homebrew
> because they *want to*, and not because they have to. It usually isn't
> cheaper to build a quality station than it is to buy one.
>
> Some amateurs in the US and elsewhere *choose* to build and operate
> cheap CW stations of marginal performance, but in almost every case
> it *is* a choice, and not done by necessity. Homebrewing is great.
> It is fun and educational. But it isn't a viable route for those
> in dire poverty to enter amateur radio, even if they had the leisure
> time to do so (which they almost certainly do not).

I am painfully aware of this right now. It seems that you need access
to test equipment if you're going to do much more than the simplest QRP
rig, which seems to make it out of the question for a no-code tech.
I've
built my own packet modem, battery charger (switchable between NiCd and
gel-cells), two logic probes, numerous attempts at dual-band antennae
(with a fixed-station winner described to me over the air by WA6TVM, and
my preferred mobile described over coffee by N6FRI), two headset mikes,
a 2 meter "tin can" filter, various other projects which don't work well
enough to mention, and homebrew AX.25 and APRS software. Maybe i could
build a Ramsey transciever or a Hamtronics receiver/exciter, but without
an elmer with a scope and/or spectrum analyzer, the most that i can do
in the RF realm that i could use would something like a 10 meter
receiver
for RS10/11. Otherwise, i have no way of knowing if i'm complying with
Part 97. I've looked on the WWW at (but not asked about) local clubs
for folks who could help me get started in RF, but so far i haven't seen
anything encouraging yet. I guess i'll have to ask around on the local
nets. Otherwise, i first major project might have to be a scope built
out of TTL and one of the new fast ADC chips. (That would be *much*
easier for me to design than a simple QRP rig, especially if i dig up
a wirewrap gun somewhere and since a recent review of the Radio Shack
$99 digital scope was so discouraging.)

So, you're very right Gary [as is usually the case], that it isn't the
way to get into ham radio, unless someone nearby has the time and equip-
ment to do alot of elmering, like in the old days. When i first tried to
get my license 30+ years ago, that was definitely a way to go. But i'm

afraid that went the way of the vacuum tube AM radio. Fortunately, i could afford a decent HT at the time i finally got my license. But since then, other things have been more important than a well-paying job (such as burnout and avoiding the stress of such a job) and so now i have too many deferred expenditures to consider throwing money at the problem. I could probably be on the air with HF packet/RTTY in a matter of a few days but that's not a choice that i have.

So what are my options? Is there much that one can do in the RF realm without a lot of money or learning CW first? [And, though i continue to try, CW advocates should take note of a mild head injury that has affected
my short-term memory, my hardwriting under stress, and causes me to make strange typos and mix words up. That, at best, makes that even more difficult than when i was of the age that learning foreign languages is considered easy.] I have many ideas to explore higher speed packet, and the software and digital experience to make it work, but without money or
bench access, it seems like there's not a lot that i can do. I sure hope
i'm wrong and someone like KE4ZV can straighten me out on this!

-- KD6PAG (networking old-timer, RF newbie)

P.S. Speaking of which, anyone got a 29 MHz VXO design that'll vary 40 and 100 KHz that i could use with a miniR2 (or a better approach)?

758. Re: External antenna for radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: The Mad Hatter <madhatter@craig.mv.com>
Message-ID: <3223B985.5C68@craig.mv.com>
Source record: 102842

> Does anyone have any ideas on how to hook up an antenna (a longwire > variety) to this radio that I can toss out the window, without having > to make major alterations to the radio itself.

I dunno if you can toss a radio out the window with out altering it.
Sorry I just like this kind of grammer mistake. I'm not a nick picker
because I can't spell or do grammer but that was too good to miss.

759. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <501r8b$1np@canyon.sr.hp.com>
Source record: 102843

Charles Curtis (n2ucn@wa2soc.ampr.ORG) wrote:

: Less power and more antenna gain results in the same radiated
: signal strength, but as frequency increases, path loss increases the
: same amount that antenna gain increases (all other factors
: being held constant, including coax loss). So the *same*
: power is required.

This isn't quite the whole story.

Traditionally, "path loss" is defined between two isotropic, or at least *electrically* constant aperture, antennas. This gives constant ERP but diminishing signal; thus the 'loss' misnomer. However, conservation of energy is not violated and no signal is actually lost, the far end just doesn't catch it all.

As soon as a *physically* constant aperture antenna is subsitutued at one end of the path, recovered signal is constant with frequency. However, if constant physical size isused at *both* ends things get *better* with frequency at the rate of 20*log(F). Thus LESS power is required as higher frequenies are used.

Seem my www pages (under ARRL conference papers) below for details.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| http://www.tapr.org/~n6gn/index.html |

760. Pulse-Amplitude Modulation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: marks@news.holonet.net
Message-ID: <500olj$efb@colossus.holonet.net>
Source record: 102844
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

Does anyone have any experience with pulse-amplitude modulation?

If so, please e-mail me.

Thanks,

-Dale KA5EVK

761. Re: Source for 0.05 Ohm Resistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <322435BC.28FB@apk.net>
Source record: 102845

Steve Wolf wrote:
>
> I need to replace the 0.05 ohm 5% 5 watt resistors in my Astron RS35M.
> Astron will supply them, $1/resistor plus shipping plus the phone call
> but they don't take a credit card.
>
> I've checked Digi-Key, Mouser and RF Parts and I can't find the .05.
>
> Does anyone have a 1-800 source for such a resistor?

Trying rec.radio.amateur.homebrew as the post to equipment resulted in
nothing but blank stares.

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

762. ICOM TV-R7000 synch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Borre Ludvigsen <borrel@ludvigsen.hiof.no>
Message-ID: <Pine.NXT.3.91.960828184552.414E-100000@mashallah>
Source record: 102846
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Is there anyone who can tell me where I can take out a synch signal from=20
the PCB of the ICOM TV-R7000 TV receive adapter?

Email answers appreciated as I don=E5t often visit this group.

- Barre

Borre Ludvigsen - http://www.hiof.no/~borrel=20
finger: borrel@abdallah.hiof.no

763. re: coils for direct conversion receiever using NE602

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <3223F5A5.59E2@alive.com>
Source record: 102847

Drew Diamond wrote:

> It would be difficult to derive a table or quick reference for the many coil
> combinations that are possible. However, much valuable information on the '602
> may be found in;
>
> "NE602 Primer"- Carr, Elektor Electronics Jan. '92 (has formulas for
> calculating oscillator coil values etc.).
>
> "Simple Receivers from Complex I.C.'s"- Parrott, Ham Radio (USA) Dec. '88.
>
> "Using the NE602"- Zavrel, Technical Correspondence, QST May '90.
>
> "Using the NE602 in Ham Circuits"- Carr's Corner, 73 Amateur Radio Feb. '93.
>
> "Single-chip Frequency Converter"- Covington, Radio-Electronics Apr. '90.

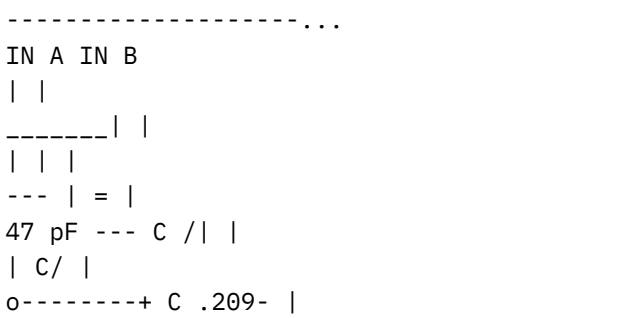
Several existing projects using the NE602 include

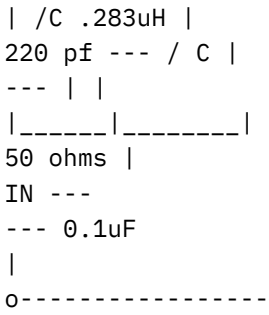
"The Neophyte Receiver", QST, Feb. 1988, pp. 14-18
"W1AW at the the Flick of a Switch, QST, Feb. 1993, pp. 56-57 [$30 kit]
"An Optimized QRP Transceiver, QST, Aug. 1980, pp. 14-19 [or see "The
QRP Three
Bander Transceiver for 18,21,24 MHz", pp. 30-19:25 in 1993 "ARRL
Handbook"]
"Sudden Receiver", 73 Magazine, Oct. 91 [also available as a kit from
Kanga]

The Handbook also says:

The input and output networks can be either single-ended or balanced
for AC. The input and output impedences are about 1.5K for the single-
ended configuration and about 3.0K for the balanced configuration.

and shows a example matching circuit for 45 MHz





The "Neophyte" just uses a cheap 7:1 FM broadcast IF transformer for its input, and there's a several section input filter on the W1AW receiver.

That may not be what you were asking for, but perhaps someone else might find it helpful. One thing you may want to consider, particular if you live
in/near an urbanized area is that you will probably want some kind of input
filter, as i understand that the NE602 is prone to being overloaded by strong signals in adjacent bands compared to mixers such as the SBL-1 (which lack an internal LO).

-- KD6PAG (networking old-timer, RF newbie)

764. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <501mja$u3d@ka4ybr.netmha.com>
Source record: 102848
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

As a gate, CW/morse, is as universally fair(or unfair) as one can get.

But, if one agrees that some sort of gate is needed then what better
than morse. There is even a work around in place for those who can not
learn it.

IMHO ones respect for a priviledge is proportional to the work required
to obtain it.

-bob
--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

765. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug28.154533.5920@ke4zv.atl.ga.us>
Source record: 102849
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4vuu68$lia@vixen.cso.uiuc.edu> w9sz@prairienet.org (Zack Widup) writes:
>
>>Gary Coffman wrote:
>>>
>>> In article <321DD7DB.28EC@gte.net> Jim Conn <jconn@gte.net> writes:
>>> >carl@ais.net wrote:
>>> >>
>>> >> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
>>> >> >I don't get it. The HF bands are not useful for high speed digital work.
>>> >> >
>>> >> Rediculous ... all it takes is the right modulation and coding
>>> >> techniques and a progressive regulatory structure that permits it.
>>> >> Obviously higher data rate wider bandwidth transmissions are more easily
>>> >> accomodated at higher frequencies, but HF will support FAR beyond 300
>>> >> baud FSK packet.
>>> >> The cost/bandwidth/performance of HF high speed digital services
>>> >render such a thing impractical within the confines of the amateur bands.
>>>
>>> Nonsense. We have an off the shelf solution in Clover which gives us
>>> 750 bps (in OOK Morse terms that's 1125 WPM) in 500 Hz. We can go faster
>>> than that. Using a raised cosine FSM, we can put 38 non-overlapping 50
>>> baud carriers in a 3 kHz channel. That gives 1900 bps while still
>>> maintaining a symbol rate compatible with HF multipath. If we use symbol
>>> overloading, as Clover does, we can boost that to 4500 bps. If we more
>>> aggressively overload symbols and use some simple coding tricks, we can
>>> jump to 7600 bps, still in a 3 kHz channel. If we throw in a bit of
>>> compression and some FEC, we can do 11.4 kbps. Subtracting overhead,
>>> we can achieve a net 9600 bps in a 3 kHz channel without sacrificing
>>> our ability to deal with multipath. And we can do that for less than
>>> $100 in DSP parts (or even do up through 4500 bps on a PC with just a
>>> sound card and a bit of software, IE essentially free).
>>>
>
>I cannot TYPE 1125 wpm. In fact, I can send CW faster than I can type!
>I'm not even sure I can TALK 1125 wpm.

I am uncharitably driven to repeat the Morse proponent's cry
of "Practice!" in response to your reported low typing speed,
but I'll try to give a better answer than that.

Yours is a common reaction. If it didn't overlook several important
factors, we'd all we content to use 300 baud Bell 202 half duplex
modems here on the net too since that's equivalent to 450 WPM, and
none of us can type that fast either. We aren't, however, and therein

lies the answer for the need for speed. We can convey much richer content than simple text with a bit of speed. For example, if we are discussing a circuit or antenna with our contact, we can bring up a whiteboard and draw a diagram for him if we have sufficient speed. We can't hope to do that plodding along at 20 WPM. We also typically have canned "brag tapes" that we send to new contacts to let them know something about us and our stations. Letting that dribble along at 20 WPM would take intolerably long.

And there's another side to this as well. IF we truly don't have more to say than can be conveyed in a few minutes at 20 WPM, we can drop our transmit power until the CNR is actually *negative*, and still have enough throughput to maintain 20 WPM text. We can't do that with OOK Morse at all. With Clover, we reach that point with a CNR of -4 db, and with PACTOR II we reach it at -18 db on a non-fading channel. On a poor fading channel, Clover doesn't do so well, requiring about +2 db CNR, but PACTOR II continues to operate at the desired throughput with a CNR of less than -10 db. That's about 20 db less signal than a good Morse operator needs to maintain error free 20 WPM.

Note, a very skilled weak signal Morse operator can detect Morse signals at mildly negative CNRs, but he can't approach 20 WPM when signals are that weak, PACTOR II can. In a time where large outdoor antennas have become difficult to install (due to restrictive covenants, apartment living, etc), where TVI and RFI are a concern (due to a myriad of shoddy consumer electronics co-located with many of our stations), and where the current level of awareness of RF exposure hazards is heightened, a technique which can work well with very low transmit power should be welcomed and fully embraced.

>This is still a HOBBY ... only a HOBBY. It is what you want to put into
>it, and the wonderful thing about it is that it is so diversified there
>is something for everyone.

I grind my teeth every time I see that "only a HOBBY" line. We are amateurs voluntarily, self-selected by free choice, and we enjoy what we do, but it is more than "only a HOBBY". The service has chartered purposes for us to fullfill. That differentiates amateur radio from playing golf or from collecting stamps. Those latter activities *are* "only hobbies", but amateur radio is more than that. We are chartered to self-train in the radio arts, further those arts, provide public service and emergency communications, and foster international goodwill. We can, of course, have fun doing those things. That is our only reward. But puttering in a backwater of radio technology isn't fullfilling the first two elements of the charter very well, and could be impairing our ability to fullfill the third. The amateur radio operator's Code (ARRL) says "An amateur is progressive". We need to think about that once in a while.

>There are those who wish only to chat on 2 meter FM with HT's. Fine ...
>there's a place for them and I enjoy their company. There are those who

>wish to play around with technology ... fine, they have their places too.
>I also enjoy reading about that aspect of the hobby.
>
>Some of us (myself included) are DXers, contesters and VHF DXers/contesters
>who build their own VHF equipment. We have our places in the hobby, too.
>
>The thing is that it is a communication hobby as well as a technology
>hobby. Live communication. I'm not trying to send a novel to the
>guy at the other end; I can do that on Internet. But considering my
>typing speed I don't need to send data at 2500 wpm or whatever; I just
>want to communicate with they other guy in real time and if I can send CW
>at 60 wpm, type at 45 wpm or talk at 300 wpm I'll still exchange ideas.

Yes, you can, but you can also do better than that. You can exchange more ideas, or exchange them more clearly and fully, with better techniques. You can also reduce the RF pollution on the bands, thus allowing room for more people to do likewise by reducing the power necessary to communicate. If you really only have a few hundred words to say to another person, you can do it in a couple of minutes instead of an hour, thus freeing the spectrum for others to enjoy, or allowing you to interact with more people in a given amount of time. There are many reasons why you might want to use speeds greater than your personal typing rate, and to use techniques which require less power and bandwidth than other methods to boot.

The Amateur's Code says we're to be progressive, but it doesn't say we have to be progressive every minute. We can use older slower less efficient and less effective techniques from time to time if we get enjoyment from doing that, but we shouldn't turn our backs on better techniques in the process. We should be educating ourselves in modern communications theory and practice as an ongoing matter of course. We should be able to recognize that there are other and better ways of doing things than the methods we've used in the past. And we should be able to do some of those things too from time to time.

As you note, not every amateur needs to do everything. There are a multitude of things to do in amateur radio, and many of them have value as well as being enjoyable. As amateurs we have diverse interests, but we should all have the charter purposes of our service in sight as desirable goals to be pursued. That doesn't mean we all have to become (moderately) high speed digital operators, or dedicated ARES operators, or rabid goodwill ambassadors, etc, but we should be extending ourselves in some direction constantly, and not just be stagnant backmarkers filling up space (and spectrum) without any real purpose or direction.

The Army's recruiting posters proclaim that it is "Not just a job, it's an adventure." We should approach amateur radio the same way. It is the best hands-on learning laboratory to which we're ever likely to gain admission. We should take full advantage of it. We're never too old to learn new tricks, unless we let our brains fossilize by going over and over the same ruts day after day. There's nothing more

exciting or enjoyable than gaining a fresh insight, or mastering a
new technique. New ideas serve to blow out the cobwebs and sharpen
the intellect.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

766. Re: Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: hh357@aol.com
Message-ID: <5014fc$3i6@newsbf02.news.aol.com>
Source record: 102850

In article <3222D596.25A2@expert.cc.purdue.edu>, Mark
<kb9khm@expert.cc.purdue.edu> writes:

>
>>
>> Does anyone know how much bandwidth a 14.4K modem would take up?
>
>The bandwidth of a standard phone line is only 3Khz, so it can't
>be more than that.

Although the phone company only guarantees you from 300 to 3000 Hz, I have consistently found that the response starts at 0 Hz, rises asymtotically(sp?) to 300 Hz, and is then rock steady to 4,000 Hz where it drops instantly down to nothing.

I work in L.A., CA. I don't know about places like Florida, with the worst reputation.

767. Motorola Data Sheets and Applications notes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: jpaulino@planete.NET
Message-ID: <199608282316.BAA09338@unix12.pressimage.net>
Source record: 102851

I'm looking for Motorola datashetts and applications notes for RF purposes, in Europe I've try to write to the litterature center but... no reponse.
Internet was a good way for this search, but...I only have the connexion at the Web //:Motserv.indirect.com
Does anyone no where I can found this documentations to improve the South France RACE network?
Many Thanks F1TMY

JPAULINO@Planete.net
PAULINO Jean-Philippe

768. CCIR and ZVEI Tones Coder/Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: jpaulino@planete.NET
Message-ID: <199608282316.BAA09319@unix12.pressimage.net>
Source record: 102852

I'm also looking for a ship which can decode and send the professionnals
standards of selcall (ZVEI, CCIR,...).

Jean-Philippe F1TMY
JPAULINO@Planete.net
PAULINO Jean-Philippe

769. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <32246C96.5CDC@gte.net>
Source record: 102853
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

carl@ais.net wrote:
>
> Fine ... multiplex your "CW" bits in with the others and rag-chew all
> you want ... just don't force me to do it ... I'd rather use my bits in
> other ways.
>
> If we don't use our spectrum more efficiently, we'll lose it to those
> who will invent more efficient, productive used for it.
>
> Carl - wa6vse
> carl@ais.net

Last time I checked, no one is forcing anyone to USE CW - just learn it. I stand by my original opinion that Amateur testing should encompass the hobby from A to Z. That means that RTTY, CLOVER, PACTOR, and CW all should be included, even if perhaps the former have a smaller following than CW.

Besides, the VHF and UHF bands, were CW is less frequently used, are the ones being threatened, not the HF bands. I don't consider the threat to the VHF & UHF areas to be a valid argument against CW testing, since those areas are already open to those with a no-code license.

73,

Jim - AD4VL

770. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <322473F3.66C5@gte.net>
Source record: 102854
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

carl@ais.net wrote:
>
> Fine ... multiplex your "CW" bits in with the others and rag-chew all
> you want ... just don't force me to do it ... I'd rather use my bits in
> other ways.
>
> If we don't use our spectrum more efficiently, we'll lose it to those
> who will invent more efficient, productive used for it.
>
> Carl - wa6vse
> carl@ais.net

Last time I checked, no one is forcing anyone to USE CW - just learn it. I stand by my original opinion that Amateur testing should encompass the hobby from A to Z. That means that RTTY, CLOVER, PACTOR, and CW all should be included, even if perhaps the former have a smaller following than CW.

Besides, the VHF and UHF bands, were CW is less frequently used, are the ones being threatened, not the HF bands. I don't consider the threat to the VHF & UHF areas to be a valid argument against CW testing, since those areas are already open to those with a no-code license.

73,

Jim - AD4VL

771. Re: External antenna for radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Tom Kreyche <tomkr@microsoft.com>
Message-ID: <01bb9540.64461260$fb99389d@DISCUS>
Source record: 102855

I like directional antennas! Cut extraneous noise, boost signal.

It depends on what and where you want to receive. My brother's local radio station which carried his baseball team on AM dropped coverage so I built him a loop to pick up a station about 80 miles away. Works great during the daylight but at night too many other stations come in. We built it out of mostly a bunch of old RG58 laying around.

It's easy to build inexpensive directional antennas for FM also.

ARRL Antenna book is very useful.

Tom KG6YJ

> fiz <fiz@lamar.colostate.edu> wrote in article
<322330B7.1AD8@lamar.colostate.edu>...
> Hi,
> I've got a small Rat Shack radio (AM/FM) in the lab here with a
> telescoping whip antenna. Unfortunately, I'm back in a corner, on the
> bottom floor, or a steel structure building and have horrible reception
> on the very few stations I can get. Does anyone have any ideas on how to

> hook up an antenna (a longwire variety) to this radio that I can toss
out
> the window, without having to make major alterations to the radio
itself.
> I'm considering simply opening the case and soldering a wire onto the
> place where the whip is attached. I would rather have some type of
> antenna which would couple to the whip without being permanently
> attached.
> ttfn fiz (KG0YG)
>

772. Bandwidth of a 14.4 (or 28.8) modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: jpaulino@planete.NET
Message-ID: <199608281244.OAA07747@unix12.pressimage.net>
Source record: 102856

The bandwith for 14.4 and 28.8 Kbits modems is the bandwith of phone lines : 3Khz. This modems use separate audio carriers. Each carrier change in amplitude and phase. The problem for using this methods on Ham band is that they need " equalization before transmitting...and also full-duplex. If you use this technic on VHF Band, the time to equalize (on half-duplex communication)destroy the avantage of this hi-speed modems regarding to the classic 1200 bits.

Jean-Philippe
73 from F1TMY

JPAULINO@Planete.net
PAULINO Jean-Philippe

773. HF AMP POWER SUPPLY DIODES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: aa6eg@tmx.COM
Message-ID: <Pine.LNX.3.91.960828083441.11115A-100000@tmx.com>
Source record: 102857

I am re-designing a homebrew amplifier that uses 4-400As and
a power supply using a BC-610 HV transformer. (Remember those?)
I discovered that the BC-610 transformer has two taps on the
primary, allowing 2500 volts, ac, or 3000 volts AC at the output.
The 4-400's work more efficiently at the higher plate voltages, and
I want to implement a HV increase. I have a roller inductor, which
will allow adjustment of the PI Network output impedance for the
increased plate voltage. Currently, the 2500 volt tap produces 2700
vdc unloaded, and 2500 VDC loaded. The power supply is a Choke
input, full wave, using two diode blocks, made by Diodes, Inc.
Model number 7030. I would like to know what the voltage and
current ratings of these diodes are, to see if they would take the
increased voltage from the PS. Any help?
Thanks, de Pat, AA6EG, aa6eg@tmx.com

774. Re: NEW HAM wanting some advice! :-)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <501p9q$sgf@crash.microserve.net>
Source record: 102858

>Was wondering if anyone could point me toward the right direction in
>obtaining schematics and/or kits for a couple of items.
>
>Since I'm a no-code right now (working on it though!) I'd like to work the
>6 meter and some of the MW range.
>
>First off, what about a schematic and/or kit for a 6 meter radio?
>
>And secondly, what about a schematic and/or kit for a RADAR Gun? I am
>assuming this one is legal of course. Correct me if I'm wrong here! Was
>wanting to build a RADAR gun and clock vehicles,check speeds,etc.
>

I think what you want is a Ramsey catalog. They have 6 mtr and radar
gun kits and lots of other cool stuff too.

Ramsey Electronics inc.
793 Canning Parkway
Victor, New York 14564

Phone (716) 924-4560
call to order: (800) 446-2295 You could probably call this number
and get a catalog sent to you. have fun... tyler N3SPD

775. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Charles Hoffman <choffman@pelican.davlin.net>
Message-ID: <32248E5F.291F@pelican.davlin.net>
Source record: 102859
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Interesting. I will take a look. Incidentally, I have a VBC Model 3000
Baseband Transeiver if anyone is interested, with book; make offer.

Rob Frohne wrote:
>
> A couple of my engineering students and I picked up the frequency
> companding idea and implemented it on the TI DSK DSP evaluation board. It
> was written up
> in QEX a while back. The editors allowed me to put a copy on my web page. You
> can see it at http://www.wwc.edu/~frohro/qex/qex-art.html. We didn't implement
> the amplitude compandor, but that could be added in. Our testing indicated that
> it was a feasible system, but I doubt it will ever catch on, as there are better
> ways of reducing the spectrum with DSP.
>
> --
> Rob Frohne
> E.F. Cross School of Engineering
> Walla Walla College
> 204 S. College Ave.
> College Place, WA 99324
>
> frohro@wwc.edu
> http://www.wwc.edu/~frohro

776. Request for info on power inverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: JLINETT@bmc.com
Message-ID: <96241.152536JLINETT@bmc.com>
Source record: 102860
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi All,

I would like to build a power inverter for mobile use. I would like
to be able to convert 12v DC to 120 vac at around 2500 watts output.
Although I have some experience designing and building regulated DC
supplies, I am not familiar with inverters.

I would appreciate any suggestions on books or other sources of schematics.
If there are kits available, that information would be welcomed also.

Please email direct.

Thanks,
Jon KN4AE

777. Field Strength Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: maher@ssd.fsi.COM
Message-ID: <Q224B257@d57004>
Source record: 102861

Some time ago I started collecting parts for a Field strength meter I was going to build from a magazine article. This got put aside and now I cannot find the magazine article. This meter operated over several decades as I recall and used matched diodes for rectification and feedback around an op-amp to get linear results down to millivolts. Does anyone recall the magazine or year------I think it was QST or 73?

Thanks

Hugh Maher
N5AVT

778. Re: Request for info on power inverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: anthonys@ix.netcom.com
Message-ID: <502e33$6fd@dfw-ixnews10.ix.netcom.com>
Source record: 102862
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <96241.152536JLINETT@bmc.com> <JLINETT@bmc.com> writes:
>
>
>Hi All,
>
>I would like to build a power inverter for mobile use. I would like
>to be able to convert 12v DC to 120 vac at around 2500 watts output.
>Although I have some experience designing and building regulated DC
>supplies, I am not familiar with inverters.
>
>I would appreciate any suggestions on books or other sources of
schematics.
>If there are kits available, that information would be welcomed also.
>
>Please email direct.
>
>Thanks,
>Jon KN4AE

You GOTTA be kidding! 2500 watts from a 12v battery? Minimum of
260A draw? Maybe, if you are prepared to carry around about 1000+
pounds of deep-cycle marine batteries for a very few hours of operation
(if that).

W6ANV San Francisco

779. Re: SAMS Needs Your Electronics URLs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Ted Alexander <tealexan@ca.oracle.com>
Message-ID: <3224733E.76B8@ca.oracle.com>
Source record: 102863
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.cb,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.video.satellite.dbs,rec.video.satellite.europe,rec.video.satellite.misc,rec.video.satellite.tvro

Kenneth E. Harker wrote:
>
> In article <321fa55b.3452629@news.blarg.net>, future@blarg.net (Tim
> Gerchmez) wrote:
>
> > On 23 Aug 1996 12:05:57 GMT, Phil Wakely <pwakely@scigen.co.uk> wrote:
> >
> > >future@blarg.net (Tim Gerchmez) wrote:
> > >>On Wed, 21 Aug 1996 04:46:16 GMT, jafo@cheetah.net (Gregg) wrote:
> > >>
> > >>
> > >>>>Vs lbh pna ernq guvf, lbh ernyyl bhtug gb trg bhg zber
> > >>>
> > >>>Url! Jung xvaq bs n penpx vf gung? :-D
> > >>
> > >>Urururur.. V gubhtug EBG13 jnf bhg bs qngr.. guvf vf gur svefg gvzr
> > >>V'ir frra vg hfrq va dhvgr n juvyr ;)
> > >>
> > >
> > >Jung vf/jnf EBG13 ??
> > >
> >
> > Tvira gung lbh rapbqrq gur nobir, lbh onfvpnyyl nyernql xabj jung vg
> > vf. Vg'f n fvzcyr Hfrarg rapbqvat zrgubq (sbetbg jurer vg bevtvangrq,
> > fbzrbar ryfr pbhyq cebonoyl gryy lbh). V unqa'g rire frra vg hfrq
> > orsber hagvy guvf guernq fgnegrq. Zl arjfernqre (Ntrag .99S) vapyhqrf
> > n EBG13 rapbqre/qrpbqre, fb V'z abg qbvat guvf ol unaq ;)
>
> Gur svefg checbfr V rire fnj EBG-13 hfrq sbe (onpx va 1991 be gurernobhgf)
> jnf gb uvqr rvgure gur chapuyvar bs be na ragver wbxr gung jnf cbgragvnyyl
> bssrafvir be bs n evfdhr angher, cercraqrq jvgu n pyrnegrkg qvfpynvzre, fb
> nf gb nyybj gur vaqvivqhny ernqre gur bcgvba bs jurgure be abg gb ivrj gur
> zngrevny. V'z fher gurer ner bgure tbbq ernfbaf sbe vg nf jryy.
>
> Nf gb jurer vg bevtvangrq, vg'f n irel fvzcyr Pnrfne pvcure gung'f orra
> nebhaq n ybat juvyr (fvapr ng yrnfg gur qnlf bs Whyvhf Pnrfne) - lbh whfg
> fuvsg rirel yrggre 13 fcnprf va gur nycunorg (jenccvat nebhaq nf
> arprffnel.) V'z abg pregnva jung "EBG" zrnaf be jurer vg pnzr sebz,
> gubhtu.
>
ROT-13 => ROTate 13

780. Using motorcycle helmet headset/mic with ham rigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Marty Gulseth <marty_gulseth@hp.com>
Message-ID: <3224AAEE.6B1A@hp.com>
Source record: 102864
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

After a long hiatus, I'm buying another motorcycle. Anyone have any experience with using the in-helmet speakers and mics with ham rigs? Any specific brands of helmets or speakers/mics that work well, or, should be avoided? I won't do this right away, just investigating the prospects. I will probably go with a VHF/UHF handheld on the first pass.

E-mail responses preferred, post if you think others are interested. Thanks, all.

Best 73,

Marty
W7LEJ
Spokane, WA

(Std disclaimers, etc...)

781. Using motorcycle helmet headset/mic with ham rigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Marty Gulseth <marty_gulseth@hp.com>
Message-ID: <3224AAC9.159D@hp.com>
Source record: 102865

After a long hiatus, I'm buying another motorcycle. Anyone have any experience with using the in-helmet speakers and mics with ham rigs? Any specific brands of helmets or speakers/mics that work well, or, should be avoided? I won't do this right away, just investigating the prospects. I will probably go with a VHF/UHF handheld on the first pass.

E-mail responses preferred, post if you think others are interested. Thanks, all.

Best 73,

Marty
W7LEJ
Spokane, WA

(Std disclaimers, etc...)

782. Homebrew Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Brian & Jeff Kettell <d_vader@bellsouth.net>
Message-ID: <3224F033.2D5@bellsouth.net>
Source record: 102866

Hi! I'm a Tech-Plus looking to get into homebrew, and I was wondering if there are any web pages out there that might have a basic intro to homebrewing. Any help would be greatly appriciated. Thanks.

73,

Brian Kettell-KB8ZXX D_vader@bellsouth.net

783. NEED 8750 CABLE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: viny Coppola <76103.723@CompuServe.COM>
Message-ID: <50253m$1hh$1@mhafn.production.compuserve.com>
Source record: 102867

Looking for the cable from the 8750 storage analyzer to connect to
the rest of the 8410 system.
Thanks beforehand
Viny Coppola
NEED 8750 CABLE

784. Re: NEED DISCONE PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Dave Hills <dhills@onramp.net>
Message-ID: <3224F381.9A2@onramp.net>
Source record: 102868

DAVE FORMILAN wrote:
> =

> Looking for plans to build a discone antenna for RX 25-1300MHz and TX
> 6M/2M/440/900/1200MHz. I have access to materials, but need plans.
> =

> Any help or even recommendations on commercial kits would be
> appreciated.
> =

> Thanks,
> =

> Dave Formilan
> dave.formilan@hobbs.com
> ---
> * OLXWin 1.00a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--
> =

> * Origin: CyberNet BBS Lyndhurst, NJ (1:2604/151)
> =

> ....ooooooooo=A2=A2=A2OO0O0o
> =

> http://www.intac.com/~cono ___,-----.----+_________#_
> =

> The Roy Hobbs BBS |________| |__|__________}
> =

> Moonachie N.J. 201.641.3126 ooooo oo ~ ooO-O-O-O =3D=3D =A2=A2\
> =

> =3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=3D=
=

785. Scanner Antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: greendot@holly.ColoState.EDU
Message-ID: <502m7d$2vhg@holly.ColoState.EDU>
Source record: 102869

Hello

I am wondering what the best aproach to an outside homebrew scanner antenna
is? I'm haveing trouble picking up the 45 Mhz band, but i would like to
recieve all bands? I have a couple of other questions too. One what is
the impeadence of a scanner, and do i need to match that with my coax?
Two if i build an antenna for transmitting and recieving on the specific
wave,, i.e. 1/4 or 1/2 wave for the specific frequincy is it necessary
to load that antenna, with a coil?
Thanks a bunch
Robert KB0PED

786. Re: coils for direct conversion receiever using NE602

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.275.000A04C5@TRL.OZ.AU>
Source record: 102930

In article <321CFB19.78C5@netwit.net.au> Malcolm Fairleigh <lozmal@netwit.net.au> writes:
>From: Malcolm Fairleigh <lozmal@netwit.net.au>
>Subject: coils for direct conversion receiever using NE602
>Date: Fri, 23 Aug 1996 11:28:09 +1100>I am interested to know if anybody is building or has built reveivers using the>ne602 device.>I am particularly interested in the design of rf and oscilator >coils for such>devices and am interested in any >design specifications any >one can submit.>EG preselector coils homebrew if coils home brew socilator >coils home brew. I would like to put together a database of designs that >could be shared widely.>Thanks>Malcolm Fairleigh

The NE602 (and it's derivitives; SA602, NE612, A, AN etc.) has been around for about six years . Although not a particularly "strong" mixer, the easy implementation, coupled with low power supply requirement has made it a deservedly popular chip. It can provide "adequate" signal handling characteristics in receiver applications in all but the most hostile environments (see below).

It would be difficult to derive a table or quick reference for the many coil combinations that are possible. However, much valuable information on the '602 may be found in;

"NE602 Primer"- Carr, Elektor Electronics Jan. '92 (has formulas for calculating oscillator coil values etc.).

"Simple Receivers from Complex I.C.'s"- Parrott, Ham Radio (USA) Dec. '88.

"Using the NE602"- Zavrel, Technical Correspondence, QST May '90.

"Using the NE602 in Ham Circuits"- Carr's Corner, 73 Amateur Radio Feb. '93.

"Single-chip Frequency Converter"- Covington, Radio-Electronics Apr. '90.

Two things not specifically mentioned in any of the above; when using the '602 in direct conversion receivers (particularly where an RF amp. is used); much improved performance will be had if the internal oscillator is not used, but rather, use a separate metal- boxed VFO (when using the internal osc. it is difficult to keep the osc. signal from entering the input of the RF amp., causing "tunable hum" and other unwanted effects), and, contrary to some reports that the '602 is rather too weak as a mixer, if the builder uses a separate osc., and applies the input signal (at pins 1 and 2) in "balanced mode" i.e. true push-pull, without grounding pin 1 or 2 for RF, and extracts the wanted product also in balanced mode, the strong signal handling of the chip will be significantly improved.

73, Kind Regards, Drew, VK3XU. Telstra Research Laboratories.

787. 3CX1200-D7 retro-fit kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <5004mk$iog@nntp-1.io.com>
Source record: 102931

retro-fit this tube in any amp that runs 3KV or more with 800ma or more, for full legal output.
Forsale; (2)EIMAC 3CX1200-D7 tubes NEW, (you only need one for the same output as two 3-500Z's) $400
each, or $700 pair, shipped, FIRM!
(1) Peter Dahl filiment transformer 6.3vct @ 30amps. CCS, $60 shipped or $30 shipped (with purchase of
tube)
(1)Silicone rubber chiminey(just like ALPHA) free with tube purchase.
(1)Plate clamp , free with tube purchase.
(2) EIMAC SK-410 "air sockets", free with tube purchase.
(1)Complete retro-fit "kit" ;(1)tube, (1)socket, (1)chimney,(1)clamp,(1)filiment transformer. $430 shipped
FIRM!!
(1)inncomplete kit-- Minus filiment transformer, $400 shipped, FIRM!!

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion, BUT, that does not mean I'm REQUIRED, to listen to it !"

788. Re: celluler phone to 900Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <5005mh$l5l@crash.microserve.net>
Source record: 102932

Gary,

One problem I have run into with surplus cellular gear is that the
PA brick will not operate much high in frequency than it is designed
to. Some are quite wide but I have played with others that drop off
before 900 mhz... Just a somthing to think about

Steven Kerns N3FTI
skerns@mail.talon.net
Penn Biomedical Support, Inc.

In article <Pine.LNX.3.94.960826223639.2889C-100000@primeline.net>,
tait@primeline.net says...
>
>Any suggestions on how to convert a Uniden CP 2000 cellular phone
>to 900 Mhz. Namely I need Programming info, and RF modification info.
>
>Can anbody help me?
>
>Gary Tait , VE3VBF
>

789. Need Some Project Advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-28 00:00:00 UTC
From: Owen Wells <onw01@mhs.sperry-marine.com>
Message-ID: <Dwtp74.LEC@murdoch.acc.Virginia.EDU>
Source record: 102933

I am a fairly good EE who is inexperienced with radio. I'm currently working on a home project which has stretched my knowledge a bit, and I'm looking for a little advice.

What I'm trying to do is take a fairly low-bandwidth signal (0-400 Hz audio) and frequency modulate it. I would prefer to do this at a carrier in the low KHz range. The modulated signal would then be connected directly to a reciever/demodulator by two wires and the 400 Hz audio would be taken out again (no antennas, no transmission circuitry - probably just an op-amp copled to the wires with a cap to drive the signal).

Why would I do this, you ask? The wires I'd be transmitting on have a lot of other signal traffic on them (as well as noise), and I'd like to avoid antennas and big amps for space reasons. On that note, the circuit to do this needs to be very *small*.

If any of you have ideas about how the mod/demod circuitry would work, or can tell me some good sources to look at, I would really appreciate it. I understand how FM works, but I just don't know the down-and-dirty of how to physically create the signals I want.

Thanks much, -Owen Wells

790. Re: Source for 0.05 Ohm Resistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32250064.88805284@news.santafe.edu>
Source record: 102784

Steve Wolf <no8m@apk.net> wrote:

>Steve Wolf wrote:
>>
>> I need to replace the 0.05 ohm 5% 5 watt resistors in my Astron RS35M.
Newark has them. They are catalog no. 96F3618 (+ reistance value) for
1.87 each (they may be slightly higher thatn the current catalog
price.) These are IRC LOB series. I use them in some switching
supplies I'm building.

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

791. Questionnaire: Please Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: DFS <dsellner@beachtech.com>
Message-ID: <01bb959c$ef62ffa0$0c2156c7@p120>
Source record: 102785
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,r

I'm a journalist conducting a survey of Internet telephony usage. Whether you use Internet telephony products or you've never heard of Internet telephony, I'd really appreciate it if you could take a few minutes to fill in a questionnaire.

It will be one of the first fully automated email surveys conducted on the internet. The survey will be processed automatically by EFORM, a new automated email processing application, produced by Beach Tech (http://www.beachtech.com, email: sales@beachtech.com). And no, I'm not a Beach Tech employee.

If you *don't* use Internet telephony, or have never heard of Internet telephony, please send a blank email to: IT_NONUSER@BEACHTECH.COM, and a survey, with instructions, will be mailed to you.

If you *do* use Internet telephony, send an email to: IT_USER@BEACHTECH.COM, and a survey, with instructions, will be emailed to you.

Please tell your friends and colleagues about this survey. Details about survey results are attached to the surveys.

Thanks

Alex Balfour
alex.balfour@pobox.com

792. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: burt lang <burt@rocler.qc.ca>
Message-ID: <3225E81B.1F9F@rocler.qc.ca>
Source record: 102786
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Isn't AC-SSB the mode now used commercially in the new 220-222
commercial land mobile band?

Burt

793. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: dmturne@pbdmt.pacbell.com
Message-ID: <504fd4$2jg@gw.PacBell.COM>
Source record: 102787

In article <mzenierDwuz55.5u9@netcom.com>, Mark Zenier
<mzenier@netcom.com> writes
>
>: So I need some kit/project/unit that would allow me to tave the VIDEO &
>: AUDIO from the sockets on the back of the satellite RX and then arrive at
>: the required PAL signal, hopefully already RF modulated.
>
>In that case, I'd go with the cheap and sloppy method of setting up
>an NTSC or multistandard monitor and aiming an old camera/camcorder
>at it. Give it it's own channel on your MATV setup, so you can watch
>incoming PAL on another channel, undegraded.
>
>Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>

For what it's worth, Home Control Concepts (1-800-CONTROL (orders only)
1-619-693-8887 (info, prices)) advertised in their 1995 sale catalog

NTSC to PAL Converter

Converts any NTSC video system to PAL format.
Easily connects between your VCR, Satellite Receiver,
or Camcorder and your TV to view on PAL M/N video systems.
Works automatically. Eliminates the need for purchasing
additional components. Operates on 120V or 220/240V AC.
Includes AC adaptor. Regular pay $hundreds. HCC-VIDPAL

$69!

Other than what it says in the ad, I have no idea what is inside the box.

--
Dave Turner (510) 823-2001 dmturne@pacbell.com

794. Re: Adding AM stereo to a digital tuned AM reciever, using Sony SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: hipiket@aol.com
Message-ID: <505m80$m4s@newsbf02.news.aol.com>
Source record: 102788

Wouldn't it be substantially better to homebrew a receiver using a better filter than those little brown things? A Collins 300 Z-50 filter can be bought for $6 in Orlando, Fla., and will provide better sound by allowing you to tune either sideband and reduce the noise level 3 dB. The output of this IF section could then feed the stereo demodulator IC (which could be bought as a replacement part) or, better still, a high-level synchronous detector.

I also think that the phase-noise level of most of those synthesizers that mass-market receivers will leave you with a noise like slow, steady rain on a tin roof.

I've thought about this some because I enjoy listening to the cleared-channel
station on 1510 kHz and the local station on 1490 here in Bradenton wipes it out completely. Those little brown filters, 20 kHz from Fcenter only give about -40dB
while I think the Collins is probably on the order of -85 dB. Since I live about 1 mile from WWPR and about 600 miles from WLAC, the difference in signal strength greatly exceeds the rejection of the little brown filter that the Nippon Gakki Co. Ltd. gave me as original equipment.

I'm interested in anything about the old Standard Broadcast band, so thanks for your interesting project.

795. Re: Request for info on power inverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug29.123012.9207@ke4zv.atl.ga.us>
Source record: 102789
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <96241.152536JLINETT@bmc.com> <JLINETT@bmc.com> writes:
>
>I would like to build a power inverter for mobile use. I would like
>to be able to convert 12v DC to 120 vac at around 2500 watts output.
>Although I have some experience designing and building regulated DC
>supplies, I am not familiar with inverters.

How are you with batteries? That's about 220 amperes of current
you're talking about pulling from a 12 volt source. A standard
auto battery will last about 30 seconds at that draw. You're going
to need a *serious* alternator on the engine to keep up with that
demand (the stock alternator is 50-65 amps max). Neville makes
a big enough alternator, but it would be cheaper to get a 120 VAC
alternator instead. The copper losses would be much less. The trick
would be holding the engine RPM right to make 60 Hz. In mobile use,
you really need an auxillary engine to do that right. Onan makes
RV generators in that power range.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

796. Impedance Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.60.3225E845@ornl.gov>
Source record: 102790

I am looking for a means to match a series tuned coil with an impedance of 1 ohm at resonance to the imput impedance of a NE602 mixer which is 3k. The frequency range is 30 Khz to 150 Khz. From what I can determine is that this is not an easy match and needs to be extremely compact. Any advice will be appreciated.

Danny Britton
qb7@ornl.gov

797. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <3225F27C.3822@vcd.hp.com>
Source record: 102791
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

<Excerpted>:
> "I'm sure the pervious statements are correct ... however, typing in
> real time is not the point".

Wrong. It is the point exactly. REAL-TIME interpersonal communication requires real-time typing (or keying). Buffering up stuff to send in a burst is not real time QSOing. I have run into AM/PACTOR operators who apparently like to just push buttons, and send 'canned' files, give canned responses to questions never asked, include everything but the kitchen sink in "my station is" canned files, AD NAUSEUM. BORING. These seem to be the ops who want to use the "high speed capability" of the "digital modes" (overused word these days). OOK CW is the original "digital mode", and RTTY, another digital (ie, binary keyed) mode have been with us for several decades now. Often, the operator's typing ability limits him to speeds less than 5 wpm! They are attempting to ragchew on the wrong mode. If unable to communicate at a reasonable rate (give the other guy a break, he doesn't have all night), on keyboard or on CW, then stick to 'phone operation, where all you need to do is push a button and speak. Or, (heavens to Betsy!), work on operator skills (typing or CW proficiency) required for the mode of choice. You don't get there by just spending money on equipment; you have to develop operator skills needed to use it effectively!

Bandwidth comparisons of CW to modes often do not take into account the well-known ability of a skilled human operator to decode signals separated by only a few Hz in frequency, and different in amplitude by many dB (including negative sig/noise ratios less than unity). CW ops, especially DXers, do this often.

Ragchewing for me is to engage in extemporaneous conversation as one would on duplex voice or QSK CW. Kick ideas and thoughts back and forth, etc. In other words, talk to a real live human operator on the other end, real time.

798. FT-50R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: kplumb@aol.com
Message-ID: <504m1v$a97@newsbf02.news.aol.com>
Source record: 102792

I am looking for info on out of band RX,TX for the Yaesu FT-50r

73's
Kevin Plumb N2wfs
Kplumb@AOL.com

799. 2m amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Mark Brown <kb0pyo@starpoint.net>
Message-ID: <322623C2.6B36@starpoint.net>
Source record: 102793

Hi all
Does anybody have a construction article for a 2m amp using the
8877? I am also interested in any info on using the svetlana 4cx800a on
2m.
Thanks
Mark

800. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: hipiket@aol.com
Message-ID: <505lpv$lr9@newsbf02.news.aol.com>
Source record: 102794

Wow! What a teriffic debate I sent careening down the mountain....

The plan I had was to use two RCA 833A's in a push-pull grounded grid arrangement, with the objective of minimum distortion, rather than maximum output. I intend to use a plug-in coil scheme, with doorknob "helper" capacitors on wavelengths between 160 and 40 meters. Thus the split-stator capacitor will not have to be of great size while providing a generous breakover rating. Loading adjustment will be by means of a variable link. 160-15 meter coverage is planned (10 meters...if the band's open, you don't need an amplifier and when it isn't an amp won't do much good anyway. Really the same is true on 15 unless you're trying to out-holler the other lids working a rare DX station.)

The real difference is that the power supply for this amp will provide 3250 VDC @ 850 MADC and only weighs 12 lbs (450 g)!!! It is silent, isolated, regulated to 0.5%, ripple-free as can be. I conceived the idea as a hybrid between a modern VCR power supply and that of the amp in the so-called, "boom-car"...

Thanks for all of the valuable suggestions I've seen go by my CRT. Too bad the Internet will make working DX stations seem quaint...

801. Re: Zener Diode For Heathkit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Carl Osborn <carl@sedona.net>
Message-ID: <32260452.3398@sedona.net>
Source record: 102795

Carl Osborn wrote:
>
> Where can I get a 8.2 volt 1.5 amp zener diode for my Heathkit SB230
> linear amplifier? It is a Motorola type 1N280 GA or possibly 1N2806 A
> (it is hard to read part no. in instruction book). Any help would be
> appreciated.
>
> Carl W6RXP

Thanks to all who answered my posting. Ron Black of Snohomish, WA came up with the best deal. Ron sent me an exact replacement gratis which is already installed and working great. Many thanks, Ron. These news groups are wonderful! 73 Carl W6RXP

802. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: smith@mbnet.mb.ca
Message-ID: <504sha$2nf@canopus.cc.umanitoba.ca>
Source record: 102796
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

In article <4vo55a$rg@nadine.teleport.com>, w7el@teleport.com (Roy Lewallen) says:
>
>In article <4vo1o4$e3t@canopus.cc.umanitoba.ca>,
> smith@mbnet.mb.ca (Tony Smith) wrote:

>You can always count on some hotshot to shoot his mouth off.
>

What?? You didn't even take a shot at answering the question?
Son-of-a-Gunn, anyways!

Tony (Sorrier yet.)

803. Need Plans for Discone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: 104470, 3311 <104470.3311@CompuServe.COM>
Message-ID: <5050l0$fh4$1@mhadf.production.compuserve.com>
Source record: 102797
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Anyone have plans to build a discone?

Does the ARRL Antenna Manual have plans?

Thanks

804. HELP: Antenna Tuner Design Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Michael Neidich <neidich@hooked.net>
Message-ID: <32267297.3772@hooked.net>
Source record: 102798
Cross-posted to: rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Need a schematic/parts list to build a receiving antenna
tuner/preselector 10-25 MHz, mostly to reject interfering out of band
signals. Point me in the right direction if there is a good commercial
unit, please.
Mike

805. WANTED: Parts for Knight T-60 transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <5042dr$on0@sf18.dseg.ti.com>
Source record: 102799
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hello from CyberSpace...

I need the following items to help me restore a nice old Knight T-60
CW transmitter that I picked up last week:

Operator's manual and schematic (may I borrow and copy yours?)
Relative output meter (must be working, and in near mint condx)
Microphone jack (an ORIGINAL one, not some replacement part)

Thanks in advance for any help you folks can offer!

73 de KC5NG (Dean Hemphill, Lake Dallas, TX)
kc5ng@dlep1.itg.ti.com

806. Re: 1kw SS class-C mod for class-AB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <504upp$eru@hpscit.sc.hp.com>
Source record: 102800

In article <3221B345.6F31@pop3.harborcom.net>,
Mike Swaney <mikesw@pop3.harborcom.net> wrote:
>I just finished an interesting paper by Ken Dierberger on a class-C ISM designed kw
>amp that includes a 300VDC PFC supply. The paper was presented at RF EXPO EAST 1995
>and describes a push-pull transfomer coupled class-C amp designed to use Advanced
>Power TechnologY's ARF444 and ARF445 MOSFETs. The amp is designed for 13.56Mhz CW
>operation and is supposed to be over 80% efficient at full output.

Leaving aside the issue of PFC supplies, I need to point out that
the APT FET's are rather questionable for ham radio use from both
the broadbanding aspect and the linearity aspect. Certainly, APT
makes no claims of suitability at all, and when I talked to them
about it, they weren't very encouraging.

Now as to PFC:
For the vaccum tube linears in use by most amateurs, one straight
forward solution would be to simply go back to a choke input
power supply. The extra iron added by the choke is somewhat
compensated for by being able to take iron out of the
transformer. Transformer efficiency goes up when PF goes up.

Rick Karlquist N6RK

807. Re: UK 934 MHz CB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: bb@tisc.com
Message-ID: <504v23$1g3@taxis.corp.titan.com>
Source record: 102801

Re: UK 934 MHz CB
From Newsline
UK: NO MORE 934 MHz CB

The United Kingdom will cancel its 934 Mhz Citizens Radio band on
December 31st of 1998 and the band will be converted to a commercial
digital telephone service.

Are these radios FM?
Could they be used on the 920Mhz US amateur band? repeaters?
Does any one in the UK have any for sale?

808. Request for info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <4D01F85250@dental3.ab.umd.edu>
Source record: 102802

Sometimes replying directly to a request is better than answering to
the whole group. If you use an psuedo name or remailer, or don't have
the correct address the mail is returned and then the post must
bemade to the whole group.

Brain @ ??? (D_vader@bellsouth.net)???? -
Probaly the best homebrewers/ kit builders web page is the QRP
page at <http://qrp.cc.nd.edu/qrp-l/> Has valuable info on
homebuilding, homebrewing, test of various kits and hints &
suggestions. Also has the best discussion group going on Amateur
Radio, I feel.

John <N3REY>
Always QRP!

809. Re: Are vapors from solder Harmful?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: "michael d. ferraro" <ferraro@ix.netcom.com>
Message-ID: <01bb95b6$f06a37a0$28c920cc@pppusername>
Source record: 102803

There was a recent Harvard University study that involved observing 100 rats that were subjected to intense solder fumes (Kester solder 60/40) for a period of 2 weeks. The results were published and were very interesting. Here is what they found:

14 Rats ended up building their own nests.
85 Rats bought theirs from Japan
1 Rat escaped and took up stamp collecting !

73's de Mike K6ZSR ;-)

810. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Ian Edwards <Ian@redsquir.demon.co.uk>
Message-ID: <oxhQSBAFNYJyEwfz@redsquir.demon.co.uk>
Source record: 102804

In article <mzenierDwuz55.5u9@netcom.com>, Mark Zenier
<mzenier@netcom.com> writes
>
>: So I need some kit/project/unit that would allow me to tave the VIDEO &
>: AUDIO from the sockets on the back of the satellite RX and then arrive at
>: the required PAL signal, hopefully already RF modulated.
>
>In that case, I'd go with the cheap and sloppy method of setting up
>an NTSC or multistandard monitor and aiming an old camera/camcorder
>at it. Give it it's own channel on your MATV setup, so you can watch
>incoming PAL on another channel, undegraded.
>
>Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>
Hi Mark (Aitken)

The only problem with this is that you'll get a 10 hz flicker which will drive you absolutely bonkers. (PAL 50 fields per sec. and NTSC 60 fields per sec.) Unless of course, you use a CCD camera with a 1/60 sec electronic shutter. This will negate the flicker, but is a feature only likely to found on later (and therefore relatively expensive) cameras and camcorders. You are also likely to get *Moire* patterns as a result of the interaction between the phosphor "dots" on the screen and the individual CCD elements in the camera.

An old tube camera with loads of *lag* would tend to smooth out the flicker and not suffer from moire patterning, but the *smeary* results, especially on fast sports action, will drive you mad as well. Additionally, colour performance is likely to be poor.

One other possible solution would be to obtain an old standards converter. These are still likely to be relatively expensive though, not to mention large and un-reliable. But think of all the fun you would have trying to maintain it. Also, it's probably ('cos its old) built without VLSI chips, so with the aid of an oscilloscope and a service manual (essential), you could learn a lot about how the system worked. (But to align properly, you will need access to a colour-bar generator and a vectorscope)

So to summarise your options are:-

1). Build a standards converter.

As Gary said, "this is difficult and expensive." i.e. its impractical.

2). Buy a Panasonic NV-W1 and use it as an in-line standards converter between the output of the satellite receiver and an RF modulator (obtained from a scrap video recoder), the output of which can be fed into your aerial distribution system. This machine would also allow you to record NTSC programmes as PAL on VHS tapes which could then be used in any other PAL VHS machine in the house.

But, as you've already said, "This is too expensive".

3). Modify a TV to accept NTSC (unlikely to be easy) or buy a multi-standard TV or monitor.

This is the cheapest solution but doesn't enable you to watch NTSC around the rest of the house.

4). Obtain or modify a TV as in 3). above, and use a PAL camera or camcorder aimed at the NTSC screen to obtain a PAL ouput, then feed this signal into an RF modulator and feed the RF out from this into your aerial distribution system.

This will work but the results are likely to be poor unless you spend money on a good quality receiver/monitor and camera and even then, moire patterning may be a problem.

5). Buy an old standards converter and use as in 2). above.

Could be fun, but still likely to be expensive.

In my opinion, 2). is the best all-round solution to your problem and is certainly practical. But you've ruled it out on the grounds of cost (fair enough), also of course, there's no *homebrewing*, which was the original point of your post.

So as far as I can conclude, you're stuffed !!!

Good luck with whatever you decide to do.

73
--
Ian Edwards
(G7OLT)
WATFORD,
England.

811. Iambic Keyer, ONLY FOUR PARTS!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Rick Miller <rdmiller@execpc.com>
Message-ID: <01bb95da$a08fac00$060801c1@eng06.digalogsys.com>
Source record: 102805
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc
Body handling: Inline uuencoded payload not displayed: pickeyer.c

Hi all!

I posted last week to rec.radio.amateur.misc that I would be
trying to implement an iambic keyer with a Microchip PIC16F84...

Well, I've actually got a demo up and running! This is too fun.

It's menu-driven, even! You can adjust sending speed and the pitch
of the audible feedback tone. You can even adjust the speed and
pitch of the menu-Morse.

Parts list:
(1) PIC16F84 (used to be called "PIC16C84A")
(1) ColorBurst crystal (3579.545 kHz)
(2) 22pF capacitors
(1) Normally-Open momentary push-button (optional)

Well, okay... this assumes that you've got a power supply
of 2-6 Volts DC available, since it's meant to be built right
into your rig. Typical operating current is under 10 mA.

If you throw in the 'optional' pushbutton, you can reset it
into 'menu-mode' without power-cycling your rig.

As promised, here's the source code so far.

Enjoy!

Rick Miller (KB9OBN) rdmiller@execpc.com

[Inline uuencoded payload not displayed: pickeyer.c]

812. buliding a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: lleduc@bak2.lightspeed.net
Message-ID: <81c7cc$14e6.98@LSNT6>
Source record: 102806

My neighbor teaches an electronics class at a local high school and has asked for my advice. His students build projects for class and a popular one is a low power FM (88 to 108 MHZ) transmitter that meets FCC requirement. Most of the circuits available offer poor performance being a simple LC oscillator with no buffering. He would like to find a circuit that offers good stability and sound. He would also like to avoid using a PLL or XTAL multilpier approach as this is beyoun the scope of his class.

The audio section is not a problem. I simply used an OP-AMP for this stage. It's the RF section that's the challange. I've built prototypes using the classic Collpits configuration and NP0 or C0G caps but haven't quite got the stability nailed down.

While I realize this group is primarily for Ham's, I'd like to pick your brains on this one.

Thanks.

813. Schematic for Heathkit IB-1100

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Gary Randall <grandall@phase2net.com>
Message-ID: <3226154C.7709@phase2net.com>
Source record: 102807

I am looking for a schematic for Heathkit IB-1100 Freq counter.
I will pay for copying and postage.

Thanks
Gary
KD4VRZ

814. Re: Motorola Data Sheets and Applications notes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: bbennett@smartt.com
Message-ID: <32251003.2211994@news.smartt.com>
Source record: 102870

On 28 Aug 96 23:16:17 GMT, jpaulino@planete.NET (Jean-Philippe PAULINO) wrote:

> I'm looking for Motorola datashetts and applications notes for RF
>purposes, in Europe I've try to write to the litterature center but... no
>reponse.
>Internet was a good way for this search, but...I only have the connexion at
>the Web //:Motserv.indirect.com
>Does anyone no where I can found this documentations to improve the South
>France RACE network?
>Many Thanks F1TMY
>
>JPAULINO@Planete.net
>PAULINO Jean-Philippe

I had a few problems actually getting the data sheets from the motserv address but I finally found this:
http://motserv.indirect.com/lit/html/br135a/br135apnotes.html
if you can't get the notes from the web, they'll FAX them to you - it seems to work pretty well (in Canada anyway).
I hope this helps!

Brian VE7IJQ

815. antenna amplifier troubles

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: peter.gabrovsek@guest.arnes.si
Message-ID: <841293422.16525@dejanews.com>
Source record: 102871

Hi,
I tried to built an antenna amplifier to cover losses in
70m cable from neighbors roof.
The amplifier schould amplifie 5 programs (1vhf+4uhf). Unfortunatelly
the signal level of the highest channel is also the lowest (40dB),
so I decided to make a three stage amplifier.All transisitors are
BFR91A.
The result was very bad, because the third stage tends to oscillate.
I suppose that the BFR91A is not capable to drive more high level
signals simultanious.
Could everyone suggest me a better transistor (low cost if possible)
or a design that will help me to watch TV with pleasure again.
Pero, Slovenija

This article was posted to Usenet via the Posting Service at Deja News:
http://www.dejanews.com/ [Search, Post, and Read Usenet News!]

816. Re: External antenna for radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: orion@capital.net
Message-ID: <5037f0$qkm@Usenet.Logical.NET>
Source record: 102872

joe@vantage.demon.co.uk (Joe Pritchard) wrote:

>fiz <fiz@lamar.colostate.edu> wrote:

>>Hi,
>>Does anyone have any ideas on how to
>>hook up an antenna (a longwire variety) to this radio that I can toss out
>>the window, without having to make major alterations to the radio itself.
>>I'm considering simply opening the case and soldering a wire onto the
>>place where the whip is attached. I would rather have some type of
>>antenna which would couple to the whip without being permanently
>>attached.
>>ttfn fiz (KG0YG)

Use a small alligator clip with a random length of wire connected to
it. (Experiment with the length of this wire, try one as long as space
allows and if the radio picks up too much, shorten the wire a few
inches at a time.) Attach the clip to your radio's telescopic antenna
and see what happens. You can't hurt anything this way and it may do
just what you want.
73,
Butch N2YMJ

817. Microwave Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: maf00861@maf.mobile.al.us
Message-ID: <503lqp$oor@municipal.maf.mobile.al.us>
Source record: 102873

What is the highest frequency you can detect with a simple
microwave diode detector? I'm referring to simply connecting
a diode across a microamp meter.
I've used an NTE 112 Diode (Si, UHF Mixer) with a 50 micro-
amp meter. It's a hundred times more sensitive than the Radio Shack
Microwave Oven tester. The tiny but normal leakage around the door
on my microwave oven generates a 10 to 30 microamp current in
the diode at a distance of two or three inches.
As an experimenter, I would like to get my hands on a
diode that could rectify 20, 50 or even 100 GHZ microwaves.
Are there any commercially available?

818. Re: Solder Fumes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: "michael d. ferraro" <ferraro@ix.netcom.com>
Message-ID: <01bb9573$35465500$29c920cc@pppusername>
Source record: 102874

There was a recent Harvard University study that involved observing 100 rats that were subjected to intense solder fumes (Kester solder 60/40) for a period of 2 weeks. The results were published and were very interesting. Here is what they found:

14 Rats ended up building their own nests.
85 Rats bought theirs from Japan
1 Rat escaped and took up stamp collecting !

73's de Mike K6ZSR ;-)

819. Re: Ham-Homebrew Digest V96 #368

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: aa6eg@tmx.COM
Message-ID: <Pine.LNX.3.91.960829072421.14022A-100000@tmx.com>
Source record: 102875

Re: Discone Plans:

A design article on discones exists in the June 1955 Electronics Buyers Guide, by J.J. Nail. Reference Sheet, R-27. This article references 3 other articles in the literature, which are:

A.G Kandolan, "Three New Antenna Types and their Applications Proc IRE, 34, p. 70 W Feb. 1946

A.G. Kandolan, W. Sichak, R.A. Felsenheld, "Elecronic Communication", 25, P. 139, June 1948

J.M. Bower, "Discone - 40 to 500 Mc. Skywire", CQ, 5, p. 11, July 1950

Mack Seybold, "The Low frequency Discone", CQ 6, p. 13, July 1950

To summarize the Nail article, Impedance plots show that for Flare angles (the complete inside angle of the cone) between 25 and 60 degrees, SWRs to a 50 ohm feed, of 1.5 to 2 to one, exist until the lower frequency limit is reached, then a rather steep climb in SWR occurs. The lower frequency limit is defined by the length of the sloping side of cone becoming a 1/4 wavelength. Slight variations in impedance occur up through 3F, but are inconsequential. At the upper frequency limits, (5 or more F) patterns and impedance are mostly influenced by the dimensions at the pointy end of the cone, and to a degree, by the flare angle. It appears that best performance occurrs when the cone vertex is as pointy as possible and spaced as close as possible to the center of the disk.
Free space pattern plots in the vertcal plane at the lower frequencies look like a vertical dipole. As the frequency gets higher, the dipole pattern gets squeezed at the bottom quarter, so that it looks like a pair of commas, back to back, at 3F. The gain at the horizon is -3.3 dbd at 3.75F, and - 2.5 dbd at 4.85 F. Someone should use Lewallen's modelling program to verify these early computed plots. I would like to know if you can minimize the numbers of wires you model, to the point of using only a 2 dimensional model, requiring fewer segments of wire, and assumptions being made that the pattern is the same omnidirectionally.
Bottom line is, consider the discone to be about like a 1/4 wave ground plane with an upper F limit of up to 10 times F min. i.e. a discone with a cone length of 20 inches should perform well, from 2 meters to well above 1.2 gHz, if the junction area is constructed properly. BTW, if you are ever in Monterey, contact me, for a

looksee at our 80-10 METER discone, courtesy of the US Army, at our new club station, the former Army MARS station at Ft. Ord. Works DX like gangbusters from 80 through 10 meters.

73, DX, de Pat, aa6eg@tmx.com
Monterey CA

820. re: coils for direct conversion receiever using NE602

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <502on4$a3a@nadine.teleport.com>
Source record: 102876

In article <3223F5A5.59E2@alive.com>, Tovar <tvr@alive.com> wrote:
>Drew Diamond wrote:

>. . . [list of receivers using the NE602]. .

>"An Optimized QRP Transceiver, QST, Aug. 1980, pp. 14-19 . . .

No, the "Optimized" rig used a diode ring mixer (homebrew, but an SBL-1 does essentially the same thing). I don't believe the NE602 was available then, but don't think it would have done better than some of the other mixers I tried. DC receivers are very prone to AM demodulation. That is, you're likely to hear audio in the background, because the rig is demodulating strong AM signals. This is particularly bad on 40 meters. The demodulation generally takes place in the mixer (if you've filtered the mixer output properly), then the demodulated signal is amplified by the large AF gain of the receiver. No other mixer I tried came close to a diode ring in its resistance to this. Rick Campbell came to the same conclusion, as he pointed out in his QST articles. I believe the NE602 was among the other ones he tried. The same weakness aggravates other problems like "peakable hum". I wouldn't recommend an NE602 for a 40 meter receiver, and even with a diode ring, you may need a filter ahead of the mixer which is narrow enough to attenuate the strong BC signals before they get there. I took the "Optimized" rig to England once, and heard AM even with it. After I returned I designed a couple of very narrow filters for the front end. I called them "G filters" and they were published in SPRAT some years ago.

Here on the West Coast, the foreign broadcast isn't as strong as it is in, say New England. Only one evening did I hear AM getting through the Optimized rig. I tracked it down to a private religious SWBC station near San Francisco (about 600 miles from here), KGEI, operating at 7360 kHz. I _measured_ its signal at 100 mV (yes, that's mV) RMS at the station end of my vertical antenna coax!

Have fun!

73,
Roy Lewallen, W7EL

821. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <3225402E.388A@fyi.net>
Source record: 102877
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Charles Hoffman wrote:
>
> Interesting. I will take a look. Incidentally, I have a VBC Model 3000
> Baseband Transeiver if anyone is interested, with book; make offer.
>
> Rob Frohne wrote:
> >
> > A couple of my engineering students and I picked up the frequency
> > companding idea and implemented it on the TI DSK DSP evaluation board. It
> > was written up
> > in QEX a while back. The editors allowed me to put a copy on my web page. You
> > can see it at http://www.wwc.edu/~frohro/qex/qex-art.html We didn't implement
> > the amplitude compandor, but that could be added in. Our testing indicated that
> > it was a feasible system, but I doubt it will ever catch on, as there are better
> > ways of reducing the spectrum with DSP.
> >
> > --
> > Rob Frohne
> > E.F. Cross School of Engineering
> > Walla Walla College
> > 204 S. College Ave.
> > College Place, WA 99324
> >
> > frohro@wwc.edu
> > http://www.wwc.edu/~frohro

An ARRL fub of a few years ago...They dedicated a big chunk of
the handbook to ACSSB...After getting through most of the stuff,
You found there was only one place to get the special chip.
Kinda like the last few issues of QST :)

822. amp schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: robtrobn@ix.netcom.com
Message-ID: <504dv9$o45@dfw-ixnews7.ix.netcom.com>
Source record: 102878

Howdy again. Anyone seen a downloadable schematic for an HF amp?

Robert Lewis
N5ODJ

823. RF Engineer Opening

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: WCS@Emperor.HandHeld.COM
Message-ID: <17717@Emperor.HandHeld.Com>
Source record: 102879

Text item: Text_1

Hi y'all,

Hand Held Products, a bar code company in Charlotte, NC, is looking for an RF design engineer. It should be someone who really enjoys working on wireless data equipment as there is much development to be done. We have some of the tools of the trade... network analyzer, spectrum analyzers, design software, radiated field pre-test site, etc. which the designer would need to have experience using to acheive the equipment performance goals. Our equipment is currently operating in the 400 MHz to 930 MHz range. 2.4 GHz will no doubt be in our future. Candidate should have a BSEE as a minimum. Please respond to wcs@emperor.handheld.com

Thanks for everyone's time.

Bud, W4HXP

824. Standard C5900 Need Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: you@somehost.somedomain
Message-ID: <504r5b$r1m@news.ios.com>
Source record: 102880
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Today I have received the Standard C5900 and I'm looking
for any MODS to this rig. Please Email if any.

Email: rod@hili.com
Thank you
N2RVM

825. Re: Using motorcycle helmet headset/mic with ham rigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: Jerry A Kreifels <Jerry_A_Kreifels@ccm.fm.intel.com>
Message-ID: <3225D609.45E5@ccm.fm.intel.com>
Source record: 102881
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Marty Gulseth wrote:
>
> After a long hiatus, I'm buying another motorcycle. Anyone have any experience with using
> the in-helmet speakers and mics with ham rigs? Any specific brands of helmets or
speakers/
> mics that work well, or, should be avoided?

<snip>

Marty,

I've used the headsets from Nady's wired rider/passenger intercom. has
a flat speaker (about 1/4" thick) that slips between your ear and the helmet foam.
You can velcro it in, but I never bothered. From this, there's a flexible boom
with the mic on the end. Foam wind screen on the mic. 3 terminal
mini-stereo plug connection; mic, spkr, common ground. I wired an adapter to go to
my FT530, and also to put a paddle switch above the clutch lever for PTT. I connected
a small 2.2K pot for use as both the PTT resistor, and to try and trim mic gain. Top
of pot to HT, wiper to microphone, bottom of pot to PTT switch, other side of PTT
switch to ground. The pot may not be needed; I did it that way as an in case kind of
thing. With the PTT switch as connected, VOX is theoretically possible, but I
didn't trust wind noise or myself yelling epithets at stupid cage drivers, so I never
tried that.

Works pretty well. I've had good audio reports as long as I talk softly.
(The mic is pressed against my lips in my helmet; easily overdriven.) No complaints
of wind noise; many were surprised to hear I was on a motorcycle. Audio output
is okay; I need to buy a new helmet however, as wind noise is a problem. If you have
a quiet helmet or touring bike with big windsheild, I doubt this will be a problem
for you; I have an 8yr old Shoie GRV and a BMW K75S.

Headset is available for about $25 or so; I've seen ads in the various bike
rags, I think it was Cycle World. Local dealer may have the whole intercom if you want
a look, or JC Whitney has them (I had the intercom long before my ham license, so I
just tried it and it worked okay.)

If you can't find a place to buy, EMail and I'll look up the ad, or even fax
you a copy if needed.

Good luck.

Jerry
--
Jerry, KO6JV (Sacramento CA area)
Jerry_A_Kreifels@ccm.fm.intel.com
"My opinions, not my employer's."

826. Need ballast tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: mdittmar@ix.netcom.com
Message-ID: <5031e1$3qq@dfw-ixnews6.ix.netcom.com>
Source record: 102882

I am looking for a 60*92 ballast tube for an old receiver. Does anyone know of a source for ballast tubes ? Any suggestions would be appreciated.

Mark Dittmar, WD8PCE
mdittmar@ix.netcom.com

827. Re: Field Strength Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-29 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <503g9u$5j@nadine.teleport.com>
Source record: 102883

In article <Q224B257@d57004>, maher@ssd.fsi.COM (Hugh Maher) wrote:
>
>
>Some time ago I started collecting parts for a Field strength meter I was
>going to build from a magazine article. This got put aside and now I
cannot
>find the magazine article. This meter operated over several decades as I
>recall and used matched diodes for rectification and feedback around an
>op-amp to get linear results down to millivolts. Does anyone recall the
>magazine or year------I think it was QST or 73?

Either "A Simple and Accurate QRP Directional Wattmeter", QST, Feb. 1990, p. 19, or "The Tandem Match -- An Accurate Directional Wattmeter", QST, Jan. 1987, p. 18. (For the latter, see also Technical Correspondence, Jan. 1988, p. 49.)

Roy Lewallen, W7EL

828. B&W Miniductor or Air Dux coils still made? Any for sale?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: zommbee@nwlink.com
Message-ID: <505dc4$ojo@texas.nwlink.com>
Source record: 102808

I am wondering if Barker and Williamson (B&W) still make their series of open-air coils (miniductor, I think they were), and the series called 'Air Dux'? I know I was able to find them as late as 1980, but haven't been looking since. Great for homebrewing.

If anyone can help, please email. Also, if you have any of the above coils laying around you'd like to get rid of, maybe we could make a deal.

Thanks in advance to anyone who replies.

73's

Dave WB7AWK
zommbee@nwlink.com

'Back in after 12 years out'

829. Re: Source for 0.05 Ohm Resistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <505e46$dh5@crash.microserve.net>
Source record: 102809

I thing Newark has a $20.00 minimum order, get a money order and order
the resistor from ASTRON....

Steven Kerns N3FTI

In article <32250064.88805284@news.santafe.edu>, jpotter@jpaw.com says...
>
>Steve Wolf <no8m@apk.net> wrote:
>
>>Steve Wolf wrote:
>>>
>>> I need to replace the 0.05 ohm 5% 5 watt resistors in my Astron RS35M.
>Newark has them. They are catalog no. 96F3618 (+ reistance value) for
>1.87 each (they may be slightly higher thatn the current catalog
>price.) These are IRC LOB series. I use them in some switching
>supplies I'm building.
>
>de K9GXC, Jim
>
>
>James M. Potter, President TEL: (505) 662-5804
>JP Accelerator Works, Inc. FAX: (505) 662-5210
>2245 47th Street EMAIL: jpotter@jpaw.com
>Los Alamos, NM 87544-1604 URL: http://www.jpaw.com
>

830. Re: Need Some Project Advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: akent@bga.com
Message-ID: <505f43$rma@news3.realtime.net>
Source record: 102810

Hello Owen:
You may want to check out National Semi's web site at
www.national.com. They have an app note number 146, that talks about a
remote speaker system modulating at up to 20khz with a carrier of up
to 200khz over AC house wiring. It basically uses a modulated VCO for
the FM xmitter, and a PLL to lock onto the carrier and directly
demodulate FM at the receiver, and they claim pretty good specs. It
just might be the ticket to low frequency modulation for your
application.

The appnote is dated 1975! Sometimes the old stuff is better than the
newfangled expensive stuff, I have found!

Hope this helps.
Kent

Owen Wells <onw01@mhs.sperry-marine.com> wrote:

>I am a fairly good EE who is inexperienced with radio. I'm
>currently working on a home project which has stretched my
>knowledge a bit, and I'm looking for a little advice.

>What I'm trying to do is take a fairly low-bandwidth signal
>(0-400 Hz audio) and frequency modulate it. I would prefer to
>do this at a carrier in the low KHz range. The modulated signal
>would then be connected directly to a reciever/demodulator by
>two wires and the 400 Hz audio would be taken out again (no
>antennas, no transmission circuitry - probably just an op-amp
>copled to the wires with a cap to drive the signal).

>Why would I do this, you ask? The wires I'd be transmitting on
>have a lot of other signal traffic on them (as well as noise),
>and I'd like to avoid antennas and big amps for space reasons.
>On that note, the circuit to do this needs to be very *small*.

>If any of you have ideas about how the mod/demod circuitry
>would work, or can tell me some good sources to look at, I
>would really appreciate it. I understand how FM works, but I
>just don't know the down-and-dirty of how to physically create
>the signals I want.

>Thanks much, -Owen Wells

831. Re: Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: akent@bga.com
Message-ID: <505fnf$fpe@news3.realtime.net>
Source record: 102811

Hello:
If I remember right, most data modems over the phone lines use 2400hz
as the bandwidth. The modulation technique allows the higher data
rates (phasing techniques, etc.). Some of the newer phone systems
allow a higher bandwidth, but not all.

BTW: I am currently sending 115kb over SSB!!!!! (Weird modulation
techniques, and other tricks.)

Kent

carl@ais.net wrote:

>In <3222D596.25A2@expert.cc.purdue.edu>, Mark <kb9khm@expert.cc.purdue.edu> writes:
>>fiz wrote:
>>
>>>
>>> Does anyone know how much bandwidth a 14.4K modem would take up?
>>
>>The bandwidth of a standard phone line is only 3Khz, so it can't
>>be more than that.
>>
>>Mark
>><KB9KHM>

>True ... However, it's not likely to work over a SSB radio channel
><grin>.

>Carl - wa6vse
>carl@ais.net

832. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: akent@bga.com
Message-ID: <505grr$mka@news3.realtime.net>
Source record: 102812
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Gary:

I have to agree with you wholeheartedly, in your discussion!

I currently have a prototype SSB radio modem operating at 115kb. It
blasts data. It doesn't support voice, though.

Kent

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <4vuu68$lia@vixen.cso.uiuc.edu> w9sz@prairienet.org (Zack Widup) writes:
>>
>>>Gary Coffman wrote:
>>>>
>>>> In article <321DD7DB.28EC@gte.net> Jim Conn <jconn@gte.net> writes:
>>>> >carl@ais.net wrote:
>>>> >>
>>>> >> In <321CD03B.144A@gte.net>, Jim Conn <jconn@gte.net> writes:
>>>> >> >I don't get it. The HF bands are not useful for high speed digital work.
>>>> >> >
>>>> >> Rediculous ... all it takes is the right modulation and coding
>>>> >> techniques and a progressive regulatory structure that permits it.
>>>> >> Obviously higher data rate wider bandwidth transmissions are more easily
>>>> >> accomodated at higher frequencies, but HF will support FAR beyond 300
>>>> >> baud FSK packet.
>>>> >> The cost/bandwidth/performance of HF high speed digital services
>>>> >render such a thing impractical within the confines of the amateur bands.
>>>>
>>>> Nonsense. We have an off the shelf solution in Clover which gives us
>>>> 750 bps (in OOK Morse terms that's 1125 WPM) in 500 Hz. We can go faster
>>>> than that. Using a raised cosine FSM, we can put 38 non-overlapping 50
>>>> baud carriers in a 3 kHz channel. That gives 1900 bps while still
>>>> maintaining a symbol rate compatible with HF multipath. If we use symbol
>>>> overloading, as Clover does, we can boost that to 4500 bps. If we more
>>>> aggressively overload symbols and use some simple coding tricks, we can
>>>> jump to 7600 bps, still in a 3 kHz channel. If we throw in a bit of
>>>> compression and some FEC, we can do 11.4 kbps. Subtracting overhead,
>>>> we can achieve a net 9600 bps in a 3 kHz channel without sacrificing
>>>> our ability to deal with multipath. And we can do that for less than
>>>> $100 in DSP parts (or even do up through 4500 bps on a PC with just a
>>>> sound card and a bit of software, IE essentially free).
>>>>
>>
>>I cannot TYPE 1125 wpm. In fact, I can send CW faster than I can type!

>>I'm not even sure I can TALK 1125 wpm.

>I am uncharitably driven to repeat the Morse proponent's cry
>of "Practice!" in response to your reported low typing speed,
>but I'll try to give a better answer than that.

>Yours is a common reaction. If it didn't overlook several important
>factors, we'd all we content to use 300 baud Bell 202 half duplex
>modems here on the net too since that's equivalent to 450 WPM, and
>none of us can type that fast either. We aren't, however, and therein
>lies the answer for the need for speed. We can convey much richer
>content than simple text with a bit of speed. For example, if we are
>discussing a circuit or antenna with our contact, we can bring up a
>whiteboard and draw a diagram for him if we have sufficient speed.
>We can't hope to do that plodding along at 20 WPM. We also typically
>have canned "brag tapes" that we send to new contacts to let them know
>something about us and our stations. Letting that dribble along at
>20 WPM would take intolerably long.

>And there's another side to this as well. IF we truly don't have
>more to say than can be conveyed in a few minutes at 20 WPM, we
>can drop our transmit power until the CNR is actually *negative*,
>and still have enough throughput to maintain 20 WPM text. We can't
>do that with OOK Morse at all. With Clover, we reach that point
>with a CNR of -4 db, and with PACTOR II we reach it at -18 db on
>a non-fading channel. On a poor fading channel, Clover doesn't do
>so well, requiring about +2 db CNR, but PACTOR II continues to
>operate at the desired throughput with a CNR of less than -10 db.
>That's about 20 db less signal than a good Morse operator needs to
>maintain error free 20 WPM.

>Note, a very skilled weak signal Morse operator can detect Morse
>signals at mildly negative CNRs, but he can't approach 20 WPM when
>signals are that weak, PACTOR II can. In a time where large outdoor
>antennas have become difficult to install (due to restrictive covenants,
>apartment living, etc), where TVI and RFI are a concern (due to a myriad
>of shoddy consumer electronics co-located with many of our stations), and
>where the current level of awareness of RF exposure hazards is heightened,
>a technique which can work well with very low transmit power should be
>welcomed and fully embraced.

>>This is still a HOBBY ... only a HOBBY. It is what you want to put into
>>it, and the wonderful thing about it is that it is so diversified there
>>is something for everyone.

>I grind my teeth every time I see that "only a HOBBY" line. We are
>amateurs voluntarily, self-selected by free choice, and we enjoy what
>we do, but it is more than "only a HOBBY". The service has chartered
>purposes for us to fullfill. That differentiates amateur radio from
>playing golf or from collecting stamps. Those latter activities *are*
>"only hobbies", but amateur radio is more than that. We are chartered
>to self-train in the radio arts, further those arts, provide public

>service and emergency communications, and foster international goodwill.
>We can, of course, have fun doing those things. That is our only reward.
>But puttering in a backwater of radio technology isn't fullfilling
>the first two elements of the charter very well, and could be
>impairing our ability to fullfill the third. The amateur radio
>operator's Code (ARRL) says "An amateur is progressive". We need
>to think about that once in a while.

>>There are those who wish only to chat on 2 meter FM with HT's. Fine ...
>>there's a place for them and I enjoy their company. There are those who
>>wish to play around with technology ... fine, they have their places too.
>>I also enjoy reading about that aspect of the hobby.
>>
>>Some of us (myself included) are DXers, contesters and VHF DXers/contesters
>>who build their own VHF equipment. We have our places in the hobby, too.
>>
>>The thing is that it is a communication hobby as well as a technology
>>hobby. Live communication. I'm not trying to send a novel to the
>>guy at the other end; I can do that on Internet. But considering my
>>typing speed I don't need to send data at 2500 wpm or whatever; I just
>>want to communicate with they other guy in real time and if I can send CW
>>at 60 wpm, type at 45 wpm or talk at 300 wpm I'll still exchange ideas.

>Yes, you can, but you can also do better than that. You can exchange
>more ideas, or exchange them more clearly and fully, with better techniques.
>You can also reduce the RF pollution on the bands, thus allowing room for
>more people to do likewise by reducing the power necessary to communicate.
>If you really only have a few hundred words to say to another person, you
>can do it in a couple of minutes instead of an hour, thus freeing the
>spectrum for others to enjoy, or allowing you to interact with more people
>in a given amount of time. There are many reasons why you might want to
>use speeds greater than your personal typing rate, and to use techniques
>which require less power and bandwidth than other methods to boot.

>The Amateur's Code says we're to be progressive, but it doesn't say
>we have to be progressive every minute. We can use older slower less
>efficient and less effective techniques from time to time if we get
>enjoyment from doing that, but we shouldn't turn our backs on better
>techniques in the process. We should be educating ourselves in modern
>communications theory and practice as an ongoing matter of course. We
>should be able to recognize that there are other and better ways of
>doing things than the methods we've used in the past. And we should
>be able to do some of those things too from time to time.

>As you note, not every amateur needs to do everything. There are a
>multitude of things to do in amateur radio, and many of them have
>value as well as being enjoyable. As amateurs we have diverse
>interests, but we should all have the charter purposes of our
>service in sight as desirable goals to be pursued. That doesn't
>mean we all have to become (moderately) high speed digital operators,
>or dedicated ARES operators, or rabid goodwill ambassadors, etc, but

>we should be extending ourselves in some direction constantly, and not
>just be stagnant backmarkers filling up space (and spectrum) without
>any real purpose or direction.

>The Army's recruiting posters proclaim that it is "Not just a job,
>it's an adventure." We should approach amateur radio the same way.
>It is the best hands-on learning laboratory to which we're ever likely
>to gain admission. We should take full advantage of it. We're never
>too old to learn new tricks, unless we let our brains fossilize by
>going over and over the same ruts day after day. There's nothing more
>exciting or enjoyable than gaining a fresh insight, or mastering a
>new technique. New ideas serve to blow out the cobwebs and sharpen
>the intellect.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

833. Macintosh Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: pfurbert@ibl.bm
Message-ID: <pfurbert-2908962254290001@dial14-37.ibl.bm>
Source record: 102813

There is plenty of radio software around for PC (IBM) computers. Does anyone know of a good source of Macintosh "radio" software. Anything from Morse converters to ...antenna design.... scanner control.etc..

Would appreciate any info.

Regards
Paul
pfurbert@ibl.bm
(MAC FOREVER)

834. Re: NEW HAM wanting some advice! :-)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn52civk.8j.mulveyr@ll.aa2ys.ampr.org>
Source record: 102814

On 28 Aug 1996 15:40:42 GMT, tyler <tyler@cyberia.com> wrote:
>
>>Was wondering if anyone could point me toward the right direction in
>>obtaining schematics and/or kits for a couple of items.
>>
>>Since I'm a no-code right now (working on it though!) I'd like to work the
>>6 meter and some of the MW range.
>>
>>First off, what about a schematic and/or kit for a 6 meter radio?
>>
>>And secondly, what about a schematic and/or kit for a RADAR Gun? I am
>>assuming this one is legal of course. Correct me if I'm wrong here! Was
>>wanting to build a RADAR gun and clock vehicles,check speeds,etc.
>>
>
>I think what you want is a Ramsey catalog. They have 6 mtr and radar
> gun kits and lots of other cool stuff too.
>

Of course, Ramsey is *infamous* for the extraordinarily poor filtering
on their receivers and transmitters. Several magazine articles in the
past 2 years have found that the transmitters were so dirty that they
were in violation of FCC regs. I was once young and naive enough to
buy one of their receiver kits. It was the first and last purchase I
ever made from them. Why? Well, a 20M CW receiver that has a bandpass
of about 25khz is pretty useless. :-)

- Rich

--
My mailer has the unfortunate tendency to bounce 10,000 copies of any
junk mail I receive back to the sender. Be warned.

835. Re: Questionnaire: Please Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: "Bernie McClenny, WR3E" <bernie.mcclenny@mail.wdn.com>
Message-ID: <322693E7.5FC1@mail.wdn.com>
Source record: 102815
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,r

DFS wrote:
>
> I'm a journalist conducting a survey of Internet telephony usage.
> Whether you use Internet telephony products or you've never heard of
> Internet telephony, I'd really appreciate it if you could take a few
> minutes to fill in a questionnaire.
>
> It will be one of the first fully automated email surveys conducted on
> the internet. The survey will be processed automatically by EFORM, a
> new automated email processing application, produced by Beach Tech
> (http://www.beachtech.com, email: sales@beachtech.com). And no, I'm
> not a Beach Tech employee.
>
> If you *don't* use Internet telephony, or have never heard of Internet
> telephony, please send a blank email to: IT_NONUSER@BEACHTECH.COM, and
> a survey, with instructions, will be mailed to you.
>
> If you *do* use Internet telephony, send an email to:
> IT_USER@BEACHTECH.COM, and a survey, with instructions, will be
> emailed to you.
>
> Please tell your friends and colleagues about this survey. Details
> about survey results are attached to the surveys.
>
> Thanks
>
> Alex Balfour
> alex.balfour@pobox.com

Alex rec.radio.amateur.dx is not the place for Questionnaires. Please do
not do this again! This news group is exclusively for exchanging
DX information about amateur radio. Thanks de Bernie, WR3E

--
1ï¿½

836. Re: Request for info on power inverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <3226B3DC.2B64@rcru.rl.ac.uk>
Source record: 102816
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

JLINETT@bmc.com wrote:
>
>
> Hi All,
>
> I would like to build a power inverter for mobile use. I would like
> to be able to convert 12v DC to 120 vac at around 2500 watts output.
> Although I have some experience designing and building regulated DC
> supplies, I am not familiar with inverters.
>
Forget it. 2500W at 12V will require an input current of 210A. That
is a lot of current. It is not impossible, but quite a demanding task
and potentially dangerous. You would be much better off starting from
a much higher voltage. There was an article in RadCom about modifying
a car alternator to produce a.c by removing the diodes and adding
a new exciter/regulator circuit, but only to a few hundered watts.
A better prospect is a generator, or a stack of 12V lead acid batteries
in series giving maybe 48V or 120V d.c and an invertor kit. You can buy
these ready made reasonably cheaply.

837. The CW Question again?????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: n2uck@juno.COM
Message-ID: <19960830.100318.8271.2.n2uck@juno.com>
Source record: 102817

Every day I download fifteen to twenty messages about CW (both pro & con) and I have one question for everyone: What does this have to do with Homebrewing?

None!

This is AMATEUR RADIO, a hobby not a job. The license is not required for employment. It is for enjoyment. Remember??? As for the CW requirement- let it stay, for those that don't like it- go over to 11 Meters. As for all of the other modes(Rtty, FSTV, SSTV, Satellite, Spread Spectrum, Clover, etc.) lets get those questions on the tests. The written tests as they are now, have become nothing more that a test of memorization and a joke. A parrot can regurgitate answers too.

73 de Roman S. Makuch, N2UCK

838. Grid Dip Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <DwyDJ2.C5E@actcom.co.il>
Source record: 102818

Hello All,

We're looking for one of these useful gadgets that were once popular amongst radio amateur home brewers. We're looking for a solid state portable unit. Can anyone recommend a manufacturer of a low cost unit (the Heath company used to offer such a unit, as well as Eico and many others), or even offer a used unit? Delivery is for israel.

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

(PS: When responding, we would appreceate a copy to our email address in addition to posting here, so that no responses are missed)

839. Re: Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <506vl1$ln8@opera.iinet.net.au>
Source record: 102819

hh357@aol.com (HH357) wrote:

>In article <3222D596.25A2@expert.cc.purdue.edu>, Mark
><kb9khm@expert.cc.purdue.edu> writes:

>>
>>>
>>> Does anyone know how much bandwidth a 14.4K modem would take up?
>>
>>The bandwidth of a standard phone line is only 3Khz, so it can't
>>be more than that.

There is not a strict relationship between bandwidrth and data rate.
However the signal to noise ratio on the channel will decrease as the
data rate increases for a fixed bandwidth. Eventually a practical
linit will be reached, depending on the channel signal strength and
noise.
Richard Hosking
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

840. Re: 1kw SS class-C mod for class-AB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9607308414.AA841424562@mail.creo.bc.ca>
Source record: 102820

Mike Swaney <mikesw@pop3.harborcom.net> wrote:

> I just finished an interesting paper by Ken Dierberger on a class-C
> ISM designed kw amp that includes a 300VDC PFC supply. The paper
> was presented at RF EXPO EAST 1995 and describes a push-pull
> transformer coupled class-C amp designed to use Advanced Power
> TechnologY's ARF444 and ARF445 MOSFETs. The amp is designed for
> 13.56Mhz CW operation and is supposed to be over 80% efficient at
> full output.

I saw a version of this paper in RF Design.

In general, turning a Class C or D amplifier into a linear amplifier isn't worth it - you'll have to derate the output transistors to allow for the standing current on them, beef up the heatsinks to allow for the extra dissipation, and hope for the best when it comes to linearity. Transistors designed for high power switching amplifiers are designed to switch quickly with low on resistance. Linearity is just not a design requirement.

A reasonably accessible reference for this is Norm Dye and Helge Granberg's book on RF transistors (whose title escapes me at the moment...).

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

841. Re: Microwave Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <507e8l$bq@hpcvsnz.cv.hp.com>
Source record: 102821

Chris Jones (maf00861@maf.mobile.al.us) wrote:
: As an experimenter, I would like to get my hands on a
: diode that could rectify 20, 50 or even 100 GHZ microwaves.
: Are there any commercially available?

Get ahold of the HP Communications Components catalog. The
HSCH-9101 GaAs Beam Lead Schottky Barrier Diode is rated for
use through 44GHz and I'd be surprised if you couldn't get
it to give some useable rectification well above that. They
are kinda small and might be a challenge for the typical
experimenter to actually use. I have no idea what they cost.

--
Cheers,
Tom
tomb@lsid.hp.com

842. Re: Macintosh Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <50780o$ol3@nyx10.cs.du.edu>
Source record: 102822

Paul <pfurbert@ibl.bm> wrote:
>There is plenty of radio software around for PC (IBM) computers. Does
>anyone know of a good source of Macintosh "radio" software. Anything from
>Morse converters to ...antenna design.... scanner control.etc..

Check out:

http://www.mv.com/ipusers/wd1v/
ftp://mac.archive.umich.edu/can't_remember

>(MAC FOREVER)

You dang betcha. :-)

http://www.evangelist.macaddict.com/

73 de KC4WZK
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx.net | http://www.nyx.net/~lekollar/
"So don't try to turn my head away
Flirtin' with disaster every day"

843. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: Ian Edwards <Ian@redsquir.demon.co.uk>
Message-ID: <kXiTpBAJB0JyEwc6@redsquir.demon.co.uk>
Source record: 102823

In article <504fd4$2jg@gw.PacBell.COM>, Dave Turner
<dmturne@pbdmt.pacbell.com> writes
>
>In article <mzenierDwuz55.5u9@netcom.com>, Mark Zenier
><mzenier@netcom.com> writes
>>
>>: So I need some kit/project/unit that would allow me to tave the VIDEO &
>>: AUDIO from the sockets on the back of the satellite RX and then arrive at
>>: the required PAL signal, hopefully already RF modulated.
>>
>>In that case, I'd go with the cheap and sloppy method of setting up
>>an NTSC or multistandard monitor and aiming an old camera/camcorder
>>at it. Give it it's own channel on your MATV setup, so you can watch
>>incoming PAL on another channel, undegraded.
>>
>>Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>>
>
>For what it's worth, Home Control Concepts (1-800-CONTROL (orders only)
>1-619-693-8887 (info, prices)) advertised in their 1995 sale catalog
>
> NTSC to PAL Converter
>
> Converts any NTSC video system to PAL format.
> Easily connects between your VCR, Satellite Receiver,
> or Camcorder and your TV to view on PAL M/N video systems.
> Works automatically. Eliminates the need for purchasing
> additional components. Operates on 120V or 220/240V AC.
> Includes AC adaptor. Regular pay $hundreds. HCC-VIDPAL
>
> $69!
>
>Other than what it says in the ad, I have no idea what is inside the box.
>
PAL M/N are a strange mixture of PAL and NTSC.

>PAL M uses PAL colour encoding on 525 lines @ 60Hz. (Used in Mexico
and Brazil)

PAL N uses NTSC colour encoding on 625 lines @ 50 Hz. (Used in
Argentina and Paraguay)

Neither would be compatible with *real* PAL and not a lot of use in
Australia.

--
Ian Edwards
(G7OLT)

844. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Aug30.152159.13227@ke4zv.atl.ga.us>
Source record: 102824
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <501mja$u3d@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>
>IMHO ones respect for a priviledge is proportional to the work required
>to obtain it.

I say that the worth of a privilege lies in what it enables a person
to do, today and tommorrow, not in what a person once did. Dusty trophies
are valued for what effort was once expended to gather them, but that effort
is remembered with as much pride (or lack thereof) even if the trophy is
hocked or stolen. No so with a license, its value lies solely in what can
be done with it, today and tommorrow.

It is a tool, not a trophy, and good tools are only of value in so far
as they enable one to do something of value. It matters not if the tool
were gained by great effort or merely found along the roadside. Its value
lies in what it enables one to do with it, today and tommorrow.

A craftsman takes care of his tools, because they enable him to accomplish
his tasks. Only a shallow collector (a fool with no real skills or talents
of his own) values his tools for what they once cost instead of for what
they allow him to accomplish, today and tommorrow.

Many of my most prized tools were inherited from my father. They are
without price as far as I'm concerned, though I did nothing to earn
them except by accident of birth. But my very most favorite ratchet
was found alongside the highway. It cost nothing, it has no sentimental
history, but holds a place of pride in my toolbox, and is the first tool
I reach for when a nut needs to be removed. I don't care what these tools
once cost, but I care very much what they allow me to do. I keep them
cleaned and oiled and carefully avoid abusing them in use, not because I'm
a collector, but because I am a craftsman and they are my life's blood
for accomplishing my tasks.

I view my amateur license the same way. What it cost to obtain is
yesterday's news, only fit to line bird cages. What it allows me to
do today and tommorrow is without price.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

845. Heathkit Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: grandall@phase2net.com
Message-ID: <507cqt$ik@galileo.intercenter.net>
Source record: 102825

I am looking for a Heathkit HW2036A manual or schematic. I will pay
for copying and postage.

Thanks
Gary
KD4VRZ

846. www.hamradio-online.com is now read in 43 countries!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <507tun$qk7@kanga.accessone.com>
Source record: 102826
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

With perhaps the widest distribution of any amateur radio "magazine" in the world, www.hamradio-online.com is now being read in 43 countries around the globe. And its free, self supported by us and you, our readers who contribute great feature stories for this online magazine.

If you haven't paid us a visit, please stop on by and have a look around. There's lots to see - from feature stories all the time, to real-time propagation conditions, auroral conditions, meteor scatter info, disaster situation reports, newsletters from amateur organizations throughout the world, and our vast library of nearly a year's worth of online articles. And we allow reprinting of almost everything in club newsletters and other non-commercial publications and web sites (please see our reprint policy, online).

And watch for more cool stories and new features over the coming months. We already have a great line up of stories for September and October - and we plan to add some neat Java-based features as well.

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

847. Re: HELP: Antenna Tuner Design Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: Avatar <avatar@frii.com>
Message-ID: <3227995B.1@frii.com>
Source record: 102827
Cross-posted to: rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Michael Neidich wrote:
>
> Need a schematic/parts list to build a receiving antenna
> tuner/preselector 10-25 MHz, mostly to reject interfering out of band
> signals. Point me in the right direction if there is a good commercial
> unit, please.
> Mike

Any recommendation would be suspect without the advisor knowing more
about your setup.

1. Does your receiver have a 50 ohm or Hi-Z input?
2. What type of antenna and feedline are you using?
3. Are you adept at building electronics equipment?
4. How much are you willing to spend for a tuner?

848. Re: buliding a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <3227C6EC.151B@wenzel.com>
Source record: 102828

Instead of NPO capacitors, try capacitors with large negative temperature coefficients (N1500, etc...N1500 means -1500 PPM per degree C). I'll bet that the frequency of your oscillator drops when the temperature increases and a negative temp-co capacitor will push it in the correct direction. This temperature coefficient will be largely linear and a properly chosen capacitor will greatly improve the stability. If you are using a varicap diode for modulation, you could consider applying a correction voltage to it in addition to the audio. The process of finding the right value of temp-co capacitor or compensation voltage can be quite instructive! Another approach is to ovenize the whole circuit by placing it in a copper can with a proportional temperature controller. A simple controller is used in my water barometer in our technical library at www.wenzel.com. Let me know if you have any trouble finding parts including compensation capacitors or thermistors.

Charles

849. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-30 00:00:00 UTC
From: hipiket@aol.com
Message-ID: <508a7g$ion@newsbf02.news.aol.com>
Source record: 102829

It was suggested to me that the RCA 833A was a poor tube choice for operation above 10 MHz, due to internal lead length and "tube structure". I guess that latter refers to interelectrode capacitance or possibly even transit time. Since the length of the lead from K to the input transformer will be on the order of 0.2% wave on 15 meters, I don't think that will be much of a problem. The plate lead will be shorter still and the grid lead shortest of all. Interelectrode capacitance is 12.3 pF for Cin and 8.5 pF Cout. These values are especially reasonable when you consider that the push-pull input circuit will place the capacitance of the two tubes in series while the parallel arrangement gives the sum of the tube Cinput. I don't think I'm gonna worry about the transit time.

True, while I write this in hundreds of small towns high school football games are being modulated and transmitted by 833A's in little Standard Broadcast stations. But for operation at 21 MHz they should compare favorably with the 4-400A or 3-500Z.

I thought distortion bore an inverse relationship to conduction angle and this is effectively 360 degrees in an class AB push-pull amp whereas the plate current is cut off during the negative peaks with a single-ended amplifier. So I think that I will have a reduction of of odd harmonics, but not as much as even order products.
Current sharing should be less of a problem...

But getting away from these Mason jars I intend to use and to the original question. Does anyone think that there is an increase in efficiency in the plate coil above 14 MHz with a plug-in coil design? I sense that there is an advantage in not having the turns that are used for 160 to 40 doing who knows what on the upper bands. Anyone have any thoughts on this?

I thank all for the knowledge shared here and urge you get in your shack and build something. You can build better and cheaper than you can buy if you just do a little research and a lot of scrounging and planning.

73 de AC4AQ

850. Re: Microwave Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDwzHKs.HHM@netcom.com>
Source record: 102734

Tom Bruhns (tomb@lsid.hp.com) wrote:
: Get ahold of the HP Communications Components catalog. The
: HSCH-9101 GaAs Beam Lead Schottky Barrier Diode is rated for
: use through 44GHz and I'd be surprised if you couldn't get

What about a common LED? I've been told that GaAs LEDs could be used for rf purposes successfully at microwave frequencies. Is this true? Maybe they wouldn't be suitable for HP instruments but perhaps they would be acceptable for the home experimenter. Comments anyone?

tgm@netcom.com

851. Re: Source for 0.05 Ohm Resistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDwzHxs.Hz4@netcom.com>
Source record: 102735

Steve Wolf (no8m@apk.net) wrote:
: Trying rec.radio.amateur.homebrew as the post to equipment resulted in
: nothing but blank stares.

Why don't you build your own? Check out the copper wire table in the ARRL manual. Choose a suitable gauge of wire and cut the appropriate length. If inductance is not a problem you could wind it on a coil form. Or how about paralleling some 0.1 ohm or 0.5 ohm resistors, both common values. I've successfully made amp meter shunts using the wire table as a guide.

tgm@netcom.com

852. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDwzIJo.IyM@netcom.com>
Source record: 102736

W8JI Tom (w8jitom@aol.com) wrote:
: For linear amplifier operation, you neeed to set the impedance for a
: conjugate match at the maximum power output level, and then reduce drive.
: You will be darned lucky if the devices allow a 4:1 ratio to be enough for
: good linearity and safe power dissipation.

For new designs I thinks power MOSFETs are less trouble. I believe they
have been used successfully to implement commercial low power AM broadcast
transmitters. The circuits I've seen ran about 10 or 12 MOSFETs in parallel.

853. Re: Modern digital versus SSB and Morse (was Re: Commercial CW use)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: Tovar <tvr@alive.com>
Message-ID: <3227C227.2781@alive.com>
Source record: 102737
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Kent Farnsworth wrote:
>
> Gary:
>
> I have to agree with you wholeheartedly, in your discussion!
>
> I currently have a prototype SSB radio modem operating at 115kb. It
> blasts data. It doesn't support voice, though.
>
> Kent

Details, please! How about a WWW describing what you're doing, and
how things are proceeding.

-- KD6PAG (networking old-timer, RF newbie)

854. Re: Need ballast tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: Arthur Nelson <Bigdad@rworld.com>
Message-ID: <3227EB27.6450@rworld.com>
Source record: 102738

Mark B. Dittmar wrote:
>
> I am looking for a 60*92 ballast tube for an old receiver. Does
> anyone know of a source for ballast tubes ? Any suggestions would be
> appreciated.
>
> Mark Dittmar, WD8PCE
> mdittmar@ix.netcom.com

Try Fair Radio Sales in i believe its Lima Ohio...they may have some

855. Re: Homebrewing for the less-than-affluent (was: "Commercial CW use")

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: joe@vantage.demon.co.uk
Message-ID: <841476129.13325.0@vantage.demon.co.uk>
Source record: 102739

Tovar <tvr@alive.com> wrote:

>So what are my options? Is there much that one can do in the RF realm
>without a lot of money or learning CW first? [And, though i continue to
>try, CW advocates should take note of a mild head injury that has
>affected
>my short-term memory, my hardwriting under stress, and causes me to make
>strange typos and mix words up. That, at best, makes that even more
>difficult than when i was of the age that learning foreign languages is
>considered easy.]

Hi Tovar,

First of all, good to see someone with the guts to keep at the CW when there's a real difficulty to get around; I salute you and wish you luck!

I know what you mean about the money situation; my business recently took a hammering and so I'm now trying to get back on the air on a shoestring; fortunately some years ago I'd boughtn some test gear. Do you ever visit shows or local rallies? Over here in the UK you can pick up bits of functional older test gear. Also, any club will have people who can help with access to test equipment.

Get involved in a local club and see if you can organise 'Testing Nights' where club members with the kit and expertise could help other members test their homebrew stuff? In return, you could provide 'digital technology' sessions where you give information out on your specialist areas?

Just a few thoughts

73s

Joe, G0RNC
There's only one decision to make;
get busy living or get busy dying.

Andy Dufresne, The Shawshank redemption.

856. Re: buliding a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: joe@vantage.demon.co.uk
Message-ID: <841476464.13325.1@vantage.demon.co.uk>
Source record: 102740

lleduc@bak2.lightspeed.net wrote:

>My neighbor teaches an electronics class at a local high school and
>has asked for my advice. His students build projects for class and a
>popular one is a low power FM (88 to 108 MHZ) transmitter that meets
>FCC requirement. Most of the circuits available offer poor performance
>being a simple LC oscillator with no buffering. He would like to find
>a circuit that offers good stability and sound. He would also like to
>avoid using a PLL or XTAL multilpier approach as this is beyoun the
>scope of his class.

>The audio section is not a problem. I simply used an OP-AMP for this
>stage. It's the RF section that's the challange. I've built prototypes
>using the classic Collpits configuration and NP0 or C0G caps but
>haven't quite got the stability nailed down.

>While I realize this group is primarily for Ham's, I'd like to pick
>your brains on this one.

>Thanks.

Hi,

A multiplier approach needn't be too horrible; I've set tem up with a
dip meter and a scope and I would have thought that a couple of stages
would be adequate.

As to an LC set up with maximum stability, the main things to remember
are:
Get a good VHF transistor.
Isolate the oscillator from theaerial by a single stage buffer and
minimise aerial loading.
Stable power supply; watch using Zeners as the capacitance can
sometimes impact on the oscillator unless it's isolated by a choke
from the oscillator surcuit.
Consider etching the inductance on a PC board?
Use varicap tuning rather than a VC?

Hope this helps

Joe, G0RNC

There's only one decision to make;
get busy living or get busy dying.

Andy Dufresne, The Shawshank redemption.

857. Re: Heathkit Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: bbennett@smartt.com
Message-ID: <32282118.2123839@news.smartt.com>
Source record: 102741

On Fri, 30 Aug 1996 18:44:43 GMT, grandall@phase2net.com (Gary
Randall) wrote:

>I am looking for a Heathkit HW2036A manual or schematic. I will pay
>for copying and postage.
>
>Thanks
>Gary
>KD4VRZ

The Manual Man, Pete Markavage MAY have it
(He had a manual for my old TX-1) You might want to give him a try.
The Manual Man
Pete Markavage
27 Walling St.
Sayreville, NJ 08872
908-238-8964
I hope this helps

Brian
VE7IJQ

858. Re: Wanted - SC connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: news@connect.mv.com
Message-ID: <Dx09CC.76u@mv.mv.com>
Source record: 102742

davek@medphys.ucl.ac.uk (Dave Kirkby) wrote:

All of what ou are looking for are available.
Please contact tech support for assistance with specifications etc.

Connectors Unlimited

>Someone tells me that SC connectors have been available readily at rallies in the
>UK. Does anyone who is selling them ?

>I'm looking for some N to SC adaptors, plus some SC connectors for a decent coax -
>LDF 450 or LDF 550.
>---
>Dave Kirkby G8WRB.
>Dept of Medical Physics,
>University College London,
>11-20 Capper St,
>London WC1E 6JA
>Tel: 0171-209 6406
>Fax: 0171-209 6269
>

859. Case paint for Kenwood TS-940

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: Dave Skarbowski <skarbows@ptd.net>
Message-ID: <32284CFE.2FC373C2@ptd.net>
Source record: 102743
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Has anyone found a suitable source for the case and
front panel paint on Kenwood HF gear? I have a
relatively late S/N TS940 with scatches on the case
and the outer rim of the front panel and I'd love
to refinish them. The case finish looks like it would
be tough to match as it's a textured (splattered?)
finish. The front panel rim is just a plain semi-gloss.
Anybody tackle this sort of thing? Could a local
auto-body shop duplicate these finishes? All suggestions
welcomed.

Dave, n2fam

860. Low TCR variable resistor for RF application?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: nickel@widget.ecn.purdue.edu
Message-ID: <509ndj$cio@mozo.cc.purdue.edu>
Source record: 102744

I'm working on a project that uses a Wheatstone bridge to measure the really fast fluctuations from a resistance-based sensor (the whole fluctuation lasts a few microseconds, and we'd like to see sub-microsecond events during the interval). I make various sensors with different nominal resistances, so I'd like to use a variable compensating resistor that I can "tune in" to balance the bridge.

The relative resistance change from the sensor is small (1000's of ppm full scale), so I would like a stable compensating resistor -- thermal drift is annoying, mechanical noise is deadly.

What kind of variable resistor could I use to select a value from 100 to 1000 Ohms, tunable to about 1 Ohm, stable to 0.1 milliOhm, that's mostly a resistor at 10 MHz?

Thanks for any suggestions,
Dave Nickel
nickel@ecn.purdue.edu

861. SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: marty@trucom.com
Message-ID: <509ter$8ou@thepit.trucom.com>
Source record: 102745

Hello, Folks:

Anyone know of any sources for homebrew projects for Spread Spectrum?

Take Care & 73

Marty Albert - marty@trucom.com
Amateur Radio: KC6UFM@KC6UFM.#SEMO.MO.USA.NOAM

Heartland Internet Services

****
Are you paying too much for Long Distance?
http://freedomstarr.com/?AL7837318
****

862. FS:HV PS Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <3228C0D0.777B@e-tex.com>
Source record: 102746

Looking for diodes for that big amp PS? These are 25KV and I ran a test
for 4 hours at 1.38 amps (10 ohm resistor and diode across 13.8 VDC).
$10 each or build a bridge for $35 (four diodes) plus $3 priority mail.

73 de Pete WA5JCI

863. Re: Low TCR variable resistor for RF application?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <50a9n9$agt@hpscit.sc.hp.com>
Source record: 102747

In article <509ndj$cio@mozo.cc.purdue.edu>,
David A Nickel <nickel@widget.ecn.purdue.edu> wrote:
>I'm working on a project that uses a Wheatstone bridge to measure the
>really fast fluctuations from a resistance-based sensor (the whole
>fluctuation lasts a few microseconds, and we'd like to see
>sub-microsecond events during the interval). I make various sensors
>with different nominal resistances, so I'd like to use a variable
>compensating resistor that I can "tune in" to balance the bridge.
>
>The relative resistance change from the sensor is small (1000's of
>ppm full scale), so I would like a stable compensating resistor --
>thermal drift is annoying, mechanical noise is deadly.
>
>What kind of variable resistor could I use to select a value
>from 100 to 1000 Ohms, tunable to about 1 Ohm, stable to 0.1 milliOhm,
>that's mostly a resistor at 10 MHz?
>
>Thanks for any suggestions,
>Dave Nickel
>nickel@ecn.purdue.edu

Coincidentally, we have a very similar requirement here at HP
for the same thing. BTW, in addition to your requirements, we
need low reactance; I don't know if that applies to you as well.
Of course, a PIN diode comes to mind. Since both of us only
need to change a fraction of a %, one thing that comes to mind
is to put matched PIN diodes in both legs of the bridge, and
vary them differentially (or just hold one constant). The drift
should cancel pretty well as long as you run substantially the
same current in each.

If anyone else has any thoughts on this, I would greatly
appreciate hearing about them.

Rick Karlquist N6RK
Hewlett Packard Santa Clara Division
rkarlqu@scd.hp.com

864. Re: Source for 0.05 Ohm Resistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <3228C932.14E5@apk.net>
Source record: 102748

Thomas G. McWilliams wrote:
>
> Steve Wolf (no8m@apk.net) wrote:
> : Trying rec.radio.amateur.homebrew as the post to equipment resulted in
> : nothing but blank stares.
>
> Why don't you build your own? Check out the copper wire table in the
> ARRL manual. Choose a suitable gauge of wire and cut the appropriate
> length. If inductance is not a problem you could wind it on a coil
> form. Or how about paralleling some 0.1 ohm or 0.5 ohm resistors, both
> common values. I've successfully made amp meter shunts using the
> wire table as a guide.
>
> tgm@netcom.com

The wire wouldn't stand the current.

The power supply is rated at 35 amp intermittent/30 amp
continuous. 35/4= about 9 amps. The voltage drop would be about
9 * .05 or .45 volt. The wattage would be .45 * 9 or about 4 watts.

That's assuming that the current is equally distributed.

Note also that I received a number of responses that indicated that
others have replaced the resistors. The resistors also act as fuses.

There is some extra room but a 5w 5% resistor is a pretty small package.
Winding number 10 wire won't make it, hi hi.

Nichrome wire would not have a stable resistance between 0 and 9 amps.

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

865. unsophisticated question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: george.tamayo@infosoftpub.com
Message-ID: <72423407@infosoftpub.com>
Source record: 102749

I have a question for you all re antennas...
It has been my experience that there are times when all of the technical
theorygoes out the window and I have better luck using the biggest chunk of
metal I can find.............does anyone else find this to be true? <g>
***
George M. Tamayo - WD6EJO
---
* PowerAccess 1.50 C code. C code run. Run code, run.

866. Re: coils for direct conversion receiever using NE602

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <50833v$1td@opal.southwind.net>
Source record: 102830

In article <321CFB19.78C5@netwit.net.au>, lozmal@netwit.net.au says...
>
>I am interested to know if anybody is building or has built reveivers using
the ne602 device.
>
>I am particularly interested in the design of rf and oscilator coils for such
devices and am interested in any
>design specifications any one can submit.
>
>EG preselector coils homebrew if coils home brew socilator coils home brew.
>
>I would like to put together a database of designs that could be shared
widely.

I am begining the design of a superhet tranceiver for 20M. Due to cost and availablity, I have chosen to use the ne602 for my mixers/(de)mods. Most of the information that I have has come from various amateur texts however once the actual projects gets underway (hopefully within a month) I should have some data available that I have collected. You can watch my web site for my notes and info available (I'm just setting it up so it's a little sparse.

http://www2.southwind.net/~zclobes/electron.html

Good luck and I'd be interested in taking a look at any info you may have.

Thanks,
Zack, AA0XQ

867. Re: Grid Dip Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <5083n9$1td@opal.southwind.net>
Source record: 102831

In article <DwyDJ2.C5E@actcom.co.il>, innovative_technologies@actcom.co.il says...
>
>Hello All,
>
>We're looking for one of these useful gadgets that were once popular
>amongst radio amateur home brewers. We're looking for a solid state
>portable unit. Can anyone recommend a manufacturer of a low cost unit
>(the Heath company used to offer such a unit, as well as Eico and many
>others), or even offer a used unit? Delivery is for israel.

MFJ makes an "SWR Analyzer" which covers about 1.5-170MHz with digital readouts (they also have a couple of cheaper calibrated-dial units) that measures SWR and also antenna impedance on their higher end model. They also sale an add-on kit for a "grid-dip" which basically consists of a couple of coils and a nice little book. The SWR analyzer sales for approxamatly $200 for the high end and the grid-dip attachment costs somewhere around $30 if I remember right. I bought my grid-dip kit for $5 at a hamfest and I saw an analyzer for about $140 used at a 'fest last month.

Other choices would be the ARRL handbook. It seems like they have at least one schematic of grid-dip meters in there.

Good luck
73's de Zack, AA0XQ

868. Cavity versus microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: jpaulino@planete.NET
Message-ID: <199608310109.DAA09019@unix12.pressimage.net>
Source record: 102832

I'm looking to an original solution for a VHF Repeater.
In France we use a 600Khz Shift and most of the repeater use cavities. I've heard that it was possible to use a more recent solution with microprocessors : By reinjecting the tx signal in the receiver but in phase opposition...
Does anyone have informations about this technic, is it possible to find description of such realizations?

F1TMY op J-Philippe

JPAULINO@Planete.net
PAULINO Jean-Philippe

869. Pye m293 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-08-31 00:00:00 UTC
From: epaige@lds.co.uk
Message-ID: <epaige.18.0002C2E1@lds.co.uk>
Source record: 102833

Hi all
Can anybody help me locate a conversion sheet for the pye m293 am vhf model, I need to retune a couple to 153 mhz . If you can help please email me @ smayer@lds.co.uk

Cheers

Steve g0hkt

870. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <50ak0s$b8v@crash.microserve.net>
Source record: 102750

Marty,

Try the ARRL Spread Spectrum Sourcebook, there is some info on home brewing.

What band are you building in and what are you using it for (data or voice)?
Many IC manufactures (Harris, Motorola, etc) are just coming out with chip
sets for SS. All of these chip sets are for data transmission in the 902 or
2.4 Ghz band but you could up or down convert to the RF band of your choice.
Harris has a site on the WWW...

Have fun, keep up the home brewing!

Steven Kerns N3FTI
Penn Biomedical Support, Inc.

In article <509ter$8ou@thepit.trucom.com>, marty@trucom.com says...
>
>Hello, Folks:
>
>Anyone know of any sources for homebrew projects for Spread Spectrum?
>
>Take Care & 73
>
>
>
>Marty Albert - marty@trucom.com
>Amateur Radio: KC6UFM@KC6UFM.#SEMO.MO.USA.NOAM
>
>Heartland Internet Services
>
>**
>Are you paying too much for Long Distance?
>http://freedomstarr.com/?AL7837318
>**
>

871. Re: buliding a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <3228d2fd.13884911@eskinews.eskimo.com>
Source record: 102751

lleduc@bak2.lightspeed.net wrote:

>My neighbor teaches an electronics class at a local high school and
>has asked for my advice. His students build projects for class and a
>popular one is a low power FM (88 to 108 MHZ) transmitter that meets
>FCC requirement. Most of the circuits available offer poor performance
>being a simple LC oscillator with no buffering. He would like to find
>a circuit that offers good stability and sound. He would also like to
>avoid using a PLL or XTAL multilpier approach as this is beyoun the
>scope of his class.
>
>The audio section is not a problem. I simply used an OP-AMP for this
>stage. It's the RF section that's the challange. I've built prototypes
>using the classic Collpits configuration and NP0 or C0G caps but
>haven't quite got the stability nailed down.
>

Try using an overtone crystal oscillator circuit. They oscillate directly on the desired frequency without any multiplication, using just a single transistor. Information can be found in any ARRL handbook.

73, Bill W7LZP
wrt@eskimo.com

872. Re: buliding a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32293B2B.4306@worldnet.att.net>
Source record: 102752

Bill Turner wrote:
>
> lleduc@bak2.lightspeed.net wrote:
>
> >My neighbor teaches an electronics class at a local high school and
> >has asked for my advice. His students build projects for class and a
> >popular one is a low power FM (88 to 108 MHZ) transmitter that meets
> >FCC requirement. Most of the circuits available offer poor performance
> >being a simple LC oscillator with no buffering. He would like to find
> >a circuit that offers good stability and sound. He would also like to
> >avoid using a PLL or XTAL multilpier approach as this is beyoun the
> >scope of his class.
> >
> >The audio section is not a problem. I simply used an OP-AMP for this
> >stage. It's the RF section that's the challange. I've built prototypes
> >using the classic Collpits configuration and NP0 or C0G caps but
> >haven't quite got the stability nailed down.
> >
> ---
> Try using an overtone crystal oscillator circuit. They oscillate directly on
> the desired frequency without any multiplication, using just a single
> transistor. Information can be found in any ARRL handbook.
>
> 73, Bill W7LZP
> wrt@eskimo.com

Good idea in that no multipliers are needed, but be sure you can swing
the xtal osc far enough to generate the wideband FM needed.

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

873. NTSC>PAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199609011155.VAA13988@oznet02.ozemail.com.au>
Source record: 102753

Hi Ian,

Thanks for your response. All is noted.

However I am a bit of a scrounger (always looking for junk to use)
so I bet I will eventually find something????

A company here in Australia has a NTSC>PAL converter for $AUS89,
not a bad price, well within my cost budjet, however as you pointed out
the point of my origional posting was to look at a homebrew method and
apparently, this is either not available or cost prohibitive.

none the less, thanks again to you, and all those others that responded
(also sent Cc to ham-homebrew).

73 till next time

mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

mobile (014) 803 939 [Australia anyway]

874. Re: Field Strength Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: Rich Griffiths <richg@one.net>
Message-ID: <32298D1A.6B1F@one.net>
Source record: 102754

Hugh Maher wrote:
>
> Some time ago I started collecting parts for a Field strength meter I was
> going to build from a magazine article. This got put aside and now I cannot
> find the magazine article. This meter operated over several decades as I
> recall and used matched diodes for rectification and feedback around an
> op-amp to get linear results down to millivolts. Does anyone recall the
> magazine or year------I think it was QST or 73?
>
> Thanks
>
> Hugh Maher
> N5AVT

I don't recall a magazine article, but I remember FS meter articles in some
of the older handbooks I've got. Unfortunately, all my radio stuff is still
in boxes, as I've just moved from NJ to OH.

If no one else comes up with the article, send me a note. I should have
dug myself out from this mess within the next week or so.

Rich Griffiths W2RG

875. Re: Homebrew Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: Rich Griffiths <richg@one.net>
Message-ID: <32299068.5A9C@one.net>
Source record: 102755

Brian & Jeff Kettell wrote:
>
> Hi! I'm a Tech-Plus looking to get into homebrew, and I was wondering if
> there are any web pages out there that might have a basic intro to
> homebrewing. Any help would be greatly appriciated. Thanks.
>
> 73,
>
> Brian Kettell-KB8ZXX D_vader@bellsouth.net

I don't know about web pages on the subject, but you might do this for
a start:

- Begin with kits. QST seems to have more companies offering kits than
I've seen in a long time. If you don't want mail/phone order, check out
the Ramsey kits available at Radio Shack. They're a mixed bag when it
comes to quality, but you won't go broke doing it.

- Begin collecting catalogs. Sometimes, one of the hardest things about
homebrewing can be finding the right parts.

- Pick up "Hints and Kinks" and other books on tricks of construction.

- Choose a simple project or two from a magazine or handbook and try it.
Learn by doing.

- As you read articles etc., note which components keep popping up over
and over. You'll find that certain ICs, transistors, etc. are much
more popular (at least among Hams), and reducing the jillion options
you'll find in catalogs down to a few very useful options will make
learning easier.

And then, as Cole Porter said: "Experiment!" (Yes, Cole Porter.)

Rich Griffiths W2RG

876. Re: Solid state AM -- collector modulated?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: rdcole@usa.pipeline.com
Message-ID: <50c6dl$lnl@news2.h1.usa.pipeline.com>
Source record: 102756

tgm@netcom.com (Thomas G. McWilliams) wrote:

>W8JI Tom (w8jitom@aol.com) wrote:
>: For linear amplifier operation, you neeed to set the impedance for a
>: conjugate match at the maximum power output level, and then reduce drive.
>: You will be darned lucky if the devices allow a 4:1 ratio to be enough for
>: good linearity and safe power dissipation.

>For new designs I thinks power MOSFETs are less trouble. I believe they
>have been used successfully to implement commercial low power AM broadcast
>transmitters. The circuits I've seen ran about 10 or 12 MOSFETs in parallel.

All AM Brodcast transmitters built today use MOSFETs. As to low power

I guess 1000 Kw is still considered low power ?

Ron

877. Re: Homebrew Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <3229A4A1.18A9@ix.netcom.com>
Source record: 102757

>
> Brian & Jeff Kettell wrote:
> >
> > Hi! I'm a Tech-Plus looking to get into homebrew, and I was wondering if
> > there are any web pages out there that might have a basic intro to
> > homebrewing. Any help would be greatly appriciated. Thanks.
> >
> > 73,
> >
> > Brian Kettell-KB8ZXX D_vader@bellsouth.net

> Brian & JeffAlthough I do not subscribe to "ham-homebrew: Bidirectional mailing list with Usenet group" I noticed it is on Dino's excellent page for "Amateur Radio Related Mailing Lists" at URL:

http://www.cam.org/~dino/hamlists.html

There u can subscribe on-line or here is the info:

Ham-homebrew: Bidirectional mailing list with Usenet group rec.radio.amateur.homebrew
To subscribe: Send mail to listserv@ucsd.edu with text (not subject): add ham-homebrew. For more info: Send mail to listserv@ucsd.edu with text (not subject):help
To post: Send mail to ham-homebrew@ucsd.edu

Not sure what info this will get you -- but for what it may be worth.

73
Rod in San Diego
--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

878. ** New Ham Reflector **

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: ke7gh@primenet.COM
Message-ID: <01BB9815.14BBAE80@ip083.phx.primenet.com>
Source record: 102758

BitBucket is a mailing list (reflector) devoted to
specialized amateur radio communication techniques.

-SSTV, ATV, FAX, APT, DSP
-Packet, Pactor, GTOR, Clover, RTTY
-R/C, Telemetry, Balloons, Rockets, Robotics
-homebrew, modifications, interfacing, widgets, etc

To subscribe:
TO: majordomo@primenet.com
SUBJECT:
BODY: SUBSCRIBE bitbucket

As we encourage the free exchange of ideas, if you pay for
email service by the byte you may want to consider carefully
before subscribing.

BitBucket has NO organizational sponsors (I pay for it myself).

ke7gh@primenet.com
http://www.primenet.com/~ke7gh
majordomo@primenet.com subscribe bitbucket

879. TRW53601 - Data Help ?!?!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: dajd@g8gon.zynet.co.uk
Message-ID: <50cr0c$l69@sol.zynet.net>
Source record: 102759

Hi....

I've bought a SHF PA at a Rally and it's got a TRW53601

I wonder if anyone could help me with any data on this .. Max Power
out..Volts... VCC, etc....

It's driven by a 82005... wonder if you know anything about that either ??

Does anybody know who who makes TRW Transistors, and do they have a Web page ??

Please reply to me directly and to this group... Thankyou. !

--|
|Darren Jefford |Join the ACCU |
|E-Mail : dajd@g8gon.zynet.co.uk|Association of C & C++ Users |
Telephone : +44 (0)1395 264872 |Mail info@accu.org for info.
Visit my Home Page - Redesigned with Java Script
JavaScript Tutorials,Cool Links,X-Files and much MORE !
http://www.geocities.com/SiliconValley/8698/home.html
----

880. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.183027.22364@ke4zv.atl.ga.us>
Source record: 102760

In article <261@wa2soc.ampr.org> n2ucn@wa2soc.ampr.ORG (Charles Curtis) writes:
>> Date: Sun, 25 Aug 96 23:32:47 GMT
>> From: docjim@getnet.com (Jim Gyer)
>> Subject: Why difficult to generate high power at UHF?
>>
>> Yes there are tricks and there are other technologies, but for reasonable
>> cost, power, weight you quickly have to make the compromise you see the
>> commercial equipment coming to. The good news is that less power is needed at
>> higher frequencies. Don't think of antenna size in feet. Think of it in
>> wavelengths. A given antenna area becomes a lot of wavelengths as frequency
>> goes up resulting in more antenna gain. Less power and more antenna gain
>> results in the same radiated signal strength.
>
>Less power and more antenna gain results in the same radiated
>signal strength, but as frequency increases, path loss increases the
>same amount that antenna gain increases (all other factors
>being held constant, including coax loss). So the *same*
>power is required.

Not quite. The misnamed "path" loss contains two factors, both
geometric. The first "loss" is the good old inverse square decline
in power density with increasing distance. This is the same at every
frequency and is merely the geometric consequence of the expanding
wavefront.

The second "loss" is the capture area of the receiving antenna.
For an antenna of constant *electrical* size, "loss" increases with
increasing frequency. The cause of this is also geometric. The physical
area of the antenna declines with increasing frequency (declining
wavelength) for a constant electrical size. Thus the number of square
meters of the signal wavefront it intercepts declines, and the amount
of signal power it captures declines.

But if you keep the antenna a constant *physical* size, the capture
area does not decline with frequency, and the "path" loss does not
increase with frequency.

Both of these "loss" terms implicitly assume an isotropic source.
If the source is not isotropic, but is instead another physical
antenna matching the receiving antenna, things get more interesting.
Now transmit antenna *gain* must be included in the calculation.
This is another geometric effect, modifying the isotropic source
wavefront intensity in one direction at the expense of energy in
other directions. If that direction happens to be that of the
receiving antenna, the square meters over which the receive antenna

captures signal will each have a higher power density, and more signal will be recovered.

So for a pair of antennas of constant *physical* size, "path" loss *declines* with increasing frequency.

As you can see, the "path" really has nothing to do with it. The "path" loss is there in vacuum where there is nothing to attenuate the signal because the "path" loss is really just an artifact of geometry.

Now there can be *real* path losses we have to consider. If the path is not through vacuum, but is through some other medium which *is* lossy, then we can have real path losses. This can be frequency dependent. For example, at microwave there are certain frequencies which are readily absorbed by water vapor. This is *real* path loss because the energy of the wavefront is absorbed and dissipated heating water.

There are also scattering "losses" to be considered. While this is more geometry, the loss is real in the sense the RF energy doesn't wind up in the vicinity of the receiving antenna. At certain frequencies, RF energy is scattered off the molecules in the air. This changes their direction and reduces the amount of energy passing along the straight ray path to the receiving antenna. (But we can use this to our advantage over an obstructed path by using the scattered energy as our signal path. This is called forward scatter propagation.)

Ignoring these two real losses, which are only significant at certain microwave frequencies, however, we see that geometry insists that there is really less "path" loss as we go up in frequency if we keep the transmit and receive antennas a constant *physical* size.

Gary
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Lawrenceville, GA 30244 | |

881. Re: Order!! Please!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.183842.22443@ke4zv.atl.ga.us>
Source record: 102761

In article <9607278411.AA841169132@mails.imed.com> mack@mails.imed.COM writes:
>Folks:
> The last time I looked this group is the Homebrew group whose
>focus is on *building* amateur radio equipment (with an occasional
>polite interuption by those who don't know better). All of the CW vs
>No-code vs Digital modes *does* have a place: it's called ham-policy.
>I am, in fact, interested in this discussion, but this is the *wrong*
>forum!
>
>Could we *please* get back to building radios?

Ah, but what kind of radio do we want to build? Old digital or
new digital? And should we build our old digital radios with
new digital parts or build our new digital radios with old fashioned
analog parts? Decisions, decisions. :-)

Point taken, however, and I'll try to point follow-ups to more
appropriate groups. Please excuse if some of the massive cross
posts go astray from time to time.

Gary
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882. Re: NTSC >> PAL Converter kits/projects????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.191459.22750@ke4zv.atl.ga.us>
Source record: 102762

In article <mzenierDwuz55.5u9@netcom.com> mzenier@netcom.com (Mark Zenier) writes:
>in <199608271018.UAA14560@oznet02.ozemail.com.au>, Mark Aitken wrote:
>: Thanks for your reply. The thing with your suggestion is that it would be ok
>: in the shack, but as I have linked the RF output from the satelitte receiver
>: to the antenna system of the household, via splitter/combiner's, it would
>: not allow me to see the converted PAL in the rest of the house.
>
>: So I need some kit/project/unit that would allow me to tave the VIDEO &
>: AUDIO from the sockets on the back of the satellite RX and then arrive at
>: the required PAL signal, hopefully already RF modulated.
>
>In that case, I'd go with the cheap and sloppy method of setting up
>an NTSC or multistandard monitor and aiming an old camera/camcorder
>at it. Give it it's own channel on your MATV setup, so you can watch
>incoming PAL on another channel, undegraded.
>
>Mark Zenier mzenier@eskimo.com mzenier@netcom.com

That'll work, but you'll get a headache in a hurry from the 10 Hz
flicker caused by the difference in field rates. There are two
ways to cure that. One is to use a CRT with a long persistence
phosphor, but that'll give you trailing on moving objects. Or
you can use a mechanical shutter slaved to a multiple of the
field rate. It should show 360 frames/sec for NTSC. That'll
push the flicker frequency too high for you to notice. We used
to do this with a wheel having a *bunch* of holes in it, spun
with a synchronous motor. Today you might try using a transmission
LCD in front of the camera pickup pulsed by a mulitiple of the
field rate.

Gary
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883. Re: Bandwidth of a 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.185634.22596@ke4zv.atl.ga.us>
Source record: 102763

In article <500b1c$inm@news.ais.net> carl@ais.net writes:
>In <3222D596.25A2@expert.cc.purdue.edu>, Mark <kb9khm@expert.cc.purdue.edu> writes:
>>fiz wrote:
>>> Does anyone know how much bandwidth a 14.4K modem would take up?
>>
>>The bandwidth of a standard phone line is only 3Khz, so it can't
>>be more than that.
>
>True ... However, it's not likely to work over a SSB radio channel
><grin>.

It can, if you nail up a duplex radio link and let the modems
train. You have to duplicate the conditions under which the
modem is designed to operate in order for it to operate properly.
In ye olden days, international telephone links were via pairs of
HF SSB radio channels. Unless you have a SNR of 40 db or better
though, your BER will be high and the modems are likely to keep
dropping into another training sequence.

Now OTOH, I have some 900 MHz duplex radios which are intended
to emulate a Bell standard phone line, and they work just ducky
over an unobstructed path. Even 28.8 kbps modems work fine over
their 3 kHz baseband.

For half-duplex links where the modems can't train, you've
got problems. You have to blow out the bandwidth to make up
for the lack of dynamic equalization, IE fewer bits per baud,
so you don't get much throughput at all in a 3 kHz channel.
If you fall back to MSK, you can get about 1.4 Hz/baud, or
a bandwidth of 20.16 kHz for a 14.4 kb data stream.

If in addition the channel is fading, things get really tough.
You have to add FEC and maybe ARQ to deal with it. FEC eats
bandwidth just as if it were data, so your throughput suffers.

Gary
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884. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.195747.22953@ke4zv.atl.ga.us>
Source record: 102764

In article <509ter$8ou@thepit.trucom.com> marty@trucom.com (Marty Albert) writes:
>Anyone know of any sources for homebrew projects for Spread Spectrum?

Start with the ARRL Spread Spectrum Sourcebook. After you stop
giggling at the FH modified IC2AT, check out the Analog Devices
website for some more modern app notes.

Gary

--
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885. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.215800.23330@ke4zv.atl.ga.us>
Source record: 102765

**********NOTE REDIRECTED FOLLOWUP**********

In article <3221FF95.2FD1@vcd.hp.com> Don Huff <donh@vcd.hp.com> writes:
[snip]
> Why is it that so many folks cannot understand why one would prefer to
>use something considered technologically obsolete? Perhaps they may not
>be amateurs at heart, doing what they love doing. Perhaps they are
>merely driven by the mentality of doing what is "new" or "in", or "the
>latest". Doing this, one puts oneself on an endless treadmill, at the
>mercy of marketing hype, constantly "upgrading" to the "latest", the
>"newest", etc etc ad nauseum. I have run into this when working AMTOR
>and PACTOR in recent years. Many whom I talk with on these modes have
>'upgraded' rigs, computers, controllers, software, endlessly in search
>of the the newest and best. Many do not even know why one mode may or
>may not be "better" than an older one. They just buy it to have the
>"latest". Pity them. They are never satisfied, and never really
>understand what they are buying or why. They are mindless purchasers,
>the consumer mentality, who apparently never get buyer's remorse. They
>are a marketer's dream.

While there are certainly people like you describe who are only chasing status symbols, in fairness there are those who are fascinated with the cutting edge, who want to know all about the latest techniques, every bit and baud, who want to experience the best performance possible. These are people to whom the words "Hilbert Transform", "trellis coding", and "Reed-Solomon" come as easily as the words "straight key" come to you. When they talk about Shannon, they don't mean Del, or the Runaways.

There's a name for this sort of person, it is First Adopter. There's another word which better describes this sort of person, it is *pioneer*. The first amateurs to switch from spark to CW, from AM to SSB, from Morse to Baudot, from RTTY to PACTOR were the same breed. To them, the direst enemy of "better" is "good enough". Their status is never quo. Don't make fun of them, they are the drivers of progress. The rest of us will trail along behind them, following the trail they have broken for us, as time marches on and the formerly exotic becomes the commonplace.

At every step along the road, there will be those left behind. Those who will say "spark is good enough", or "CW is good enough" or "AM is good enough" or "RTTY is good enough". But if they tarry too long, they may find themselves *hopelessly* left behind and unable to catch up with everyone else, or even comprehend what everyone else is doing. They will become alienated from the mainstream, forced to live in yesterday's paradigm, forever, alone.

Like modern day Luddites, they may strike out in a blind rage against
the new ways, or they may find their niche, a sort of radio Amish, where
they can rest content to let the rest of the world speed ahead while
they remain true to old Dobbin and the buggy he pulls. The latter we
can tolerate, even respect, but the former we must fight at every turn
or they'll bring us all down to their spiritually impoverished level.
We can soar with the eagles, or meekly let our wings be clipped and
be forced to grub along on the ground by those jealous of the heights
we have reached.

Gee, I feel like unfurling a banner and shouting "Excelsior!"
Am I alone in being an unabashed cheerleader for progress?
Should we all be hobbled to VT2s and Brass Racers forever?
Or is it past time to move on?

Gary
--
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886. Re: NEW HAM wanting some advice! : -)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep1.225559.23569@ke4zv.atl.ga.us>
Source record: 102766

In article <gradyr-2508962007500001@news.mindspring.com> gradyr@mindspring.com (Grady Russell) writes:
>Was wondering if anyone could point me toward the right direction in
>obtaining schematics and/or kits for a couple of items.
>
>Since I'm a no-code right now (working on it though!) I'd like to work the
>6 meter and some of the MW range.
>
>First off, what about a schematic and/or kit for a 6 meter radio?

Well, most of the excitement on 6m is on SSB. There is activity using FM, and there are repeaters, but that's much like 2m. Most of the Dxing is via SSB, or via one of the modern digital modes, or via CW. The traditional route is to use a transverter to convert up from a HF rig, or if you don't have a HF rig, then transvert down from a 2m multimode. Since a transverter is just LO, mixer, and amplifier, this is usually the simplest route.

The RSGB's VHF DX Book has good transverter circuits.

Now if you don't have a HF rig or a 2m multimode, an old SSB CB set will do. You can either use it to drive a transverter, or convert it to work directly on 6m (probably the better way to go). You can scratch build, but its a bit easier to have a working exciter as a starting point. If you do want to build it all, then the R2 and T2 kits can let you do that with minimum complexity. Providing the on channel VFO is the hardest part of this approach.

73 Magazine had an article on converting a SSB CB to 6m a few years ago. The T2 and R2 kits were described by Rick Campbell in QST. The kits are available from Kanga Products.

Of course if FM will satisfy you, this is trivial to build. There are single IC FM transmitters and single IC FM receivers available. You can get them from Motorola, or scavenge them out of an old cordless phone (they operate on 49 MHz, and it is trivial to move them onto 6m). You'll need to add a power amp to boost the signal up to useful levels.

Motorola has application notes.

Another way to go is a Ramsey kit, but I don't recomend that. It looks like a ham rig, but it doesn't work very well.

>And secondly, what about a schematic and/or kit for a RADAR Gun? I am
>assuming this one is legal of course. Correct me if I'm wrong here! Was
>wanting to build a RADAR gun and clock vehicles,check speeds,etc.

Ramsey offers a kit. It's junk. This is a project where scrounging will really pay off. What you want is the motion detector gunnplexer out of an automatic door opener or alarm system. This has a gunn oscillator in a waveguide cavity and a detector diode. Now all you need to add is a power supply and an audio amplifier and audio frequency counter. The pitch of the audio tone will be directly proportional to the doppler of the moving object. If you use a simple frequency counter with an analog meter movement, use a frequency to voltage IC available at Radio Shack, you can calibrate the meter scale to read out directly in MPH. Add a horm antenna made out of sheetmetal to the waveguide to increase range.

The two volume RSGB Microwave handbook has all you'll ever want to know about gunnplexers and horn antennas. 73 Magazine also had a project for building a speed gun based on a gunnplexer a few years ago. Find a library, or a ham, with a collection of 73.

Gary
--
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Lawrenceville, GA 30244 | |

887. RE:WTB Hardline Connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: mdonohue@renc.igs.net
Message-ID: <322a1d93.11585970@news.igs.net>
Source record: 102767

Hi Brian:

Your messages have been deleted for some unknown reason
at my server. Could you please repost your article or send me the
details. Tnx

Mike VE3DMJ
mdonohue@renc.igs.net

888. FREE: Megalist! Parts, kits, radios, tubes,xtals, accessories SOURCES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <50di50$3a@news1.mnsinc.com>
Source record: 102768
Cross-posted to:
rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave

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ftp://ftp.lehigh.edu/pub/listserv/qrp-l/components/xtals.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/dealers.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/manuals.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt

Additional locations:
http://oak.oakland.edu:8080/pub/hamradio/docs/misc/megalist.
http://qrp.cc.nd.edu/QRP-L/index.html
http://www.nd.edu/~shideg/
http://www.innotts.co.uk/~asperges

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========

Send all additions, corrections and updates to:
brybry@juno.com (Brian Carling, AF4K)

brybry@juno.com
http://www.mnsinc.com/bry/index.html
TRY MY WEB-SITE please!

889. Morse training programs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: mista.moron@mail.link.no
Message-ID: <50dn8q$9qp@lex.zippo.com>
Source record: 102769

I'm considering to get a ham licence, and since this here in No-way means that I have to learn morse, I was wondering if there is any morse training programs for DOS/Windows 3.1 available, preferably PD/shareware.
I also wonder if there is possible to get some kind of automatic morse decoding programs, so I could connect the receiver (and maybe also a transmitter) to the computer (ie. via the soundcard or a simple home-made interface) so I could receive (and maybe also xmit) morse as text on the screen.

Mista Moron
mista.moron@mail.link.no

890. Re: buliding a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDx44Bs.AMu@netcom.com>
Source record: 102770

in <3228d2fd.13884911@eskinews.eskimo.com>, Bill Turner wrote:
: lleduc@bak2.lightspeed.net wrote:
: >My neighbor teaches an electronics class at a local high school and
: >has asked for my advice. His students build projects for class and a
: >popular one is a low power FM (88 to 108 MHZ) transmitter that meets
: >FCC requirement. Most of the circuits available offer poor performance
: >being a simple LC oscillator with no buffering. He would like to find
: >a circuit that offers good stability and sound. He would also like to
: >avoid using a PLL or XTAL multilpier approach as this is beyoun the
: >scope of his class.
: ----------
: Try using an overtone crystal oscillator circuit. They oscillate directly on
: the desired frequency without any multiplication, using just a single
: transistor. Information can be found in any ARRL handbook.

Apparently FMing an overtone oscillator through the necessary range
(+/- 75 kHz) is pretty tricky. Don Lancaster did have one example
in his column in Radio-Electronics or Electronics Now magazine several
years back. He reverse engineered the schematic out of one of those
car radio - CD adaptors that Panasonic or Sony sell. Something about
using a tuned cicuit at resonance to magnify the varying reactance, so
instead of just a varying capacitance, it would go both capacitive and
inductive.

I think it was maybe 5 years back, try www.tinaja.com, his web site
to see if he has a reprint on file.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

891. Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: Lars Arvidsson <arvid@plea.se>
Message-ID: <322A587C.79AC@plea.se>
Source record: 102771

Hello, all hams and other!
A friend of mine got this problem, he's
trying to find the dielectric constants for
epoxy resin (Araldite) and silicon sealant (that acetic acid-smelling
stuff that you use for windowsealing)
Anyone got a clue ?
73 de SM4RZW /Lars

892. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: Larry Minnis <wb6vgi@erols.com>
Message-ID: <322A2F32.5AD1@erols.com>
Source record: 102772

W8JI Tom wrote:
>
> In article <1996Aug25.214331@wkuvx1.wku.edu>, scottcr@wkuvx1.wku.edu
> (Chris Scott) writes:
>
> >Anyone done this?
> >
> >WB9NEQ
>
> The contrl grid of the 250 is too fragile, and grid spacings are not
> correct for zero bias GG operation. You can use the tube cathode driven,
> but will still need screen and bias voltages.
>
> The screen must be very well regulated, or IMD will be unpredictable.
>
> Three or four hundred ohms of grid swamping is too high, unless you plan
> on driving the tubes with less than a few watts.
>
> 73 TomBill Orr, W6SAI, has such an amp in his Radio Handbook, 17th edition,
on page682. He has the tubes configured as low-mu triodes. If he says
it can be done, I for for one would believe him. Larry, WB6VGI.

893. Need VOX for KWood TS-50/60?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: Larry Minnis <wb6vgi@erols.com>
Message-ID: <322A342D.6692@erols.com>
Source record: 102773
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I have a Kenwood TS-50 that I haul down to Gitmo, Cuba all the time. I love the rig but have been trying to figure out how to come up with VOX for it. I have a Heil boom set that I use so I can type on the laptop as I talk. The footswitch works, but "walks" around the floor. Well, I've finally found the solution. The ICOM EX-1514 external VOX unit! After getting the schematic from ICOM, a bit research revealed that only minor modifications would be required. This modification requires a rewire of the mike plug on the front of the unit. After carefully checking the pinouts vs wire color, I rewired the mike jack on the unit for a Kenwood radio. Rather than changing attached mike plug and playing with the mike jack on the EX-1514, its easier to just pull all the wires off of the mike jack. I then rewired the jack to look like a Kenwood mike jack. I attached the wires from the vox unit to the mike wires with some small shrink tubing before soldering back to the jack. This keeps you from having to fight with two wires on the same pin on the back of the jack. The VOX unit pulls the required power off of the TS-50/60 mike pin along with the audio needed for the anti-vox circuit. Works great and only minor amount of work with a soldering iron. I'll be testing it out on my next trip to KG4 land starting on the 10th of September. Hope to work you from there. Larry, WB6VGI/KG4ML.

894. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: "Jim.Gyer%1": 2619/211.9;
Message-ID: <fe7_9609062046@woodybbs.com>
Source record: 102774

To: Jim Gyer%1:2619/211.9%12:320/100.666
From: docjim@getnet.com (Jim Gyer)
Subject: Re: What is a Gunn diode ?
Organization: Just my little old self

A device used at the airport to detect weapons?

I disagree with Douglas J. Mar (mar@zoltar.nrl.navy.mil) below. If you plot the voltage across a tunnel diode against the current through it, there is a area where the slope is negative. That is: take two points one described by I1 at V1 and the other by I2 at V2 and solve for resistance using the equation R = (V1-V2)/(I1-I2). The result is negative. This equation will always produce a positive result for conventional resistors. This is not nit picking or playing at semantics - it's a matter of mathamatical definition.

It is also required that the resistance be negative from the following line of reasoning: A normal resistor can only disipate power - it can only produce a loss. No way to get gain out of a resistor. Just as a positive resistance produces loss, a negative resistance produces gain. (That's how the circuits he mentions work. It's just that a tunnel diode does the same thing in a simple two terminal device.) Tunnel diodes produce gain. They can be used as amplifiers. They can also be used in oscillator circuits. To oscilate, a circuit must have at least enough gain to overcome its losses. Since no real circuit can be lossless, and oscilator must contain a gain element.

I think a way to include his point is to realize that all active circuits consume more power than they produce as output. They have less than 100% effiency. (Otherwise we would have perperual motion machines.) The diode consumes real positive power a part of which is disipated in internal (positive) resistance loss and part is turned into output by a negative resistance.

Now, what's a gun diode? Don't know beyond Doug's comment that it's an active device used at microwave frequencies. Gunn is the name of its inventor. Now aren't you sorry you asked?

Best
Jim Gyer KC7RKL (docjim @getnet.com)
==========
mar@zoltar.nrl.navy.mil (Douglas J. Mar) wrote:

>In article <4vjfpn$a89@dfw-ixnews4.ix.netcom.com>, sjnoll@ix.netcom.com
>(Steve J. Noll) wrote:

>> skubi@rodin.inria.fr (Marcin Skubiszewski) wrote:
>>
>> >The subject says it all.
>>
>> >Is there a negative resistance region in these diodes, as in tunnel diodes
?
>>
>>
>> Yes.

>Agreed.

>Nitpick: the term should probably be "negative differential resistance" or
> "negative incremental resistance", for both Gunn and tunnel diodes, since
> the slope of the I-V curve is always positive. The "negative resistance"
> region is that over which the resistance _decreases_ for increasing bias,
> but it still remains positive. (It's possible to use active devices to
> construct a negative resistance (or impedance).

>Gunn diodes are used in oscillators at microwave frequencies.

>DM
>+---+
>| Douglas J. Mar mar@zoltar.nrl.navy.mil |
>| Materials Physics Branch, Code 6343 202-767-6244 (office) |
>| Naval Research Laboratory 202-767-6295 (lab) |
>| 4555 Overlook Avenue SW 202-767-1697 (fax) |
>| Washington DC 20375-5000 Bldg 3, Room 409 |
>+---+
>| The views expressed above do not necessarily reflect those of U.S. |
>| Government, the Department of Defense, the Navy, or my wife. |
>+---+

Origin: Usenet:Just my little old self (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: Jim Gyer%1:2619/211.9 2:301/249.666
|Internet: Jim.Gyer%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

895. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-01 00:00:00 UTC
From: "Jim.Gyer%1": 2619/211.9;
Message-ID: <fe9_9609062046@woodybbs.com>
Source record: 102775

To: Jim Gyer%1:2619/211.9%12:320/100.666
From: docjim@getnet.com (Jim Gyer)
Subject: Re: HELP: IS PC SWITCHING POWER SUPPLY OK???
Organization: Just my little old self

No problem with switchers per se, but pirateing a computer supply is
not without its problems.

All switchers require a minimum load. In many computer supplies its
the fan. Some assume some minimum load on the mother board. They go
out of regulation or stop oscillating and smoke with less than the
minimum current draw.

My ICOM IC740 has the optional built-in 13.8 volt supply and it works
fine but it was designed for communications.

There is a big difference between 12 volts and 13.8 volts. In the
case of my Radio Shack HTX-202 2 meter handy-talky it's 6 Watts at
13.8 and 5 W at 12.0. That's a 20% drop in power. Most mobile
equipment assumes a vehicle with a running alternator which is where
the 13.8 value comes from.

Best
Jim Gyer KC7RKL (docjim@getnet.com)
==========

bry1@erols.com (Bry) wrote:

>The other bad problem with many of those old switcher power supplies is
>that they generate a lot of RF hash!

>ehoffman@total.net (Big Boy) scribbled:

>|I have a old crap 8088 'tole box' as you can say! With the power supply.
>It's
>|rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
>|(used as a base) 13.8V tranceiver unit. I dont know much of switching power
>|supply technology and i want to know if it's safe. The problem may be when i
>|switch from RX to TX and from TX to RX... could there be a fatal burst of
>|voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
>|those peek?

>|Unfortunately, i dont have an scope to make charge test.

>|E-mail me on that please...

>|Thanks and 73 to all readers

```
>|---------------------------------------
>|"640K will be ok for everyone..."

>|Bill Gates '82
>|---------------------------------------

# Origin: Usenet:Just my little old self (1:2619/211.9)

# Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: Jim Gyer%1:2619/211.9 2:301/249.666
|Internet: Jim.Gyer%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.
```

896. info: CB to 10 conv.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: Rick Perry <kg7a@wolfenet.com>
Message-ID: <322B3D6C.6358@wolfenet.com>
Source record: 102684

To convert a PLL type CB 23 Channel radio to 10 meters, is all you do is replace the Xtal in the PLL and retune? Is there a band plan that is used like the old 73 band plan whch would effect the choice of crystals?
Rick, KG7A

897. Re: Homebrewing for the less-than-affluent (was: "Commercial CW use")

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep2.174434.27234@ke4zv.atl.ga.us>
Source record: 102685

In article <841476129.13325.0@vantage.demon.co.uk> joe@vantage.demon.co.uk (Joe Pritchard) writes:
>Tovar <tvr@alive.com> wrote:
>
>>So what are my options? Is there much that one can do in the RF realm
>>without a lot of money or learning CW first?

Pardon me for following up Joe's message, but the original didn't make it here. Let me address what one can do without learning CW first. In a short sentence, the answer is "anything you wish outside of HF." Current regulations limit you to only receiver, accessory, and antenna projects for HF if you don't pass a Morse test, IE no transmitting. While those things are interesting in and of themselves, they're more SWL than amateur radio. Above 30 MHz, however, the whole world of amateur radio is open to you.

With little money and little or no test equipment, the easiest projects revolve around FM equipment. The receivers are easy because they run wide open hard limiting. So they are easier to tame and tune up than SSB/CW receivers. And most of the guts are available as a chip or two. FM transmitters are similarly easy, just a carrier source with a varactor across the oscillator fed by a mic preamp. Simple, almost foolproof. For both FM receivers and FM transmitters, your ears are the most important piece of test equipment. You tune them until they sound good. Simple.

Of course there is more to it than that if you're shooting for high performance, but you can certainly build equipment adequate for local use with little in the way of tools and test equipment. Even for high performance, a pulsed noise source is easy to build, and about as useful as a $20,000 network analyser for tuning up a preamp. You don't have to memorize an arcane coding either, plain language English will do.

At 70cm and above, it gets even simpler. Most designs can use printed lines for the tuned circuits. These "no tune" radios are almost foolproof. Solder on the MMICs and DBMs and start operating.

At microwave, your primary tools are saws, files, and very finely marked rulers. For most projects, exotic test equipment isn't needed. You can have a 10 GHz station on the air in an hour if you happen to have a utility audio amplifier lying around. It'll be useful up to 1/4 to 1/2 mile. You can have an even better station if you happen to have an old portable broadcast FM receiver lying around. That'll give you enough gain and

selectivity to work 10s of miles over the right terrain using
the gunnplexer and a simple dish made from an ordinary snow
coaster, a big kitchen pot lid can be made to work too.

Homebrew gets *easier* as you go up in frequency. Since low
power is plenty for line of sight, costs are low too. HF
circuits are a pain in the butt to work with, save them
until you have more experience. Get up where the waves
are ultrashort and the building is easy. And remember
that with FM there is no static at all.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

898. Re: Homebrewing for the less-than-affluent (was: "Commercial CW use")

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <50fjmn$33j@news1.mnsinc.com>
Source record: 102686

Tovar <tvr@alive.com> scribbled eloquently:

|Gary Coffman wrote:
|>
|> If you look at the pictures of foreign stations in QST and CQ, you'll
|> see the same sort of Japanese transceivers found in most US amteurs'
|> stations. It is rare indeed to see a homemade station, and when you
|> do, it usually turns out to be quite elaborate (read expensive). That's
|> because most foreign amateurs, just as most US amateurs, only homebrew
|> because they *want to*, and not because they have to. It usually isn't
|> cheaper to build a quality station than it is to buy one.
|>
|> Some amateurs in the US and elsewhere *choose* to build and operate
|> cheap CW stations of marginal performance, but in almost every case
|> it *is* a choice, and not done by necessity. Homebrewing is great.
|> It is fun and educational. But it isn't a viable route for those
|> in dire poverty to enter amateur radio, even if they had the leisure
|> time to do so (which they almost certainly do not).
|
|I am painfully aware of this right now. It seems that you need access
|to test equipment if you're going to do much more than the simplest QRP
|rig, which seems to make it out of the question for a no-code tech.
|I've
|built my own packet modem, battery charger (switchable between NiCd and
|gel-cells), two logic probes, numerous attempts at dual-band antennae
|(with a fixed-station winner described to me over the air by WA6TVM, and
|my preferred mobile described over coffee by N6FRI), two headset mikes,
|a 2 meter "tin can" filter, various other projects which don't work well
|enough to mention, and homebrew AX.25 and APRS software. Maybe i could
|build a Ramsey transciever or a Hamtronics receiver/exciter, but without
|an elmer with a scope and/or spectrum analyzer, the most that i can do
|in the RF realm that i could use would something like a 10 meter
|receiver
|for RS10/11. Otherwise, i have no way of knowing if i'm complying with
|Part 97. I've looked on the WWW at (but not asked about) local clubs
|for folks who could help me get started in RF, but so far i haven't seen
|anything encouraging yet.

OK, then here's something that will help encourage you!
Check out the sources in MEGALIST.TXT available from my Web Site at:
http://www/mnsinc.com/bry/index.html
E-mail: brybry@juno.com
http://www.mnsinc.com/bry/index.html
TRY MY WEB-SITE please!
See if I look as ugly as you would expect!

899. HamComm Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <322B89BE.1791@concentric.net>
Source record: 102687

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Take a look at http://www.cris.com/~n9zle/hc.html
mailto:n9zle@concentric.net
I will also be at the Louisville Hamfest Sept 7-8

900. Re: Cavity versus microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <50fv66$9gm@newsbf02.news.aol.com>
Source record: 102688

In article <199608310109.DAA09019@unix12.pressimage.net>,
jpaulino@planete.NET (Jean-Philippe PAULINO) writes:

>heard that it was possible to use a more recent solution with
microprocessors
>:
>By reinjecting the tx signal in the receiver but in phase opposition...
>Does anyone have informations about this technic, is it possible to find
>description of such realizations?

Not by using micros, but isn't this sort of like how the rat-race or ring
duplexers work? What about the noise (uncorrelated)? Brute force
filtering is still required, me thinks.

A digital solution to an analog problem is never a good idea. (Any Bob
Pease, Pease's Porrige, fans out there?)

KE1C Pat

901. Re: info: CB to 10 conv.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960902194309.29147I-100000@primeline.net>
Source record: 102689

That is pretty well it, just be sure to change th crystal that converts
the vco output to the input on the PLL ic.

Gary Tait , VE3VBF

On Mon, 2 Sep 1996, Rick Perry wrote:

> To convert a PLL type CB 23 Channel radio to 10 meters, is all you do is
> replace the Xtal in the PLL and retune? Is there a band plan that is
> used like the old 73 band plan whch would effect the choice of crystals?
> Rick, KG7A

902. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50g8h2$e7j@newsbf02.news.aol.com>
Source record: 102690

Hi Hipiket,

In article <508a7g$ion@newsbf02.news.aol.com>, hipiket@aol.com (Hipiket) writes:

>It was suggested to me that the RCA 833A was a poor tube choice for
>operation above 10 MHz, due to internal lead length and "tube structure".
>I guess that latter refers to interelectrode capacitance or possibly even
>transit time.

It's a problem of self-resonance in the internal structure. The grid capacitance, along with inductance from the long grid structure and single grid lead, lowers the self neutralizing frquency of the tube. This makes the tube unstable at lower frequencies.

Examples of this can be found by looking at the parasitic suppression methods required to stabilize various tubes. Tubes with long single grid leads and large grids like the 811 or 572 require large suppressor inductance, while tubes with compact grids (ie 8877) and coaxial grid connections often don't require any suppression at all.

The 833 is the granddaddy of low self-neutralizing frequencies, so stabilizing the tube without overdissipating the suppressor is a chore. That isn't to say it can't be done (I've made sweep tubes work on 6 meters and higher), just that you should be prepared for difficulties above 14 MHz.

>True, while I write this in hundreds of small towns high school football
>games are being modulated and transmitted by 833A's in little Standard
>Broadcast stations. But for operation at 21 MHz they should compare
>favorably with the 4-400A or 3-500Z.

The self neutralizing frequency of a 3-500Z is just under 100 MHz, with a 833A it's around 20 MHz. Imagine using a 3-500Z at 144 MHz. That's what you're up against with a 833A on 28 MHz. You'll find all sorts of regeneration because the anode to cathode feedthrough capacitance will become very high above 7 MHz.

>I thought distortion bore an inverse relationship to conduction angle and
>this is effectively 360 degrees in an class AB push-pull amp whereas the
>plate current is cut off during the negative peaks with a single-ended
>amplifier.

Don't confuse distortion of the RF sine wave with IM distortion of a two tone signal. Distortion of the RF sine wave is indeed less in a push pull RF amplifier, and directly related to conduction angle. Reduced even order harmonics of the driving frequency are the result of reduced RF sine wave

distortion.

On the other hand, IM products are directly related to gain linearity as drive level is varied. Once a power grid tube is biased in conduction at zero drive, very little change in IMD performance occurs with larger conduction angles. Operating an RF amplifier in push-pull does not, as a general rule, change IMD performance a great amount unless regeneration is reduced.

>Current sharing should be less of a problem...

It will be just as much a problem. If one tube is operated in a non-linear portion of its gain curve, it will contribute exactly the same distortion in push pull as it would in parallel. Tube to tube balance will greatly affect harmonic suppression. Remember IMD is caused by non-linearity as the driving signal is varied in amplitude, NOT by non-symetrical reproduction of the RF sine wave. It is possible to have VERY good IMD performance in a single ended PA, in excess of -40dB, even though the conduction angle is just barely over 180 degrees.

If conducton angle was reduced to 120 degrees *per tube* at full drive, and two tubes were used in push pull, IMD would be horrible. It would be little or no better than a single ended amp operated at 120 degree conduction angle. That's because at a certain level of drive, the tube simply quits amplifying. It's not only flat-topping that causes IMD, it's low level clipping. Solid state exciters are good at this, they often have POORER IMD performance at low power levels than at high power levels. If low level non-linearity is a problem, reducing drive levels won't reduce splatter...it will actually make it WORSE as a percentage of peak power. That's one of the reasons asking someone with a NASTY amplifier to "turn it down" sometimes does no good at all.

This is one of the reasons authors should be called to task for suggesting people built tetrode amplifiers that can be driven with ten or twenty watts. The idea of a ten watt drive PA being used with a 100 watt rig is ***stupid*** (in the most polite term).

>But getting away from these Mason jars I intend to use and to the
original
>question. Does anyone think that there is an increase in efficiency in
the
>plate coil above 14 MHz with a plug-in coil design? I sense that there is
>an advantage in not having the turns that are used for 160 to 40 doing
who
>knows what on the upper bands. Anyone have any thoughts on this?

A typical amateur grade multi-band tank circuit only consumes a few percent of the total RF power. By far the largest concentration of loss is in the PA tube. If all tank loss was eliminated, there would be only a few percent improvement. The tube type, and even waveforms in the cathode circuit, affect efficiency much more than eliminating a few shorted turns in the tank.

73 Tom

903. 1KW Solid State Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: Jay Kobelin <pcb4u@ix.netcom.com>
Message-ID: <322BC5B3.4D79@ix.netcom.com>
Source record: 102691

Besides the Motorola design, anyone know a good 1KW output AMP and a possible switching power supply (110-240VAC, 50/60HZ).

Need this equipment for DXpeditions.

Jay
WA2FIJ

904. Re: Help with FOXHOLE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: docjim@getnet.com
Message-ID: <50dct7$g4j@news.getnet.com>
Source record: 102692
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I had a *crystal* radio built from a kit when I was a kid. It too was a boy scout project. The detector was a metal cup about 1/2" deep and also 1/2" diameter. The cup was filled with solder and in the middle of the solder, with a surface sticking above, was a galina (spelling) crystal. It worked great.

Some thoughts. Mine and the razor blade version differ in the detector used. It was much like the razor blade version. Steel is iron with some carbon in it and there are spots where the alloying is not perfect and some carbon crystals exist. This is what you're hunting for when you probe around to find a *sweet spot*. The wire probe is the *cats whisker*. I'm guessing my whisker was phosphore/bronze from its color and springyness. Since it's the other half of the diode, experiment with different materials.

Mine had some added features that will improve the radio described below by Craig (AA0ZZ). If you have more than one strong station you may get them all together. An LC tuning between the antenna and the detector will give a good deal of selectivity. Mine had a coil reminisent of a toilet paper tube wrapped with 3 or 4 inches of maybe #30 enameled wire. A fixed capacitor was in parallel with the coil and a sliding wiper shorted out part of the coil to produce a variable LC. One end of the tuned circuit went to ground the other to the antenna. The antenna also went to the detector. The other side of the detector went to the headphones which returned to ground. Got good volume and good selectivity with a 50 foot overhead wire at my home about 30 miles from the Philadelphia radio stations. It was great fun.

My father told me before tube radios became affordable a good crystal set with the earphone carefully placed in a crystal glass bowl (a punch bowl) gave something loud enough for family entertainment. The crystal glass resonated - don't know if a modern plastic one would work. The other trick was to put the earphone at the small end of the *morning glory* horn found on old acoustic record players. This easily gave room volume.

Good luck
Jim Gyer KC7RKL (docjim@getnet.com)
==========

cbj1@rsvl.unisys.com wrote:

>In article <4rb6f2$b7b@dfw-ixnews5.ix.netcom.com> lewissys@ix.netcom.com(Charles E. Lewis) writes:

>>From: lewissys@ix.netcom.com(Charles E. Lewis)
>>Subject: Help with FOXHOLE RADIO
>>Date: 2 Jul 1996 12:59:14 GMT

>> A few weeks ago, I casually read some posts about making a foxhole
>>radio using a razor blade as a rectifier. Last weekend, I fell into
>>possession of a Gillette double edge blade with a sky blue finish still
>>in the original wax paper. Is this the type I need? If so, can
>>someone give me enough details to make an authentic one? Also, any
>>documentation, anectdotes, or facts that would help to make it an
>>educational display would be appreciated.

>> 73 de KJ5WA

>Charles,

>Yes, you have the right kind of razor blade.

>I made many of these razor-blade radios as a young boy, from plans in a
>Boy's Life magazine. Probably about 1959 or so. They really are amazing.
>NO EXTERNAL POWER! I haven't actually built one for years, but need try it
>again also!

>Here is the basic plan, as I remember it.
>
>
>Top view: (Sorry for crude ASCII drawing...)
> \-|-/ long wire
> \|/ antenna
> RAZOR BLADE |
> +--------------------------+ |
> | / | |
> | Screw A /-/ | Screw B |
> +------|- - - - - -(+) /-/==============(+)-------+
> | | ` /-/ | |
> | | ` lead / | |
> | +------------`-------------+ |
> ----- | |
> / / / | |
> good ground | |
> (water pipe) | |
> | |
> +---------O O-------------+
> Headphones

>1) Carefully buff the double-edge razor blade with a grindstone to remove
>the coating and make it more sensitive.

>2) Mount the razor blade loosely on a board, with a 1/2" screw (Screw A)
>throught the center hole. Put a couple of washers underneath the blade to
>lift it off the board and another washer above the blade.

>3) Take two pieces of insulated bell wire about 5" long and remove a 1" piece
>of the insulation in the center of each of them.

>4) Wrap the bare section of one of the wires around the razor blade screw
>between the bottom washers that hold it off the board. These two pigtails
>will be used for connecting to the headphones and ground.

>5) Put a couple of washers on another 1/2" screw, and mount it (loosely) to
>the board about 1/2" away from the edge of the blade.

>6) Wrap the bare middle section of the other 5" wire around screw B. These
>two pigtails will be connected to the headphones and antenna.

>7) Get a 3/4" piece of pencil lead. I recommend carving up a wooden pencil
>(remember those?) so you can get a good strong piece. Sand one end flat
>(blunt).

>8) Cut a bare piece of bell wire, about 2 inches long. Now wrap one end of
>the wire around the pencil lead about 5 times. (Now you know why the lead
>needs to be fairly "fat".) The lead should protrude from the bottom of this
>little coil of wire.

>9) Mount the other end of this wire to screw B.

>10) Tighten both screws.

>11) Bend the piece of wire holding the pencil lead so that the blunt end of
>the lead rests on the surface of the razor blade with as much surface
>contact as possible.

>12) Connect one of the wires from screw A to a water pipe and one of the
>wires from screw B to a long piece of wire for an antenna.

>13) Connect the other wire from Screw A to one side of the headphones.
>Connect the other wire from Screw B to the other side of the headphones.
>(Sorry, I don't have the specs on the kind of headphones to use; I had a
>cheap pair and they worked fine.)

>14) Listen.

>To tune the radio, carefully wiggle the lead (or wire holding the lead) and
>move it around the surface of the razor blade. Let go when you hear music!
>You should be able to pick up local AM radio stations.

>Have fun! Report back if it works!

>- Craig, AA0ZZ

905. Re: HELP: IS PC SWITCHING POWER SUPPLY OK???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: docjim@getnet.com
Message-ID: <50dhf1$iqk@news.getnet.com>
Source record: 102693
Cross-posted to: rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

No problem with switchers per se, but pirateing a computer supply is
not without its problems.

All switchers require a minimum load. In many computer supplies its
the fan. Some assume some minimum load on the mother board. They go
out of regulation or stop oscillating and smoke with less than the
minimum current draw.

My ICOM IC740 has the optional built-in 13.8 volt supply and it works
fine but it was designed for communications.

There is a big difference between 12 volts and 13.8 volts. In the
case of my Radio Shack HTX-202 2 meter handy-talky it's 6 Watts at
13.8 and 5 W at 12.0. That's a 20% drop in power. Most mobile
equipment assumes a vehicle with a running alternator which is where
the 13.8 value comes from.

Best
Jim Gyer KC7RKL (docjim@getnet.com)
==========

bry1@erols.com (Bry) wrote:

>The other bad problem with many of those old switcher power supplies is
>that they generate a lot of RF hash!

>ehoffman@total.net (Big Boy) scribbled:

>|I have a old crap 8088 'tole box' as you can say! With the power supply.
>It's
>|rated 7Amp at 12 Volts but i'm wandering if i can use it to supply my mobile
>|(used as a base) 13.8V tranceiver unit. I dont know much of switching power
>|supply technology and i want to know if it's safe. The problem may be when i
>|switch from RX to TX and from TX to RX... could there be a fatal burst of
>|voltage? Or peraps with a big cap, like 22 000uF, at the exit i can control
>|those peek?

>|Unfortunately, i dont have an scope to make charge test.

>|E-mail me on that please...

>|Thanks and 73 to all readers

>|---------------------------------------
>|"640K will be ok for everyone..."

```
>|Bill Gates '82
>|---------------------------------------
```

906. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: docjim@getnet.com
Message-ID: <50df7j$hhm@news.getnet.com>
Source record: 102694
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

A device used at the airport to detect weapons?

I disagree with Douglas J. Mar (mar@zoltar.nrl.navy.mil) below. If you plot the voltage across a tunnel diode against the current through it, there is a area where the slope is negative. That is: take two points one described by I1 at V1 and the other by I2 at V2 and solve for resistance using the equation R = (V1-V2)/(I1-I2). The result is negative. This equation will always produce a positive result for conventional resistors. This is not nit picking or playing at semantics - it's a matter of mathamatical definition.

It is also required that the resistance be negative from the following line of reasoning: A normal resistor can only disipate power - it can only produce a loss. No way to get gain out of a resistor. Just as a positive resistance produces loss, a negative resistance produces gain. (That's how the circuits he mentions work. It's just that a tunnel diode does the same thing in a simple two terminal device.) Tunnel diodes produce gain. They can be used as amplifiers. They can also be used in oscillator circuits. To oscilate, a circuit must have at least enough gain to overcome its losses. Since no real circuit can be lossless, and oscilator must contain a gain element.

I think a way to include his point is to realize that all active circuits consume more power than they produce as output. They have less than 100% effiency. (Otherwise we would have perperual motion machines.) The diode consumes real positive power a part of which is disipated in internal (positive) resistance loss and part is turned into output by a negative resistance.

Now, what's a gun diode? Don't know beyond Doug's comment that it's an active device used at microwave frequencies. Gunn is the name of its inventor. Now aren't you sorry you asked?

Best
Jim Gyer KC7RKL (docjim @getnet.com)
==========
mar@zoltar.nrl.navy.mil (Douglas J. Mar) wrote:

>In article <4vjfpn$a89@dfw-ixnews4.ix.netcom.com>, sjnoll@ix.netcom.com
>(Steve J. Noll) wrote:

>> skubi@rodin.inria.fr (Marcin Skubiszewski) wrote:
>>
>> >The subject says it all.
>>

>> >Is there a negative resistance region in these diodes, as in tunnel diodes ?
>>
>>
>> Yes.

>Agreed.

>Nitpick: the term should probably be "negative differential resistance" or
> "negative incremental resistance", for both Gunn and tunnel diodes, since
> the slope of the I-V curve is always positive. The "negative resistance"
> region is that over which the resistance _decreases_ for increasing bias,
> but it still remains positive. (It's possible to use active devices to
> construct a negative resistance (or impedance).

>Gunn diodes are used in oscillators at microwave frequencies.

>DM
>+--+
>| Douglas J. Mar mar@zoltar.nrl.navy.mil |
>| Materials Physics Branch, Code 6343 202-767-6244 (office) |
>| Naval Research Laboratory 202-767-6295 (lab) |
>| 4555 Overlook Avenue SW 202-767-1697 (fax) |
>| Washington DC 20375-5000 Bldg 3, Room 409 |
>+--+
>| The views expressed above do not necessarily reflect those of U.S. |
>| Government, the Department of Defense, the Navy, or my wife. |
>+--+

907. Re: Question abt Push-pull RF Amplifier plate tank circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: "W8JI..Tom%1": 2619/211.9;
Message-ID: <fe4_9609062046@woodybbs.com>
Source record: 102695

To: W8JI Tom%1:2619/211.9%12:320/100.666
From: w8jitom@aol.com (W8JI Tom)
Subject: Re: Question abt Push-pull RF Amplifier plate tank circuits
Organization: America Online, Inc. (1-800-827-6364)

Hi Hipiket,

In article <508a7g$ion@newsbf02.news.aol.com>, hipiket@aol.com (Hipiket) writes:

>It was suggested to me that the RCA 833A was a poor tube choice for
>operation above 10 MHz, due to internal lead length and "tube structure".
>I guess that latter refers to interelectrode capacitance or possibly even
>transit time.

It's a problem of self-resonance in the internal structure. The grid capacitance, along with inductance from the long grid structure and single grid lead, lowers the self neutralizing frquency of the tube. This makes the tube unstable at lower frequencies.

Examples of this can be found by looking at the parasitic suppression methods required to stabilize various tubes. Tubes with long single grid leads and large grids like the 811 or 572 require large suppressor inductance, while tubes with compact grids (ie 8877) and coaxial grid connections often don't require any suppression at all.

The 833 is the granddaddy of low self-neutralizing frequencies, so stabilizing the tube without overdissipating the suppressor is a chore. That isn't to say it can't be done (I've made sweep tubes work on 6 meters and higher), just that you should be prepared for difficulties above 14 MHz.

>True, while I write this in hundreds of small towns high school football
>games are being modulated and transmitted by 833A's in little Standard
>Broadcast stations. But for operation at 21 MHz they should compare
>favorably with the 4-400A or 3-500Z.

The self neutralizing frequency of a 3-500Z is just under 100 MHz, with a 833A it's around 20 MHz. Imagine using a 3-500Z at 144 MHz. That's what you're up against with a 833A on 28 MHz. You'll find all sorts of regeneration because the anode to cathode feedthrough capacitance will become very high above 7 MHz.

>I thought distortion bore an inverse relationship to conduction angle and
>this is effectively 360 degrees in an class AB push-pull amp whereas the
>plate current is cut off during the negative peaks with a single-ended
>amplifier.

Don't confuse distortion of the RF sine wave with IM distortion of a two tone signal. Distortion of the RF sine wave is indeed less in a push pull RF amplifier, and directly related to conduction angle. Reduced even order harmonics of the driving frequency are the result of reduced RF sine wave distortion.

On the other hand, IM products are directly related to gain linearity as drive level is varied. Once a power grid tube is biased in conduction at zero drive, very little change in IMD performance occurs with larger conduction angles. Operating an RF amplifier in push-pull does not, as a general rule, change IMD performance a great amount unless regeneration is reduced.

>Current sharing should be less of a problem...

It will be just as much a problem. If one tube is operated in a non-linear portion of its gain curve, it will contribute exactly the same distortion in push pull as it would in parallel. Tube to tube balance will greatly affect harmonic suppression. Remember IMD is caused by non-linearity as the driving signal is varied in amplitude, NOT by non-symetrical reproduction of the RF sine wave. It is possible to have VERY good IMD performance in a single ended PA, in excess of -40dB, even though the conduction angle is just barely over 180 degrees.

If conducton angle was reduced to 120 degrees *per tube* at full drive, and two tubes were used in push pull, IMD would be horrible. It would be little or no better than a single ended amp operated at 120 degree conduction angle. That's because at a certain level of drive, the tube simply quits amplifying. It's not only flat-topping that causes IMD, it's low level clipping. Solid state exciters are good at this, they often have POORER IMD performance at low power levels than at high power levels. If low level non-linearity is a problem, reducing drive levels won't reduce splatter...it will actually make it WORSE as a percentage of peak power. That's one of the reasons asking someone with a NASTY amplifier to "turn it down" sometimes does no good at all.

This is one of the reasons authors should be called to task for suggesting people built tetrode amplifiers that can be driven with ten or twenty watts. The idea of a ten watt drive PA being used with a 100 watt rig is ***stupid*** (in the most polite term).

>But getting away from these Mason jars I intend to use and to the
original
>question. Does anyone think that there is an increase in efficiency in
the
>plate coil above 14 MHz with a plug-in coil design? I sense that there is
>an advantage in not having the turns that are used for 160 to 40 doing
who
>knows what on the upper bands. Anyone have any thoughts on this?

A typical amateur grade multi-band tank circuit only consumes a few percent of the total RF power. By far the largest concentration of loss is in the PA tube. If all tank loss was eliminated, there would be only a few

percent improvement. The tube type, and even waveforms in the cathode circuit, affect efficiency much more than eliminating a few shorted turns in the tank.

73 Tom

Origin: Usenet:America Online, Inc. (1-800-827-6364) (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: W8JI Tom%1:2619/211.9 2:301/249.666
|Internet: W8JI..Tom%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

908. Homebrew SINAD meter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: "Hugh.Duff%1": 2619/211.9;
Message-ID: <fe8_9609062046@woodybbs.com>
Source record: 102696

To: Hugh Duff%1:2619/211.9%12:320/100.666
From: hduff@ica.net (Hugh Duff)
Subject: Homebrew SINAD meter ?
Organization: ICA Canada

Looking for details on homebrewing a SINAD meter.
Means of display is not important. I'm mainly interested
in the method of sampling so I can process it with a microcontroller.

Comments, Ideas, references to past construction artlicles
appreciated !

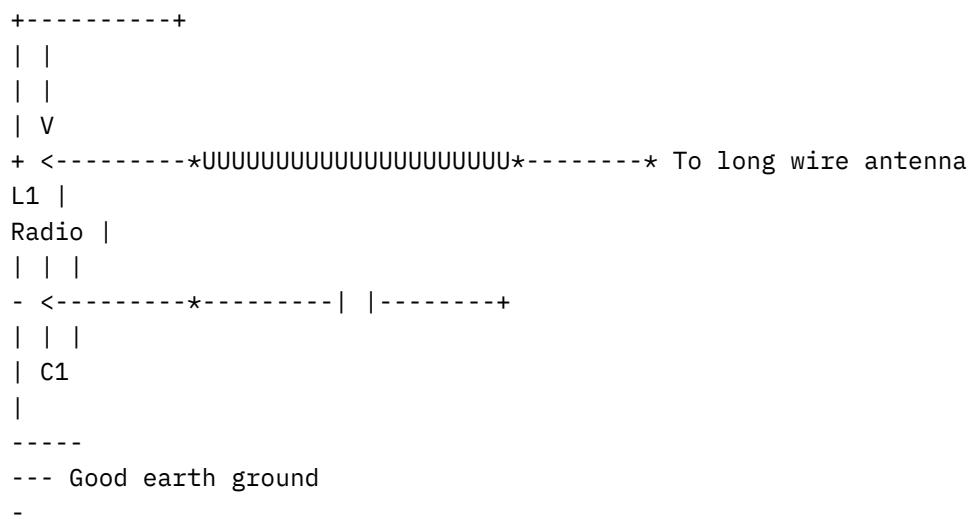
Thanks,
Hugh Duff VA3TO Toronto

Origin: Usenet:ICA Canada (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: Hugh Duff%1:2619/211.9 2:301/249.666
|Internet: Hugh.Duff%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

909. Re: HELP: Antenna Tuner Design Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <50d8rq$bb7@news.Hawaii.Edu>
Source record: 102776
Cross-posted to: rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc



L1: Approximately 30 turns about a say, 2 1/2 inch diameter form
You can vary the inductance via an alligator clip

C2: Variable capacitor, say, 365 pf from a BC band receiver

Start by varying L1 with C1 fully meshed; then adjust C1

Jeff KH2PZ / KH6

910. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: carl@ais.net
Message-ID: <50dc2j$oak@news.ais.net>
Source record: 102777

In <1996Sep1.195747.22953@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <509ter$8ou@thepit.trucom.com> marty@trucom.com (Marty Albert) writes:
>>Anyone know of any sources for homebrew projects for Spread Spectrum?
>
>Start with the ARRL Spread Spectrum Sourcebook. After you stop
>giggling at the FH modified IC2AT, check out the Analog Devices
>website for some more modern app notes.
>
>Gary

Another good point to make about the ARRL ... even when they *think*
they're trying to be progressive, they're at least 5 years behind the
power curve of technology.

But they'll bill themselves as "fostering technological growth in the
amateur community". If it weren't so pathetic, it'd be funny.

Oh well ... the comment has been made that the folks at ARRL couldn't
make it anywhere else ... this illustrates why ... sort of like the old
adage "Those who can do, those who can't teach."

Carl - wa6vse
carl@ais.net

Carl - wa6vse
carl@ais.net

911. Re: Using motorcycle helmet headset/mic with ham rigs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: mlyle@scvnet.com
Message-ID: <50dt30$48e@rocky.scvnet.com>
Source record: 102778

Marty Gulseth <marty_gulseth@hp.com> wrote:
>After a long hiatus, I'm buying another motorcycle. Anyone have any experience with using
>the in-helmet speakers and mics with ham rigs? Any specific brands of helmets or speakers/
>mics that work well, or, should be avoided? I won't do this right away, just investigating
>the prospects. I will probably go with a VHF/UHF handheld on the first pass.

For my Icom W2A, I just bought a standard size speaker mike, took it apart, and mounted the bits in my helmet. I omitted the switch from this installation, of course, so if you just plug the helmet straight into the radio it will immediately xmit.

On the bike, I made a simple harness that plugs into the radio. The earphone circuit feeds straight through to a female mini-stereo in-line jack for the helmet connecter. The mic lead goes through a switch (a flat membrane switch velcroed to the switch housing on the left bar) and on to the helmet plug. The W2A uses a switched mic lead. If the radio sees the mic circuit connected it goes to xmit.

This circuit has worked very well for several years. Several times I have forgotten and exited the bike without unhooking. The stereo mini-plug/jack pulls apart very easily with no damage (a good reason not to panel-mount the jack).

Let me know how it goes...

George Lyle, N7TNJ

912. Remote RX-How TO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: christer.jogenborn@eraj.ericsson.se
Message-ID: <50ekju$sg3@erinews.ericsson.se>
Source record: 102779

Want to assemble a remote controlled RX site.
Looking for ideas on 'how to', that is - what
receivers, interfaces, computer programs, bits of HW, is
available and can be used together to form the remote RX.
Are there previous ham-mag. articles or sites to study?

The idea in general is to use an FM control channel to the
remote RX site, the 'users' need to have DTMF.
The remote RX audio should be availabel on FM audio channel.
No restriction is neccessary on users, although an 'access code'
to activiate the RX should be of interest.
Have ICOM R7 RX, but other RXs can be discussed.
--
Chris SM0NCL

913. Tell me about piss weakers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: TJB94002@UConnVM.UConn.Edu
Message-ID: <177F67FD3S86.TJB94002@UConnVM.UConn.Edu>
Source record: 102780

I understand there is a low power home brew am transmitter building group
out there known as the piss weakers. Can anyone send me information on them?
I would like to put together a low power am transmitter.
Thanks.

914. WTB: RF Power Tubes - Dead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: jim.b@okisemi.com
Message-ID: <jim.b.23.0007CD23@okisemi.com>
Source record: 102781

I want to buy dead power transmitting tubes. Tubes must not be broken or physically damaged. I'm interested in tubes with power dissapations 250 watts to 10,000 watts. Let me know what you have and I'll give you a quote.

73s

Jim Bieberich
WA6WJI
San Jose, CA

915. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep2.125037.25656@ke4zv.atl.ga.us>
Source record: 102782

In article <50dc2j$oak@news.ais.net> carl@ais.net writes:
>In <1996Sep1.195747.22953@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
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>>Start with the ARRL Spread Spectrum Sourcebook. After you stop
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>>website for some more modern app notes.
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>>Gary
>
>Another good point to make about the ARRL ... even when they *think*
>they're trying to be progressive, they're at least 5 years behind the
>power curve of technology.
>
>But they'll bill themselves as "fostering technological growth in the
>amateur community". If it weren't so pathetic, it'd be funny.
>
>Oh well ... the comment has been made that the folks at ARRL couldn't
>make it anywhere else ... this illustrates why ... sort of like the old
>adage "Those who can do, those who can't teach."

That is not fair, Carl. Technical book publishing has a very long
lead time, unlike a penny dreadful true confessions ripoff. Facts
and details have to be extensively checked and confirmed several
times between the author's submission and the final plating. Printers
are notorious for screwing up equations and diagrams. Even authors
make mistakes that aren't caught until late in the process. It is
not unusual for a technical book to be in process for over a year.

(Remember too that the ARRL doesn't assign an editor full time to
a book, except the Handbook, so the editor is doing this in spare
moments between other tasks. And frankly the editor of this book
is spread so thin I don't know how he gets anything done. I respect
his competence, but I also know something about his working
conditions. If I were in his position, I'd quit. Most of the HQ
staff are competent people, but the Peter Principle is definitely
at work at HQ on the upper levels.)

The ARRL depends on amateur authors who write when and what
they feel like writing. They simply don't respond to the same
deadline pressures as professional writers. It may take a year
or more between the decision to do a book and the time the first
author's manuscript arrives on the editor's desk. Allowing for
the in process time, that means the book may take two years

between the time the decision is made to do it and the presses start rolling.

(*If* you have a competent professional writer, and *if* you have an editor who can devote sufficient time to the project, you *can* produce a better book in a shorter time. But that's not the case for ARRL publications in general. Though I must say that there are some gems in the ARRL library. A couple of the net citizens here have written some really nice books for the ARRL.)

Most technical books are behind the curve by the time they hit the book store, at least they are if they are about modern and rapidly evolving techniques such as spread spectrum. This one has been out for a while, so it is no surprise that it lags the SOTA.

That said, this particular book shows inconsistent style, and clear indications of padding. It is a compilation book with a lack of strong editorial direction, IE the editor had to use what he got (there were a number of places where I was screaming "Rewrite!" while I read it). It's pretty obvious that the editor didn't get all the material he wanted and had to pad it out with rehashes of FCC proceedings and the like. (IMHO a third of it could have been cut without losing anything important, though perhaps to someone who hadn't been following spread spectrum issues in amateur radio the background might prove informative.) Still, it is the *only* amateur radio book devoted to spread spectrum, and thus worth reading.

I felt that I got my money's worth out of it for just one circuit idea that I hadn't seen before anywhere else dealing with the clock synchronization problem. And for someone who knows zero about spread spectrum, the book can serve as an introduction (albeit a somewhat confused one due to the compilation nature of the book).

There are some professional level texts out there on spread spectrum, but most of them are dated too, and would daunt many amateurs due to the extensive use of Greek letters and complex equations and lack of concrete circuit examples. For someone with a bit of background in spread spectrum, the chip manufacturers app notes have the best information. But if you don't have the background, you won't understand what they're telling you.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

916. Re: B&W Miniductor or Air Dux coils still made? Any for sale?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-02 00:00:00 UTC
From: cooperjim@aol.com
Message-ID: <50f7l0$s59@newsbf02.news.aol.com>
Source record: 102783

Dave

In the July 1996 QST (page 126) Surplus Sales of Nebraska has an ad
offering B&W Air Dux Coils of a variety of sizes.
The address and phone are:

Surplus Sales of Nebraska
1502 Jones St.
Omaha, NE 68102

1-800-244-4567 to order
402-346-4750 phone
402-346-2939 fax

I have never ordered from them so have no idea of how good they are.

Good Luck
Jim NE6O
CooperJim@aol.com

917. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: carl@ais.net
Message-ID: <50g29b$4kq@news.ais.net>
Source record: 102697

In <1996Sep2.125037.25656@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>That is not fair, Carl. Technical book publishing has a very long
>lead time, unlike a penny dreadful true confessions ripoff. Facts
>
>(Remember too that the ARRL doesn't assign an editor full time to
>
>The ARRL depends on amateur authors who write when and what
>they feel like writing. They simply don't respond to the same
>
I don't see what's unfair about "calling a spade a spade" ... if
you're going to publish stuff purporting to be up-to-date and covering
the latest technology, you should find a way to do it, or forget it,
rather than passing off "yesterday's news" as "what's hot for tomorrow."

>(*If* you have a competent professional writer, and *if* you
>have an editor who can devote sufficient time to the project,
>you *can* produce a better book in a shorter time. But that's
>not the case for ARRL publications in general.

That's what I'm complaining about ... they're charging good money for
outdated stuff and passing it off on the unsuspecting who assume it
"must be great, 'cause it came from the ARRL."

(snipped the part where Gary (pretty much) says that the book was poor
in most respects, but gave him one good idea, and since it's the only
amateur book on spread spectrum, it'll have to do ...)

>There are some professional level texts out there on spread
>spectrum, but most of them are dated too, and would daunt
>many amateurs due to the extensive use of Greek letters and
>complex equations and lack of concrete circuit examples. For
>someone with a bit of background in spread spectrum, the chip
>manufacturers app notes have the best information. But if you
>don't have the background, you won't understand what they're
>telling you.

Agreed about the chip manufacturer's app notes ... isn't that where we
started on this one??? <grin>

I just have problems with the hype from the publishing empire on what
seems to me to be predominantly second-rate, outdated material.
(what's the big surprise? ... I'm obviously not very happy with the ARRL
in most respects ... but there's a lot of that going around)

Carl - wa6vse
carl@ais.net

918. Re: info: CB to 10 conv.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Tovar <KD6PAG@alive.com>
Message-ID: <322B8AF8.41C6@alive.com>
Source record: 102698

Gary Tait wrote:
>
> That is pretty well it, just be sure to change th crystal that converts
> the vco output to the input on the PLL ic.
>
> Gary Tait , VE3VBF
>
> On Mon, 2 Sep 1996, Rick Perry wrote:
>
> > To convert a PLL type CB 23 Channel radio to 10 meters, is all you do is
> > replace the Xtal in the PLL and retune? Is there a band plan that is
> > used like the old 73 band plan whch would effect the choice of crystals?
> > Rick, KG7A

I'm also interested in better information, in order to know what CB rig
to
look for and how to convert it. One article i have found so far that
might
be of help to some is:

http://www.scn.org/IP/nwqrp/archives/nwqapr07.html

from the NWQ Newsletter, April 1996, entitled "Inexpensive 10 Meterp QRP
rigs". This descript older rigs and i might be interested in more
recent
rigs if they are alterable.
-- KD6PAG (Networking old-timer, RF newbie)

919. Copper Cactus

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: kwhite@postoffice.worldnet.att.net
Message-ID: <50fvla$i0e@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 102699

Need help finding plans for building the 2M antenna called the "Copper Cactus". I built one some time ago using plans I'd downloaded from an FTP site somewhere but can't for the life of me, remember where. It used 1/2 inch copper pipe, was simple to build and works like a charm. It may have come from a site in Buffalo.
Any thoughts? Thanks, KE4WIS

920. Homebrew SINAD meter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: hduff@ica.net
Message-ID: <50g4of$3i4@master.ftn.net>
Source record: 102700

Looking for details on homebrewing a SINAD meter.
Means of display is not important. I'm mainly interested
in the method of sampling so I can process it with a microcontroller.

Comments, Ideas, references to past construction artlicles
appreciated !

Thanks,
Hugh Duff VA3TO Toronto

921. Re: Request for info on power inverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.090296.215034.96@puma-d17.syix.com>
Source record: 102701
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

> I would like to build a power inverter for mobile use. I would like
> to be able to convert 12v DC to 120 vac at around 2500 watts output.
> Although I have some experience designing and building regulated DC
> supplies, I am not familiar with inverters.

You want to do WHAT??? You would be pulling about 200+ amps out of your car battery, assuming you could
get transistors to switch that much current. You might do better to get some really large F.E.T.s and run
them in a parallel arrangement feeding a charge pump with synchronous rectifiers (more F.E.T.s) to bring
the voltage up to +/- 160 volts. Then use a switched chopper arrangement to make a pseudo sine wave at 60
Hz with a heavy duty filter on the output. I use a 100 amp police alternator on my car with a SEMI
truck/Tractor battery (1300 CCA) in the trunk and even I would think twice about this. Even with the
engine running and the alternator putting out 100 amps if you talked too much you could still discharge
the battery. Of course by then, everything else would probably suffer a meltdown.

If you want to use strictly magnetics at 60 Hz, prepare for some large amounts of metal. Maybe you could
use high frequency magnetic ferrites at above 100KHz to provide +/- 160 volts and switch it from there but
you are describing one Hell of a project.

All said and done, you might be better off buying a portable gasoline powered emergency generator.

One last item, some years back, Lincoln or somebody like that offered a 120 volt alternator designed for
rear window defrosting, but I don't think it had that much wattage. Some SEMI-truck and Large Caterpillar
alternators will put out up to 250 amps at 12 volts but probably cost a ton of money.

I can offer help, but here I will offer a good luck wish.

Bill Baka, bbaka@syix.com (when I'm not out of town working)!

922. Re: building a stable fm transmitter for high school class

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.090296.220505.91@treasure-d7.syix.com>
Source record: 102702

>
> > >My neighbor teaches an electronics class at a local high school and
> > >has asked for my advice. His students build projects for class and a
> > >popular one is a low power FM (88 to 108 MHZ) transmitter that meets
> > >FCC requirement. Most of the circuits available offer poor performance
> > >being a simple LC oscillator with no buffering. He would like to find
> > >a circuit that offers good stability and sound. He would also like to
> > >avoid using a PLL or XTAL multilpier approach as this is beyoun the
> > >scope of his class.
> > >
> > Try using an overtone crystal oscillator circuit. They oscillate directly on
> > the desired frequency without any multiplication, using just a single
> > transistor. Information can be found in any ARRL handbook.

Lot's of stuff cut out.

Have you tried looking into a tunnel diode or gunn diode oscillator circuit? Due to the reverse impdance
at critical voltage they oscillate, they have to, and I have used tunnel diodes this way before. What you
did not state was what 'good' stability defines. I once made an FM transmitter with about 5 parts that was
good for about 100 feet using a tunnel diode. Problem is that I don't know how easy they are to get
anymore since more modern variants have come along. GUNN diodes maybe, but these are mostly RADAR type
diodes and may be more expensive.

Good luck at any rate.
Bill Baka, bbaka@syix.com

923. Yaesu FT 101ZD HELP...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Eric Vincent <evincent@mediom.qc.ca>
Message-ID: <322BBB8C.2DBA@mediom.qc.ca>
Source record: 102703

Hello, I have the 101ZD rig and I don't know if can do any modifications on the rig... And can I tune the rig
out of band when I put a crystal in the position (xtals 1 or 2), and what is the limit in frequencies when I
put a crystal in the radio.

I don't know what another equipement can I add with the rig (# model), speaker, phone patch,remote
VFO,spectrum and so...

So I don't know if my message is preaty clear, I'm a french Canadian and I don't speak english very well.

If you want conctact me;

Eric Vincent VE2VXT
164, Carignan-Salieres App2
Quebec, Qc
G1L 2E6
Canada

Thank's and 73's from VE2VXT.

924. Re: Low TCR variable resistor for RF application?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <sSKvXFAqb+KyEwk2@ddwyer.demon.co.uk>
Source record: 102704

In article <509ndj$cio@mozo.cc.purdue.edu>, David A Nickel
<nickel@widget.ecn.purdue.edu> writes
>I'm working on a project that uses a Wheatstone bridge to measure the
>really fast fluctuations from a resistance-based sensor (the whole
>fluctuation lasts a few microseconds, and we'd like to see
>sub-microsecond events during the interval). I make various sensors
>with different nominal resistances, so I'd like to use a variable
>compensating resistor that I can "tune in" to balance the bridge.
>
>The relative resistance change from the sensor is small (1000's of
>ppm full scale), so I would like a stable compensating resistor --
>thermal drift is annoying, mechanical noise is deadly.
>
>What kind of variable resistor could I use to select a value
>from 100 to 1000 Ohms, tunable to about 1 Ohm, stable to 0.1 milliOhm,
>that's mostly a resistor at 10 MHz?

I needed a noninductive variable resistor to balance an RF bridge up to
200MHz to measure crystals. The sucessful solution was to temperature
control a thermistor, employing temperature to adjust resistance. Use
NTC thermistor, mount two thermistors and a heater on a block.
Regards

Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,
TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_Precision/

925. Re: FS:HV PS Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Sep3.120955.65113@ucl.ac.uk>
Source record: 102705

In article 777B@e-tex.com, Spencer Petri <spetri@e-tex.com> writes:
> Looking for diodes for that big amp PS? These are 25KV and I ran a test
> for 4 hours at 1.38 amps (10 ohm resistor and diode across 13.8 VDC).
> $10 each or build a bridge for $35 (four diodes) plus $3 priority mail.
>
> 73 de Pete WA5JCI

I am not aware of any power diodes made at 25 kV, which makes me suspect they are in fact more liekly to be a number of diodes in series. If this is the case, the turn-on voltage might be well over the 0.7 V, and so is significant compared to 13.8 V. In that case, the current you used might be well under 1.38 A.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

926. A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Sep3.122355.63222@ucl.ac.uk>
Source record: 102706

I need a resistor of 10 Ohms in series with the anode supply to a tube taking 2A max. Hence the resistor needs to be 40 W. However, in the event of a tube arc, I do not want the resistor to fuse, so it must take the full HT (5kV) for a short time. This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500 kW resistor, so I'm wondering what is the best choice to find a resistor(s) to withstand this without going bang. I have 3 options:

1) Buy one big (say 300 W) resistor at 10 Ohms.
2) Put lots of lower powered resistors in parallel
3) Put lots of lower powered resistors in series.

Any ideas on what is the best bet ? What combination is likely to be able to withstand short duration overloads better, assuming all combinations have the same continuous rating ? My hunch is that one big resistor is not the way to go, since the intense heat cant escape as quickly, but I could well be wrong.

I once saw a book on fixed resistors, and wondered why anyone would write such a book. Perhaps I now wish I had a copy on my bookshelf!

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

927. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Sep3.132157.22006@ucl.ac.uk>
Source record: 102707

In article 63222@ucl.ac.uk, davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
> I need a resistor of 10 Ohms in series with the anode supply to a tube taking 2A
> max. Hence the resistor needs to be 40 W. However, in the event of a tube arc, I
> do not want the resistor to fuse, so it must take the full HT (5kV) for a short time.
> This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500 kW
> resistor, so I'm wondering what is the best choice to find a resistor(s) to withstand
> this without going bang. I have 3 options:
>
> 1) Buy one big (say 300 W) resistor at 10 Ohms.
> 2) Put lots of lower powered resistors in parallel
> 3) Put lots of lower powered resistors in series.
>
> Any ideas on what is the best bet ? What combination is likely to be able to withstand
> short duration overloads better, assuming all combinations have the same continuous
> rating ? My hunch is that one big resistor is not the way to go, since the intense
> heat cant escape as quickly, but I could well be wrong.
>
> I once saw a book on fixed resistors, and wondered why anyone would write such a book.
> Perhaps I now wish I had a copy on my bookshelf!
>
Sorry, I mean the resistor must dissipate 2.5 MW, not 500 kW!

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

928. Stripline 10GHz varactor oscilator design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: paul@wit387304.student.utwente.nl
Message-ID: <slrn52odbb.8gq.paul@wit387304.student.utwente.nl>
Source record: 102708
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hi everyone,

I'm very interested in finding a design for an X-band (10GHz) stripline transistor-source, with a varactor for PLL-ing and frequency modulation. I'm planning to use this as a building block in an X-band AX25-interlink, with a high baudrate (10Mb/s). Postscript-layouts with parts-list would be extremely welcome ;) But also any other information you might have.

Regards, 73, Paul Boven.
--

Paul Boven, <e.p.boven@student.utwente.nl> PE1NUT QRV 145.575 JO32KF
"Read some Kerouac, and it put me on the tracks, to burn a little brighter now" - Torch song, Clutching at straws, Marillion.
---

929. Motorola Expo to Two Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: WCS@Emperor.HandHeld.COM
Message-ID: <18789@Emperor.HandHeld.Com>
Source record: 102709

Text item: Text_1

Has anyone converted the Expo to operation on two meters (voice)?
What is the crystal frequency formulas?

I have a full compliment of test equipment but would love to get any
info available.

Thanks, Bud W4HXP

930. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@larc.nasa.gov>
Message-ID: <322C54C2.263A@larc.nasa.gov>
Source record: 102710

Dave Kirkby wrote:
>
> I need a resistor of 10 Ohms in series with the anode supply to a tube taking 2A
> max. Hence the resistor needs to be 40 W. However, in the event of a tube arc, I
> do not want the resistor to fuse, so it must take the full HT (5kV) for a short time.
> This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500 kW
> resistor, so I'm wondering what is the best choice to find a resistor(s) to withstand
> this without going bang. I have 3 options:
>
> 1) Buy one big (say 300 W) resistor at 10 Ohms.
> 2) Put lots of lower powered resistors in parallel
> 3) Put lots of lower powered resistors in series.
>
> Any ideas on what is the best bet ?

Why won't a fuse work for this? Surely someone must make a high voltage fuse
which could be utilized.

--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

931. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Cliff-s <Cliff-s@worldnet.att.net>
Message-ID: <01bb99b0$a7af54c0$aba4eea5@Pop3.worldnet.att.net>
Source record: 102711

Dave Kirkby <davek@medphys.ucl.ac.uk> wrote in article
<1996Sep3.122355.63222@ucl.ac.uk>...
> I need a resistor of 10 Ohms in series with the anode supply to a tube
taking 2A
> max. Hence the resistor needs to be 40 W. However, in the event of a tube
arc, I
> do not want the resistor to fuse, so it must take the full HT (5kV) for a
short time.
> This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a
500 kW
> resistor, so I'm wondering what is the best choice to find a resistor(s)
to withstand
> this without going bang. I have 3 options:
>
> 1) Buy one big (say 300 W) resistor at 10 Ohms.
> 2) Put lots of lower powered resistors in parallel
> 3) Put lots of lower powered resistors in series.
>
> Any ideas on what is the best bet ? What combination is likely to be able
to withstand
> short duration overloads better, assuming all combinations have the same
continuous
> rating ? My hunch is that one big resistor is not the way to go, since
the intense
> heat cant escape as quickly, but I could well be wrong.
>
> I once saw a book on fixed resistors, and wondered why anyone would write
such a book.
> Perhaps I now wish I had a copy on my bookshelf!
>
> ---
> Dave Kirkby G8WRB
> Dept of Medical Physics,
> University College London,
> 11-20 Capper St,
> London WC1E 6JA
> Tel: 0171-209 6406
> Fax: 0171-209 6269
>
Dave:
How about putting a 5 amp or so fuse in series with the
resistor. If the tube fails it will blow the fuse and not the resistor.

Cliff, W7VVA

932. Re: Request for info on power inverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: bgudgel@eskimo.com
Message-ID: <Dx603B.1L3@eskimo.com>
Source record: 102712
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

William S. Baka, Jr. (bbaka@syix.com) wrote:
: > I would like to build a power inverter for mobile use. I would like
: > to be able to convert 12v DC to 120 vac at around 2500 watts output.

Several inverters already exist for probably a lot less in time, effort, and money than you're talking about, and, yes, we're talking about 250 Amps D.C. for 2500 Watts at 12 Volts. There are also 24 volt inverters that use less current. Some of them also charge the batteries at high currents from 120 VAC.

Some inverter companys are:

Trace Engineering (www.eskimo.com/~trace)

Statpower (Canadian)

Heart interface

Vanner

(more too)

Bob KI7IQ http://www.eskimo.com/~bgudgel

933. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Mark Brown <kb0pyo@starpoint.net>
Message-ID: <322C8502.A35@starpoint.net>
Source record: 102713

Cliff-s wrote:
>
> Dave Kirkby <davek@medphys.ucl.ac.uk> wrote in article
> <1996Sep3.122355.63222@ucl.ac.uk>...
> > I need a resistor of 10 Ohms in series with the anode supply to a tube
> taking 2A
> > max. Hence the resistor needs to be 40 W. However, in the event of a tube
> arc, I
> > do not want the resistor to fuse, so it must take the full HT (5kV) for a
> short time.
> > This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a
> 500 kW
> > resistor, so I'm wondering what is the best choice to find a resistor(s)
> to withstand
> > this without going bang. I have 3 options:
> >
> > 1) Buy one big (say 300 W) resistor at 10 Ohms.
> > 2) Put lots of lower powered resistors in parallel
> > 3) Put lots of lower powered resistors in series.
> >
> > Any ideas on what is the best bet ? What combination is likely to be able
> to withstand
> > short duration overloads better, assuming all combinations have the same
> continuous
> > rating ? My hunch is that one big resistor is not the way to go, since
> the intense
> > heat cant escape as quickly, but I could well be wrong.
> >
> > I once saw a book on fixed resistors, and wondered why anyone would write
> such a book.
> > Perhaps I now wish I had a copy on my bookshelf!
> >
> > ---
> > Dave Kirkby G8WRB
> > Dept of Medical Physics,
> > University College London,
> > 11-20 Capper St,
> > London WC1E 6JA
> > Tel: 0171-209 6406
> > Fax: 0171-209 6269
> >
> Dave:
> How about putting a 5 amp or so fuse in series with the
> resistor. If the tube fails it will blow the fuse and not the resistor.

>
> Cliff, W7VVAThe idea is to use the resistor to limit arc over current - not as a fuse
removing b+ while applying drive can kill a very expensive tube. Most
designs I have seen use a 50 ohm 50 watt resistor to limit surge current
during an arc.
Mark

934. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <50huut$aog@flood.weeg.uiowa.edu>
Source record: 102714

How about using metal oxide varistors across the resistor and fusing the low side of the high voltage power supply? I know this will not protect the tube in loss of HV and still having drive applied. But you could interlock the HV supply to the input relay.

John WA0VYZ

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

935. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <5oIaBDAg3HLyEw9c@ifwtech.demon.co.uk>
Source record: 102715

Joseph M. Zawodny wrote:
>Dave Kirkby wrote:
>>
>> I need a resistor of 10 Ohms in series with the anode supply to a tube taking
>2A
>> max. Hence the resistor needs to be 40 W. However, in the event of a tube arc,
>I
>> do not want the resistor to fuse, so it must take the full HT (5kV) for a
>short time.
>> This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500
>kW
>> resistor, so I'm wondering what is the best choice to find a resistor(s) to
>withstand
>> this without going bang. I have 3 options:
>>
>> 1) Buy one big (say 300 W) resistor at 10 Ohms.
>> 2) Put lots of lower powered resistors in parallel
>> 3) Put lots of lower powered resistors in series.
>>
>> Any ideas on what is the best bet ?
>

>Why won't a fuse work for this?

Because the fuse protection is somewhere else. The purpose of the resistor is to limit the maximum possible current that can flow (AKA the prospective current), so the resistor is intended NOT to blow.

With supplies of up to 3kV off-load, I've had good luck with 100W metal-cased wirewound resistors, about 25 ohms per kV of off-load voltage. Although these resistors are not rated for transient high voltages from end to end, or for transient power overloads, they seem to handle the surge current for as long as it takes to blow the fuse or trip the breaker.

It's best to mount the resistor on teflon pillars to avoid any problems with voltage breakdown between the element and the metal case. Obviously there is no point in bolting the case to a heatsink, because it would never dissipate the heat within the timescales we're talking about.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

936. Re: HELP: Antenna Tuner Design Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: rickets@earthlink.com
Message-ID: <50hshf$gos@ecuador.earthlink.net>
Source record: 102716
Cross-posted to: rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Michael Neidich <neidich@hooked.net> wrote:

>Need a schematic/parts list to build a receiving antenna
>tuner/preselector 10-25 MHz, mostly to reject interfering out of band
>signals. Point me in the right direction if there is a good commercial
>unit, please.
>Mike
MFJ-956 is $39.99. One year unconditional money back warranty. Comes
with a schematic. By the time you add up the cost of the box, the
knobs, the switch, the fixed inductors, the variable capacitor, and
the 2 ea. SO-239 connectors, you may decide to keep it.
dr
Dave Rickmers I'd wake up and
rickets@earthlink.com there'd be nothing...

937. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50i19i$2cr@newsbf02.news.aol.com>
Source record: 102717

In article <1996Sep3.122355.63222@ucl.ac.uk>, davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

>
>I need a resistor of 10 Ohms in series with the anode supply to a tube taking
>2A
>max. Hence the resistor needs to be 40 W. However, in the event of a tube
>arc, I
>do not want the resistor to fuse, so it must take the full HT (5kV) for a
>short time.
>This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500
>kW
>resistor, so I'm wondering what is the best choice to find a resistor(s) to
>withstand
>this without going bang. I have 3 options:
>
>1) Buy one big (say 300 W) resistor at 10 Ohms.
>2) Put lots of lower powered resistors in parallel
>3) Put lots of lower powered resistors in series.

You have another choice. Purchase the correct resistor.

This was one of the sore spots in AG6K's articles Dave. He suggested using a fuse or incorrect resistor types..... of course neither is good.

Fuses are notoriously unreliable, and allow peak current of several hundred to many thousands of amperes to flow during a fault while they internally heat, melt, and the metallic vapor is pushed out of the way by falling sand (if you bought a good HV type fuse). If you used a cheap LV fuse, it may just coat the glass with metalic deposits and arc until the glass explodes. Fuses are best used as a last resort to prevent wiring fires when something fails, but I'm sure you know that.

A wire wound resistor also presents another problem. It has a voltage rating from lead to lead. If that voltage is exceeded, the resistor arcs internally from turn to turn and......zap! No protection until the resistor explodes in a molten internal firestorm.

The correct component is a high energy type of resistor, like a carborundum types used in dummy loads. They have a long arc path, and easily withstand the energy storage of a HV supply. I use a 50 ohm 250 watt resistor in the anode supply of my 3CPX5000, along with a feedback loop that disconnects the triacs on the power mains during a fault. I can

drop a screwdriver across the anode and the only penalty is a loud snap and a tiny pit in the blade.

In a larger 50 kVA supply I used a dump tube to ground the anode during a fault, and it wouldn't even mark the blade during a discharge...just a tiny "tick" and it was off.

Even without opening the mains electronically, a fast circuit breaker and a large anode resistor will work. Be sure to use the correct value, ten ohms seems hardly enough for a 3 kV supply. And remember, you have the ESR of the capacitors and plate choke to help with surge limiting.

If you're gonna use protection, be sure it's a quality component that fits the application properly.

73 Tom

938. Tube Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: zafod@ix.netcom.com
Message-ID: <322C96D8.5FAD@ix.netcom.com>
Source record: 102718

Tube Sale of the Century!

Yes, I'm cleaning out the closet that I have stuffed for 15 years with
just about every kind of tube imaginable, from 1924-1960. All are used,
but _All_ tubes are guaranteed, and have been checked on a top-of-the-line
Hickock 539B. Prices are at least 50% below dealer new prices!

The list is available in either ASCII text, Excel 5.0, Lotus 1-2-3, or
Microsoft Works 3.0 (Please specify which format you want!). The list
will come to you as a zipped MIME or BINHEX e-mail attachment (again,
please specify which), with a text file containing all details.

Responses to: zafod@ix.netcom.com

Lin/KJ6EF

```
==========================================================================
* * *
Lin Robertson's * /---\ * "The miracles of
Vintage Radio Page * |_____| * yesterday are
www.geocities.com/Athens/1630/otr.html * \___/ * held in trust
* * by the collectors
* () * of today for the
mail: zafod@ix.netcom.com * o o o * generations of
************* tomorrow."

==========================================================================
```

939. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960903164149.3690H-100000@primeline.net>
Source record: 102719

#2 , a bunch in paralell (that is the way I saw some dummy loads made,
a bonch of 1/2 watt resistors between two copper plates.)

Gary Tait , VE3VBF

940. Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Sep3.204047@nova.wright.edu>
Source record: 102720

I was poking around in the garage the other day, looking
for my old crystal set stuff and I came across a box of tubes.
Yeah, tubes. Some people will keep anything.

Anyway, I picked the box up and took it into the radio shack/
outhouse and tested the filaments. There were a handful of
6SK7 stuff that didn't have filaments. I think I fried them
about 20-odd years ago with a miswired power plug. Ninety volts
don't like filaments. So those were toasts. (My wife asked me
why I didn't throw 'em away. Hell, they's history. I can't
trashcan history, can I?!)

I have a couple 1625s, which might make for an interesting
chirp generator or something. And there's a couple 41s. Yeah,
41s. Like in grandpa's old console set what sat in the parlor.
Back before Cousin Newt put that satellite dish in next to
the outhouse. And a 837.

Neat things about this stuff is it's big enough for me to
see without takin' off my glasses. I do that a lot when I
work on transistor stuff. That and my hands shaking from not
enough espresso make building stuff difficult.

So is it worth it, or should I just put 'em tubes back into
the box and wait for my kids to try and figger out what to
do with 'em at the estate auction?

I'd like to build a 30m tube transmitter and a matching 30m
regen receiver with one stage of audio amplification. I think
I can do that with the three working 6V6s and the 1625. Or
really go loonie and use the 829 B. I think that's it. The
single-envelope dual-pentode with internal self-neutralization.
Came out of a surplus rig, now that I think of it. And
I still have that ART13 down in the basement. Hmmm.....

73
Nils
WB8IJN &c

941. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com>
Message-ID: <322D2264.9E520A@primenet.com>
Source record: 102721

Dave Kirkby wrote:
>
> I need a resistor of 10 Ohms in series with the anode supply to a tube taking 2A
> max. Hence the resistor needs to be 40 W. However, in the event of a tube arc, I
> do not want the resistor to fuse, so it must take the full HT (5kV) for a short time.
> This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500 kW
> resistor, so I'm wondering what is the best choice to find a resistor(s) to withstand
> this without going bang. I have 3 options:
>
> 1) Buy one big (say 300 W) resistor at 10 Ohms.
> 2) Put lots of lower powered resistors in parallel
> 3) Put lots of lower powered resistors in series.
>
> Any ideas on what is the best bet ? What combination is likely to be able to withstand
> short duration overloads better, assuming all combinations have the same continuous
> rating ? My hunch is that one big resistor is not the way to go, since the intense
> heat cant escape as quickly, but I could well be wrong.
>
> I once saw a book on fixed resistors, and wondered why anyone would write such a book.
> Perhaps I now wish I had a copy on my bookshelf!

I don't know much about transmitting tubes but I had a similar issue on
a airborne CRT display that operated at 14KV. We found that:

1. Resistors that are spec'd to operate at that voltage are rare and
expensive. Also, you are looking for an energy rating (Volts * Amps *
Time) and almost no? supplier specifies that.

2. Carbon comp resistors are the "best" at dissipating large amounts of
energy and turning it into heat. The would get hot, emit smoke even,
but when the cooled down they were pretty much resistors still. Too bad
nobody makes carbon comp resistors anymore. A 2 Watt carbon comp
resistor potted correctly will standoff 14KV at altitude.

3. Metal film resistors emit light instead of dissipating the energy.
The stopped being resistors after the event.

4. Wirewound resistors would arc between the spiral wraps of the
conductor. I've seen wirewound resistors specified in volts per inch or
resistor. An acceptable wirewound resistor would have been too large
for our application.

5. Metal oxide resistors were next best at energy dissipation.

Your mileage may vary. We were looking for resistors that would
dissipate a large amount of energy once in a while in an application

that had almost zero power dissipation except during the arc.

> ---
> Dave Kirkby G8WRB
> Dept of Medical Physics,
> University College London,
> 11-20 Capper St,
> London WC1E 6JA
> Tel: 0171-209 6406
> Fax: 0171-209 6269

73
Bob Doyle WA3TGF

942. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <xzOCmCA5XKLyEwtq@ifwtech.demon.co.uk>
Source record: 102722

John Stroppel wrote:
>How about using metal oxide varistors across the resistor and fusing the
>low side of the high voltage power supply?

MOVs are exactly what you *don't* want - something that effectively
shorts out the current limiting resistor.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

943. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: "Joseph.M..Zawodny.%1": 2619/211.9;
Message-ID: <fe2_9609062046@woodybbs.com>
Source record: 102723

To: "Joseph M. Zawodny" %1:2619/211.9%12:320/100.666
From: "Joseph M. Zawodny" <J.M.Zawodny@larc.nasa.gov>
Subject: Re: A not so obvious resistor question.
Organization: NASA Langley Research Center

Dave Kirkby wrote:
>
> I need a resistor of 10 Ohms in series with the anode supply to a tube taking
2A
> max. Hence the resistor needs to be 40 W. However, in the event of a tube
arc, I
> do not want the resistor to fuse, so it must take the full HT (5kV) for a
short time.
> This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500
kW
> resistor, so I'm wondering what is the best choice to find a resistor(s) to
withstand
> this without going bang. I have 3 options:
>
> 1) Buy one big (say 300 W) resistor at 10 Ohms.
> 2) Put lots of lower powered resistors in parallel
> 3) Put lots of lower powered resistors in series.
>
> Any ideas on what is the best bet ?

Why won't a fuse work for this? Surely someone must make a high voltage fuse
which could be utilized.

--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

Origin: Usenet:NASA Langley Research Center (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: "Joseph M. Zawodny" %1:2619/211.9 2:301/249.666
|Internet: "Joseph.M..Zawodny".%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

944. Re: Low TCR variable resistor for RF application?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-03 00:00:00 UTC
From: "Douglas.Dwyer.%1": 2619/211.9;
Message-ID: <fe3_9609062046@woodybbs.com>
Source record: 102724

To: Douglas Dwyer %1:2619/211.9%12:320/100.666
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Subject: Re: Low TCR variable resistor for RF application?
Organization: FP

In article <509ndj$cio@mozo.cc.purdue.edu>, David A Nickel
<nickel@widget.ecn.purdue.edu> writes
>I'm working on a project that uses a Wheatstone bridge to measure the
>really fast fluctuations from a resistance-based sensor (the whole
>fluctuation lasts a few microseconds, and we'd like to see
>sub-microsecond events during the interval). I make various sensors
>with different nominal resistances, so I'd like to use a variable
>compensating resistor that I can "tune in" to balance the bridge.
>
>The relative resistance change from the sensor is small (1000's of
>ppm full scale), so I would like a stable compensating resistor --
>thermal drift is annoying, mechanical noise is deadly.
>
>What kind of variable resistor could I use to select a value
>from 100 to 1000 Ohms, tunable to about 1 Ohm, stable to 0.1 milliOhm,
>that's mostly a resistor at 10 MHz?

I needed a noninductive variable resistor to balance an RF bridge up to
200MHz to measure crystals. The sucessful solution was to temperature
control a thermistor, employing temperature to adjust resistance. Use
NTC thermistor, mount two thermistors and a heater on a block.
Regards

Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,
TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_Precision/

Origin: Usenet:FP (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: Douglas Dwyer %1:2619/211.9 2:301/249.666
|Internet: Douglas.Dwyer.%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

945. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50k8af$rtj@newsbf02.news.aol.com>
Source record: 102634

Hi Bob,

In article <322D2264.9E520A@primenet.com>, Bob Doyle <doyle@primenet.com>
writes:

>
>1. Resistors that are spec'd to operate at that voltage are rare and
>expensive. Also, you are looking for an energy rating (Volts * Amps *
>Time) and almost no? supplier specifies that.

Several suppliers do, but they are hard to find. I liken this problem to
one of finding the correct choke, just try to find manufacturers with the
specs you need. It's cheaper just to sample and test 'til you find one!

I have dozens of different values here in my mess (I mean "lab").
Even RCD, the company that makes all the little metal and carbon film
resistors, can supply energy absorbing resistors. The big mama's all come
from Stackpole now that Carborundum is SK..

>2. Carbon comp resistors are the "best" at dissipating large amounts of
>energy and turning it into heat. The would get hot, emit smoke even,
>but when the cooled down they were pretty much resistors still. Too bad
>nobody makes carbon comp resistors anymore. A 2 Watt carbon comp
>resistor potted correctly will standoff 14KV at altitude.

Still do. I get them from Allen Bradly and Stack Pole.

>3. Metal film resistors emit light instead of dissipating the energy.
>The stopped being resistors after the event.

As you say, not the resistor of choice in this application. The light
doesn't bother me, the noise and flying parts do. The circuit is mostly
bothered by the sustained arc.

>4. Wirewound resistors would arc between the spiral wraps of the
>conductor. I've seen wirewound resistors specified in volts per inch or
>resistor. An acceptable wirewound resistor would have been too large
>for our application.

Right on! That was my earlier point. ALL resistors have a peak voltage
breakdown limit from lead to lead. It's usually around 700 volts with a 5
or ten watt wirewound, and much less with a 1/4 or 1/2 watt.

Now think of this..... Inductance when used as a parasitic suppressor.
The only real low inductance resistor is a carbon comp type, and almost no
one makes them except Allen Bradly. I specify them for parasitic
suppressors AND small energy absorbing applications....but *not* in
applications where resistance drift is critical or long term excessive

temperature operation is expected.

If you dissect the component, you can estimate how good it will be at any of these chores. If it has a thick resistive media, it'll be good. If it has a resistive media that is thin, or has spiral winding, it'll be poor.

If it's a semiconductor like carbon it will eventually decrease in value with sustained overloads. NEVER use carbon resistor for bleeders, and avoid them for voltage dropping unless they never get warm.

73 Tom

946. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50k8k9$s09@newsbf02.news.aol.com>
Source record: 102635

In article <322A2F32.5AD1@erols.com>, Larry Minnis <wb6vgi@erols.com>
writes:

>Bill Orr, W6SAI, has such an amp in his Radio Handbook, 17th edition,
>on page682. He has the tubes configured as low-mu triodes. If he says
>it can be done, I for for one would believe him. Larry, WB6VGI.
>

I wouldn't without careful consideration of potential problems. All
suggestions you might find in books aren't always good.

One of Orr's "favorite" tactics is connecting the control grid to the
cathode. He suggests doing this in sweep tube amps even though it results
in feedback levels that de-stabilize the amplifier and send IMD through
the ceiling.

Anyone owning a Dentron GLA1000 or an Amp Supply LA-1000 can see this
problem... just set the amp to 15 or ten meters open the input port and
tune the tank to resonance with the loading control meshed. The amp will
oscillate like crazy. Measure IMD performance and it is over seven dB
worse with the cathode and grid connected, as opposed to conventional "all
grids grounded" operation.

When cathode driven, the control grid is the primary shield between the
input and output. The control grid belongs at low RF potential to ground.

When tubes are designed great care is taken in grid design to be sure IMD
is acceptable. Changing the mode of operation by not using the grid
designed to do the control function, and exciting the grid designed to be
operated at a high dc potential, might not be the best idea if distortion
is a concern.

73 Tom

947. Re: Case paint for Kenwood TS-940

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <50k9ie$cke@sf18.dseg.ti.com>
Source record: 102636
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

This may sound silly, but, have you inquired with Kenwood?
It would be great if they had touch-up paint available.

73 de KC5NG
(also a big Kenwood fan!)

In article <32284CFE.2FC373C2@ptd.net>, skarbows@ptd.net says...
>
>Has anyone found a suitable source for the case and
>front panel paint on Kenwood HF gear? I have a
>relatively late S/N TS940 with scatches on the case
>and the outer rim of the front panel and I'd love
>to refinish them. The case finish looks like it would
>be tough to match as it's a textured (splattered?)
>finish. The front panel rim is just a plain semi-gloss.
>Anybody tackle this sort of thing? Could a local
>auto-body shop duplicate these finishes? All suggestions
>welcomed.
>
>Dave, n2fam

948. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <50keb2$k98@peabody.colorado.edu>
Source record: 102637

"Speaking of VLF; I hope the FCC doesn't move the 1750m band (160-190kHz) from Part 15 to Part 97. Limited transmissions are currently allowed without a license at 1750 meters, and experimenters have developed advanced techniques to deal with this noisy band. It would be a shame if this became an amateur band that was restricted to licensed Morse code junkies.

Paul, KC7CKU"

I agree it shouldn't be *restricted* to CW junkies. However, I am all in favor of changing the rules to permit more than 1 watt input and more than 15 m of transmission line + antenna + ground lead combined. If they *need* to give us a CW test for that, fine. But let the part-15ers be.

FWIW I'm an Extra who sees both the enjoyment in using, and also the silliness in requiring, CW.

Bruce
N6URH

949. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50kh1u$1k7@newsbf02.news.aol.com>
Source record: 102638

In article <1996Sep04.091525.1540.186727@mailgate02.mobility.com>,
tkomljan@mobility.COM (Komljanec, Tony) writes:

>
>Unless you have a very SPECIAL power supply, it will not supply you with
>500A
>at 5kV! If it could supply that current, you would have to worry about a

>lot more
>than just your resistor.....

The capacitors can Tony, if only for a few milliseconds.

>Find out your p/s short circuit current capabilities, calculate the
primary
>side current,
>and fuse appropriately (or provide a protection circuit based on the
voltage
>drop
>across your 10 ohm resistor). The thermal inertia of your carefully
>selected resistor
>should take care of it until the protection interupts the current.

A fuse won't work reliabily, they carry fault currents ten's to thousand's
of times the rated current before failing. Typically fuses have failure
times of 30 seconds to HOURS with a 100% overload. Circuit breakers are
much faster.

In any event, it's energy stored in the capacitors that are the real
problem...not the power line current.

73 Tom

950. Re: Motorola Expo to Two Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.62.322DC63F@ornl.gov>
Source record: 102639

In article <18789@Emperor.HandHeld.Com> WCS@Emperor.HandHeld.COM (Bud Simciak) writes:
>Path: stc06.ctd.ornl.gov!fnnews.fnal.gov!uwm.edu!cs.utexas.edu!swrinde!ihnp4.ucsd.edu!news1.ucsd.edu!news-mail-gateway
>From: WCS@Emperor.HandHeld.COM (Bud Simciak)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Motorola Expo to Two Meters
>Date: 3 Sep 96 14:53:44 GMT
>Organization: Hand Held Products, Inc.
>Lines: 11
>Message-ID: <18789@Emperor.HandHeld.Com>
>NNTP-Posting-Host: mail.ucsd.edu
>Originator: daemon@ucsd.edu

>Text item: Text_1

> Has anyone converted the Expo to operation on two meters (voice)?
> What is the crystal frequency formulas?
>
> I have a full compliment of test equipment but would love to get any
> info available.
>
> Thanks, Bud W4HXP
>

The VHF Expo was manufactored in three band spacings. 136-150.8 Mhz, 150.8-a62 Mhz, and 162-174 Mhz. They will not work very well outside these band spacings. Also, the Expo's I work on are very bad about frequency drifting and require either a jig for calibration, or old case with holes bored in it to get to the calibration points, or a whole lot of taking it in and out of its case and making frequency adjustments.

Danny Britton

951. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep4.174849.5766@ke4zv.atl.ga.us>
Source record: 102640

In article <50g29b$4kq@news.ais.net> carl@ais.net writes:
>In <1996Sep2.125037.25656@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>
>>That is not fair, Carl. Technical book publishing has a very long
>>lead time, unlike a penny dreadful true confessions ripoff. Facts
>>
>>(Remember too that the ARRL doesn't assign an editor full time to
>>
>>The ARRL depends on amateur authors who write when and what
>>they feel like writing. They simply don't respond to the same
>>
>I don't see what's unfair about "calling a spade a spade" ... if
>you're going to publish stuff purporting to be up-to-date and covering
>the latest technology, you should find a way to do it, or forget it,
>rather than passing off "yesterday's news" as "what's hot for tomorrow."

It's not "yesterday's news" in amateur radio. *No one* else is
publishing *anything* for amateurs about SS technique. This is
the hottest SOTA book available for radio amateurs on SS. The
professional books, many of which are as old or older, don't offer
the sort of concrete examples an amateur audience needs. And the
manufacturer's app notes don't have the background an amateur
needs to understand what they're offering.

>>(*If* you have a competent professional writer, and *if* you
>>have an editor who can devote sufficient time to the project,
>>you *can* produce a better book in a shorter time. But that's
>>not the case for ARRL publications in general.
>
>That's what I'm complaining about ... they're charging good money for
>outdated stuff and passing it off on the unsuspecting who assume it
>"must be great, 'cause it came from the ARRL."

That "good money" is about 1/4th or less of what the professional
houses charge for one of their books, and those places aren't
publishing *anything* for radio amateurs. The ARRL technical books
are *cheap* by professional book standards, and they are chock full
of the concrete circuits amateur level audiences need. The ARRL books
aren't aimed at the professional audience (though there's some
profit in reading some of them even if you are a professional).
They're aimed at an amateur audience, IE semi-literate technicians.
And they're written by amateurs, IE other semi-literate technicians
who've actually *tried out* the things they write about. The theory
may be hazy in places, but at least they show you something that
works.

>(snipped the part where Gary (pretty much) says that the book was poor
>in most respects, but gave him one good idea, and since it's the only
>amateur book on spread spectrum, it'll have to do ...)
>
>>There are some professional level texts out there on spread
>>spectrum, but most of them are dated too, and would daunt
>>many amateurs due to the extensive use of Greek letters and
>>complex equations and lack of concrete circuit examples. For
>>someone with a bit of background in spread spectrum, the chip
>>manufacturers app notes have the best information. But if you
>>don't have the background, you won't understand what they're
>>telling you.
>
>Agreed about the chip manufacturer's app notes ... isn't that where we
>started on this one??? <grin>
>
>I just have problems with the hype from the publishing empire on what
>seems to me to be predominantly second-rate, outdated material.
>(what's the big surprise? ... I'm obviously not very happy with the ARRL
>in most respects ... but there's a lot of that going around)

Not from this corner. I don't have a lot of nice things to say about
the ARRL as a political body, but their publications are one thing
that they do adequately *for their intended audience*. *I* only found
one circuit idea in the book which was novel to me, but then I'm not
starting out with a zero knowledge base in SS. The average amateur who
buys this book *is* starting from zero. In that regard, the book does
an adequate job of introducing the concepts and giving concrete circuit
examples. The intended audience for this book would have *no clue*
if they started with the manufacturer's app notes.

Now I cringe at the literacy of some of the writing, and wish that
the authors had more coherent theoretical explanations from time to
time, but it isn't bad considering the intended audience, and it
doesn't cost $100 as some of my professional level books do. Not
all of them are well written either. For every gem like Wilson's
Digital Modulation and Coding, there are dozens of professional
level books where you go "huh?" after reading a chapter twice. In
many cases, if you don't *already* understand the material, you
won't be able to figure out what the author is trying to say.
I've wasted thousands of dollars on books like that (fortunately
tax deductable). At least with the ARRL books I get working circuit
designs (however dated) to examine. That often tells me more than
pages of semi-literate text.

(Anyone with pretentions of understanding the theory underpinning
digital signaling will do himself a big favor by buying a copy of
Wilson. I can't say enough about how well this book is written.
Don't expect any schematics, however. This is a pure theory book.)

Now I find the RSGB books marvels of literacy and good coherent
editing by contrast to the ARRL publications, but the RSGB books

are for the most part even more dated than the ARRL pubs. I feel like I'm in a time warp every time I open one. I still enjoy them, though, and often learn something by reading them. I'd like it if the ARRL could match the clarity and coherence of the RSGB books, but not at the cost of being 20 years out of date instead of only 10.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

952. Re: B&W Miniductor or Air Dux coils still made? Any for sale?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <50kmcm$gu5@sf18.dseg.ti.com>
Source record: 102641

Be prepared to shell out every dollar you have made in the last ten years,
per coil, to buy from Surplus Sales of Nebraska. They're MIGHTY proud of
everything they sell...

73 de KC5NG

In article <50f7l0$s59@newsbf02.news.aol.com>, cooperjim@aol.com says...
>
>Dave
>
>In the July 1996 QST (page 126) Surplus Sales of Nebraska has an ad
>offering B&W Air Dux Coils of a variety of sizes.
>The address and phone are:
>
>Surplus Sales of Nebraska
>1502 Jones St.
>Omaha, NE 68102
>
>1-800-244-4567 to order
>402-346-4750 phone
>402-346-2939 fax
>
>I have never ordered from them so have no idea of how good they are.
>
>Good Luck
>Jim NE6O
>CooperJim@aol.com

953. Re: Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <50kogb$gkl@nonews.col.hp.com>
Source record: 102642

Dean T. Miller (dtmiller@dsmnet.com) wrote:
: Hi Nils,

< stuff deleted>

: But where would you get the high voltage (not to mention filament)
: transformers these days??<BG>

From the basement or garage of someone like me?

73, Mike, K0TER

954. $$$$___At Home Moneymaking Opportunity! $1000s a month!___$$$

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: alexv@primenet.com
Message-ID: <alexv-0409961624010001@ip191.fat.primenet.com>
Source record: 102643
Cross-posted to: rec.pyrotechnics,rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipmenet,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap,rec.scuba,rec.scuba.equipment,rec.scuba.locations,rec.sex,rec.skiing

****
This is important commercial/business information. If you are offended
by this type of material, Pleasse REPLY and type "REMOVE" in the
SUBJECT area and I will immediately remove you from my mailing list.
****

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After your registration phone call, you may IMMEDIATELY begin referring others to the same toll free phone number, and get credit for those referrals, through 6 computer-tracked levels of your growing organization. In 2 to 3 days, you will receive more information, registration forms, and a sample FCI glossy brochure in the mail.

Every month, you may receive a printed down line report showing every person who has called using your sponsor ID#, and every person signed on from levels 2 through 6.

This is the OPPORTUNITY OF A LIGETIME! You'll be one of the FIRST 1000 PEOPLE IN THE U.S.A., which means that your chance of earning a SERIOUS MONTHLY INCOME in a very short period of time is very realistic! We are looking for individuals such as yourself, to reach our goal of 50,000 representatives by January 1, 1997.

Here was the clincher for me! U.S. Residents note: In order to be a part of this outstanding program you DO NOT have to switch your Long Distance sservice to FCI, if you are getting a better rate, or the phone is not in your name, or for whatever reason you have. (You can prove a better rate by submitting a photocopy of your bill). If your are not switching carriers you only need to remit $20 (annually) for YOUR monthly down line report.

MORE INFORMATION FOR YOU:

Overview: Who is 1)WilTel, 2) UniDial, and 3) FCI?

1) Founded in 1985, WilTel owns and operates a nationwide fiber-optic network, on of only four in the United States, with access to more than 30,000 system mils. WilTel pioneered the techinique of pulling fiber-optic cables through decommissioned oil and gas pipelines. This approach results in the most secure routes in the industry, and as a result, over one half of the U.S.A.'s Fortune 100 corporations trust and utilize WilTel as their long distance carrier. as a full service telecommunications company, WilTel provices data, voice, and video products and services worldwide and is currently the fourth largest long distance carrier in the U.S.A.

2) UniDial, Inc. is the largest re-seller for WilTel, having signed a $480 million long-term agreement on June 5th, 1995 - the largest ever in re-seller history. this strategic partnership demonstarates UniDial's aggressive plan to penetrate the re-seller market, which is growing by leaps and bounds. In 1994, the re-seller industry reached $8.25 billion, and is expected to increase to more than $12 billion by 1998.

By taking advantage of UniDial's massive buying power, individuals such as yourself now have access to a fabulous new long distance rate. If you are currently using AT&T, MCI, Sprint or onne of the other long distance services you might by paying as much as 27 cents per minute for your long distance calls.

You may now call anytime, for 12.9 cents per minute (Interstate) with absolutely no minimum commitment and you don't have to wait until 5:00 pm to get this great, low rate! Also, there will be no change in the way you place a long distance call - just dial 1+ the area code and phone number.

The UniDial "Global Axcess" Communications Card is now available. Features include with the Global Axcess card are 800# Voice Mail, Fax Mail, international calling (at savings up to 55% savings over AT&T, MCI, and Sprint), Speed Dialing, and Coference Calling without an operator. You can use the Axcess card from any of over 30 foreign countries. this is what I call a company that listens to the needs of entrepreneurs like us.

FreedomStarr Communications, Inc. is a telecommunications network marketing company representing UniDial, Inc. Our firm provides marketing support and an ingenious distribution mechanism to a network of independent "customer/representatives" all over the United states of America.

FCI offers US citizens a very simple, yet powerful way to both save money and earn a substantial long term residual income in the exciting telecommunications industry, with very little effort aside from sharing a toll free recorded hot line phone number with others. Because of the simplicity of FCI's Share the Wealth program, no sales ability of experience is required. In fact, you may build your income without ever speaking with another human being! This revolutionary new concept is taking the nation by storm, and we welcome you and invite you to become a part of our success.

**** YOUR SUCCESS IS OUR SUCCESS ****

Alex Vartan
FCI# va1123581
E-mail address : alexv@primenet.com

955. Re: SS Homebrew Projects?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: knoll003@gold.tc.umn.edu
Message-ID: <322E2C89.99F@gold.tc.umn.edu>
Source record: 102644

Gary Coffman wrote:

> Now I find the RSGB books marvels of literacy and good coherent
> editing by contrast to the ARRL publications, but the RSGB books
> are for the most part even more dated than the ARRL pubs.....
> Gary
> --Gary

Do you understand Moxon's books and articles? There are many places in his writings where I say "duh".

Alot of the RSGB stuff is hard to read because of the difference in word meanings and your "time warp" effect.

My $.02 worth.

73

Henry WA0GOZ

956. FT5200 9600??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: PY2RN <75223.2027@CompuServe.COM>
Message-ID: <50kucg$c88$1@mhafc.production.compuserve.com>
Source record: 102645
Cross-posted to:
rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,uk.radio.amateur

Hi,

If you know how to make the Yaesu Ft-5200 operational on packet
at 9600bps (Where do I connect the tx/rx wires) could you please
send it to me?

Thank you.

Ed, PY2RN

957. Re: Microwave Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: Stephen Schiller <schiller@adobe.com>
Message-ID: <322E1D4C.69E9@adobe.com>
Source record: 102646

Tom Bruhns wrote:
>
> Chris Jones (maf00861@maf.mobile.al.us) wrote:
> : As an experimenter, I would like to get my hands on a
> : diode that could rectify 20, 50 or even 100 GHZ microwaves.
> : Are there any commercially available?
>
> Get ahold of the HP Communications Components catalog. The
> HSCH-9101 GaAs Beam Lead Schottky Barrier Diode is rated for
> use through 44GHz and I'd be surprised if you couldn't get
> it to give some useable rectification well above that. They
> are kinda small and might be a challenge for the typical
> experimenter to actually use. I have no idea what they cost.

I have seen some HP beam lead devices in the Newark Electronics catalog
for $15 to $30 each. But for really high frequency nothing beats
the "old fashion" germanium point contact diodes. They can detect
up to 300GHz, but I don't know the details. Just read that in
a book on microwave measurement techniques. For example, I am
not sure if the 1N23 diodes you find in old waveguide detectors
will go this high or not. They certainly wont give a good 50 ohm
match at that frequency.

General hint for this kind of thing: use a dipole antenna tuned to
the frequency of interest to increase your sensitivity.

- S

- S

958. Re: Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.960904175429.23907A-100000@spork.callamer.com>
Source record: 102647

I fully agree that the 1750 meter band should be left alone BUT with a power increase to some nominal value between ten and one hundred watts. I have been running a BPSK beacon on 187.65 for years emulating what has been done for submarines. We do not need any further restrictions---even those created by ham bands as no restrictions exists now! Cliff K7RR

On 4 Sep 1996, TIEMANN BRUCE wrote:

>
> "Speaking of VLF; I hope the FCC doesn't move the 1750m band (160-190kHz)
> from Part 15 to Part 97. Limited transmissions are currently allowed
> without a license at 1750 meters, and experimenters have developed advanced
> techniques to deal with this noisy band. It would be a shame if this
> became an amateur band that was restricted to licensed Morse code junkies.
>
> Paul, KC7CKU"
>
> I agree it shouldn't be *restricted* to CW junkies. However, I am all in
> favor of changing the rules to permit more than 1 watt input and more than
> 15 m of transmission line + antenna + ground lead combined. If they *need*
> to give us a CW test for that, fine. But let the part-15ers be.
>
> FWIW I'm an Extra who sees both the enjoyment in using, and also the
> silliness in requiring, CW.
>
> Bruce
> N6URH
>
>

959. Re: Simeple receiver plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: w.bell@psyc.canterbury.ac.nz
Message-ID: <50l2fn$d6o@cantuc.canterbury.ac.nz>
Source record: 102648

In article
<321E1A1E.232D@titan.oit.umass.edu>,
muldowne@titan.oit.umass.edu says...
>
>Hello everyone. I'm looking for SIMPLE
receiver plans. Ideally I would
>like it to be able to be made from Radio
Shack parts, be cheap to make,
>receive somewhere in the HF bands and to be
able to be sensitive enough
>to receive SSB and CW. Thanks...
> Andy
> KB0MMU
Andy,

Try Direct coversion receiver, if you need a
new design approach to this very intriging
receiver there are recommendations in
current issue of Break-IN, of NZART.
You may fishout the articles relavant by
using library systems,and applied science
CD-ROMs. Best luck, call if you need our
paper.
73, Winton. P.S any sign of Andy KB0JSU.

960. Re: Case paint for Kenwood TS-940

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: Dave Skarbowski <skarbows@ptd.net>
Message-ID: <322E19DD.B06B02D@ptd.net>
Source record: 102649
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

D.W.Hemphill KC5NG wrote:
>
> This may sound silly, but, have you inquired with Kenwood?
> It would be great if they had touch-up paint available.
>
> 73 de KC5NG
> (also a big Kenwood fan!)
>
Well, no I haven't tried Kenwood parts. I just assumed....
Anyone?

Dave, n2fam
(a Kenwood fan but also a Yaesu and Ten-Tec fan...)

961. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.185.02AD4597@azstarnet.com>
Source record: 102650

In article <322A2F32.5AD1@erols.com> Larry Minnis <wb6vgi@erols.com> writes:
>From: Larry Minnis <wb6vgi@erols.com>
>Subject: Re: 4CX250B as GG TRIODE amp ???
>Date: Sun, 01 Sep 1996 17:49:54 -0700

>W8JI Tom wrote:
>>
>> In article <1996Aug25.214331@wkuvx1.wku.edu>, scottcr@wkuvx1.wku.edu
>> (Chris Scott) writes:
>>
>> >Anyone done this?
>> >
>> >WB9NEQ
>>
>> The contrl grid of the 250 is too fragile, and grid spacings are not
>> correct for zero bias GG operation. You can use the tube cathode driven,
>> but will still need screen and bias voltages.
>>
>> The screen must be very well regulated, or IMD will be unpredictable.
>>
>> Three or four hundred ohms of grid swamping is too high, unless you plan
>> on driving the tubes with less than a few watts.
>>
>> 73 TomBill Orr, W6SAI, has such an amp in his Radio Handbook, 17th edition,
>on page682. He has the tubes configured as low-mu triodes. If he says
>it can be done, I for for one would believe him. Larry, WB6VGI.

Careful here. I don't have the 17th edition, but I do have the 22nd and it has an amplifier design just as Tom suggests. Cathode-driven with normal grid and screen bias applied.

Also note, most of the circuits in these books are stolen from somebody else, (I know, I'm one of them) and have not necessarily been approved (or proved) by either Bill Orr or EIMAC.

73, Wes N7WS

962. FT5200 9600??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: "PY2RN.%1": 2619/211.9%12;
Message-ID: <fe5_9609062046@woodybbs.com>
Source record: 102651

From: PY2RN <75223.2027@CompuServe.COM>
Subject: FT5200 9600??
Organization: SP-GW.AMPR.ORG

Hi,

If you know how to make the Yaesu Ft-5200 operational on packet
at 9600bps (Where do I connect the tx/rx wires) could you please
send it to me?

Thank you.

Ed, PY2RN

Origin: Usenet:SP-GW.AMPR.ORG (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: PY2RN %1:2619/211.9%12:320/100.666 2:301/249.666
|Internet: PY2RN.%1:2619/211.9%12:320/100.666
|
| Standard disclaimer: The views of this user are strictly his own.

963. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: "W8JI..Tom%1": 2619/211.9;
Message-ID: <fe6_9609062046@woodybbs.com>
Source record: 102652

To: W8JI Tom%1:2619/211.9%12:320/100.666
From: w8jitom@aol.com (W8JI Tom)
Subject: Re: A not so obvious resistor question.
Organization: America Online, Inc. (1-800-827-6364)

Hi Bob,

In article <322D2264.9E520A@primenet.com>, Bob Doyle <doyle@primenet.com>
writes:

>
>1. Resistors that are spec'd to operate at that voltage are rare and
>expensive. Also, you are looking for an energy rating (Volts * Amps *
>Time) and almost no? supplier specifies that.

Several suppliers do, but they are hard to find. I liken this problem to
one of finding the correct choke, just try to find manufacturers with the
specs you need. It's cheaper just to sample and test 'til you find one!

I have dozens of different values here in my mess (I mean "lab").
Even RCD, the company that makes all the little metal and carbon film
resistors, can supply energy absorbing resistors. The big mama's all come
from Stackpole now that Carborundum is SK..

>2. Carbon comp resistors are the "best" at dissipating large amounts of
>energy and turning it into heat. The would get hot, emit smoke even,
>but when the cooled down they were pretty much resistors still. Too bad
>nobody makes carbon comp resistors anymore. A 2 Watt carbon comp
>resistor potted correctly will standoff 14KV at altitude.

Still do. I get them from Allen Bradly and Stack Pole.

>3. Metal film resistors emit light instead of dissipating the energy.
>The stopped being resistors after the event.

As you say, not the resistor of choice in this application. The light
doesn't bother me, the noise and flying parts do. The circuit is mostly
bothered by the sustained arc.

>4. Wirewound resistors would arc between the spiral wraps of the
>conductor. I've seen wirewound resistors specified in volts per inch or
>resistor. An acceptable wirewound resistor would have been too large
>for our application.

Right on! That was my earlier point. ALL resistors have a peak voltage
breakdown limit from lead to lead. It's usually around 700 volts with a 5
or ten watt wirewound, and much less with a 1/4 or 1/2 watt.

Now think of this..... Inductance when used as a parasitic suppressor. The only real low inductance resistor is a carbon comp type, and almost no one makes them except Allen Bradly. I specify them for parasitic suppressors AND small energy absorbing applications....but *not* in applications where resistance drift is critical or long term excessive temperature operation is expected.

If you dissect the component, you can estimate how good it will be at any of these chores. If it has a thick resistive media, it'll be good. If it has a resistive media that is thin, or has spiral winding, it'll be poor.

If it's a semiconductor like carbon it will eventually decrease in value with sustained overloads. NEVER use carbon resistor for bleeders, and avoid them for voltage dropping unless they never get warm.

73 Tom

Origin: Usenet:America Online, Inc. (1-800-827-6364) (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: W8JI Tom%1:2619/211.9 2:301/249.666
|Internet: W8JI..Tom%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

964. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <322D30D5.69FA@worldnet.att.net>
Source record: 102725

Gary Tait wrote:
>
> #2 , a bunch in paralell (that is the way I saw some dummy loads made,
> a bonch of 1/2 watt resistors between two copper plates.)
>
> Gary Tait , VE3VBF

Different application...relatively low voltage applied and minimum
inductance desired for dummy load...
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

965. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-0309962012150001@d204.nb.interaccess.com>
Source record: 102726

In article <322C8502.A35@starpoint.net>, Mark Brown <kb0pyo@starpoint.net>
wrote:

> > Dave:
> > How about putting a 5 amp or so fuse in series with the
> > resistor. If the tube fails it will blow the fuse and not the resistor.
> >
> > Cliff, W7VVA

> The idea is to use the resistor to limit arc over current - not as a fuse
> removing b+ while applying drive can kill a very expensive tube. Most
> designs I have seen use a 50 ohm 50 watt resistor to limit surge current
> during an arc.
> Mark

I seem that if there is an arc-over, the current is going to increase
rapidly and voltage across the resistor will rise rapidly. When this
happens, the voltage across the arc will drop rapidly and the arc will end
quickly. You might have to just look for a type of resistor which will
handle a large but brief surge rather than one which will dissipate 500KW
continuously. That would be one BIG resistor.

Dave, K9SW

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

966. restore antique radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: Jay_Ritch@msn.com
Message-ID: <00001fee+00001af7@msn.com>
Source record: 102727

Would like some guidance in restoring a Sear & Roebuck model 1996
(wood cabinet "weather and foreign bands" cica 1930).

All tubes installed, don't know condition.
Batteries missing, must build power supply.
know i need +22.5 vdc, +180 vdc.
what i don't know is the voltage on the + and - terminals of the
"type A" battery.

HELP?!?

e-mail to Jay_Ritch@msn.com

967. Re: Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: dtmiller@dsmnet.com
Message-ID: <09960804005649.OUI02.dtmiller@dsmnet.com>
Source record: 102728

Hi Nils,

In article <1996Sep3.204047@nova.wright.edu>, From
nyoung@nova.wright.edu, the following was written:
> I'd like to build a 30m tube transmitter and a matching 30m
> regen receiver with one stage of audio amplification. I think
> I can do that with the three working 6V6s and the 1625. Or
> really go loonie and use the 829 B. I think that's it. The
> single-envelope dual-pentode with internal self-neutralization.
> Came out of a surplus rig, now that I think of it. And
> I still have that ART13 down in the basement. Hmmm.....

But where would you get the high voltage (not to mention filament)
transformers these days??<BG>

--
Dean T. Miller dtmiller@dsmnet.com
09/04/96 01:55

-- Dean -- from Des Moines ---- Using: OUI TE 1.5 from http://www.dvorak.com

968. Commercial CW use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: 74003.470@CompuServe.COM
Message-ID: <960904090019_74003.470_BHR25-1@CompuServe.COM>
Source record: 102729

Gary Coffman wrote:

> Gee, I feel like unfurling a banner and shouting "Excelsior!"
> Am I alone in being an unabashed cheerleader for progress?
> Should we all be hobbled to VT2s and Brass Racers forever?
> Or is it past time to move on?

No, you are not alone. But you are outnumbered.

Homebrewers are already a minority in the amateur radio community, and those of us interested in state-of-the-art topics are fewer still.

I get a chuckle out of those who claim that Morse code is an appropriate requirement for amateur radio operators. Today Morse code is an arcane mode of communication which is little used outside the amateur radio community.

The FCC expects the amateur service to "...provide for advancing skills in both the communications and technical phases of the art." In my opinion a test of vocabulary, grammar, or spelling makes as much sense as a test for Morse code. Maybe more.

(If Morse code is such an advanced method of communication then why is this discussion taking place on the Internet instead of on the HF band?)

Hand-keyed CW has its place. I'm sure its proponents can get a great deal of satisfaction from using it. And in emergency situations CW can be just as useful as many other modes in the amateur bands. Of course today it's the digital modes that get through when all other modes fail.

So I don't want to take away frequencies set aside for CW. But I do think the Morse requirements are a bit silly.

And today Morse code is not much of an obstacle to anyone interested in the cutting edge. The no-code license opens up many of the amateur bands, and Part 15 operations at VLF or ELF challenge even state-of-the-art equipment. All available to experimenters who don't want to learn the code.

Speaking of VLF; I hope the FCC doesn't move the 1750m band (160-190kHz) from Part 15 to Part 97. Limited transmissions are currently allowed without a license at 1750 meters, and experimenters have developed advanced techniques to deal

with this noisy band. It would be a shame if this became an amateur band that was restricted to licensed Morse code junkies.

Paul, KC7CKU

969. Macintosh Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: clint.bradford@atdbbs.com
Message-ID: <960903211042964@atdbbs.com>
Source record: 102730

>>There is plenty of radio software around for PC (IBM) computers. Does
>>anyone know of a good source of Macintosh "radio" software. Anything
>>from Morse converters to ...antenna design.... scanner control.etc..

Although primarily an IBM BBS, ATTENTION to Details BBS has a MAC
Amateur Radio Software File Area! And there's an easy way to get the
list of MAC files, too!

Just sent a piece of EMail to: ftp@atdbbs.com

Use any SUBJECT you like.

And write the KeyWord: MAC-HAM

as the ONLY word in the FIRST LINE of your message. You will receive a
textfile via return EMail with all they have to offer for MAC Amateurs!

clint.bradford@atdbbs.com
---
* TLX v4.00 * ATTENTION to Details AMATEUR RADIO BBS - 909/681-6221

970. homebrew modem for HT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: "tomcat@usa.net" <tomcat@usa.net>
Message-ID: <322DFCEE.DF0@usa.net>
Source record: 102731

I am looking for information (circuit or PCB) on homebrewing a packet modem for my 2m handheld.

Thank you.

971. 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199609041210.IAA14977@service1.cc.uky.edu>
Source record: 102732

At 01:28 PM 9/3/96 PDT

Larry Minnis wb6vgi wrote:
>Bill Orr, W6SAI, has such an amp in his Radio Handbook, 17th edition,
>on page682. He has the tubes configured as low-mu triodes. If he says
>it can be done, I for one would believe him. Larry, WB6VGI.
>
I don't have my handbook handy but I have seen one in the radio handbook that
has a gg 4cx??? with bias supplies. However if you read Bill Orr's (W6SAI) EIMAC
Amateur Service Newsletter AS-1 you will notice that he says not to use any
of the
following in gg triode connected service (page 1, paragraph 3):

4-65
4x150
4cx250
4cx1000a

The example he gives is for a 4x150a which dissipates 18 watts in the
control grid which is 9 times the maximum spec.
Others in the 4cx series such as the 4cx350 have a ZERO control grid
dissipation spec.
He does give the specs for a 4-125A, 4-400A and 4-1000A.

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

972. A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-04 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <1996Sep04.091525.1540.186727@mailgate02.mobility.com>
Source record: 102733

>Date: Tue, 3 Sep 1996 12:23:55 GMT
>From: davek@medphys.ucl.ac.uk (Dave Kirkby)
>Subject: A not so obvious resistor question.

>I need a resistor of 10 Ohms in series with the anode supply to a tube
taking
>2A max. Hence the resistor needs to be 40 W. However, in the event of a
tube arc,
>I do not want the resistor to fuse, so it must take the full HT (5kV) for a
>short time.
>This imples it must dissipate 2,500,000 W. Clearly, I'm not going to buy a
....

Unless you have a very SPECIAL power supply, it will not supply you with
500A
at 5kV! If it could supply that current, you would have to worry about a
lot more
than just your resistor.....

Find out your p/s short circuit current capabilities, calculate the primary
side current,
and fuse appropriately (or provide a protection circuit based on the voltage
drop
across your 10 ohm resistor). The thermal inertia of your carefully
selected resistor
should take care of it until the protection interupts the current.

Tony K
VA3TK
Toronto, Ontario

973. Help: Need specs on some stud diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: Glenn Baddeley <gbaddele@vitgssw.telecom.com.au>
Message-ID: <322EFE65.254@vitgssw.telecom.com.au>
Source record: 102653

Some screw-stud type power silicon diodes have come
into my possession, but some of them are just not in the several
data and equivalents books I have. Could someone help me
out with basic specs please? eg. Reverse voltage & maximum
current rating. The date codes indicate they were manufactured
in the mid to late '70s.

The manufacturer and type codes are:
GE A327B
NAE 1N1202A
IR 20FQ035
M 1901-0630
M 1-1035
TRW SD51

Please respond via private email.
Thanks in advance,
Glenn <gbaddele@vitgssw.telecom.com.au>
Electronics experimenter down-under (-:

974. Programmable Dividers + Freq. Std..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <50l8oa$em4@News.IDT.NET>
Source record: 102654

Gudday fellow HomeBrewers:
Can anyone point me in the right direction as to info on building a programmable divider to take my 5 mhz xtal Osc which is contoplled by Loran 'C' and make countdown frequencies so as to lock in Lowfer Transmitter (160-190khz) and the brick on my 10ghz ssb/cw rig. Can see +/- 50hz at 10ghz now so CCW on either band may be easier with locked in Sub Oscillators.
Any info, references appreciated

Am planning to put beacon back on 186 khz this winter. Any takers??

73 de Dave Riley AA1A Marshfield, Massachusetts... Where Prof. Fessenden did his magic in 1905/6 from Brant Rock Station here in town.. Original Tower base survives on N1EWA land..

Gudday....

975. WTB: Junk box stuff!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: zommbee@nwlink.com
Message-ID: <50li8o$6oa@texas.nwlink.com>
Source record: 102655
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi.

I am looking to buy 'junk box stuff' to help replenish my shop. I have been out of ham radio for 12 years, and in that time most of my RF related parts have disappeared. I used to tear apart old transmitters and receivers to get coil forms, toroids, variable caps, and the like but most of those rigs are now collectors items, even in non-working condition.

I much prefer to use 'old' used parts, rather than constantly dig out the 'DigiKey' catalog to buy new ones.

What I am looking for is coils, coil forms, variable caps, remnants of old homebrew projects and long-dead rigs that have useable parts left, etc. Tubes, (!), sockets, verniers, pots, etc. (Transformers weigh too much to ship!). But mostly after coils and other RF components or portions of old gear.

Not the 'new in the box variety', but the old scraggly but ueseable stuff that makes junk boxes famous. Maybe in $10, $20 or $50 'grab bag' assortment boxes, or whatever works for you. Don't go to any bother - just misc parts and remnants in a box. Don't bother to itemize - just a basic description of what you have, and I'll trust you. (I think hams still do that!)

email what you have to:

Dave WB7AWK
zommbee@nwlink.com

976. Re: Impedance Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDx8v9r.6zw@netcom.com>
Source record: 102656

uid@ornl.gov wrote:
: I am looking for a means to match a series tuned coil with an impedance of 1
: ohm at resonance to the imput impedance of a NE602 mixer which is 3k. The
: frequency range is 30 Khz to 150 Khz. From what I can determine is that this
: is not an easy match and needs to be extremely compact. Any advice will be
: appreciated.

I guess you are saying that you want to match a voltage generator with
1 ohm impedance to the 3k ohm input of the NE602? I don't think you
need to match impedance, assuming the voltage source is sufficient
in amplitude. It would help to know what you are trying to do exactly.

tgm@netcom.com

977. Re: Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <322E73C3.7364@monmouth.com>
Source record: 102657

Dean T. Miller wrote:
>
> Hi Nils,
>
> In article <1996Sep3.204047@nova.wright.edu>, From
> nyoung@nova.wright.edu, the following was written:
> > I'd like to build a 30m tube transmitter and a matching 30m
> > regen receiver with one stage of audio amplification. I think
> > I can do that with the three working 6V6s and the 1625. Or
> > really go loonie and use the 829 B. I think that's it. The
> > single-envelope dual-pentode with internal self-neutralization.
> > Came out of a surplus rig, now that I think of it. And
> > I still have that ART13 down in the basement. Hmmm.....
>
> But where would you get the high voltage (not to mention filament)
> transformers these days??<BG>
>
> --
> Dean T. Miller dtmiller@dsmnet.com
> 09/04/96 01:55
> ---------
> -- Dean -- from Des Moines ---- Using: OUI TE 1.5 from http://www.dvorak.com

Visit your local TV repair shops and ask them to call you when they
have an old tube type TV to dump and rip out the power transformer.
Tips on using them in the ARRL handbooks.

Bob, ND2L
--
****
Bob Bissett rbissett@monmouth.com
****

978. Re: Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: toyboat@freenet.edmonton.ab.ca
Message-ID: <50m34l$m6i@news.sas.ab.ca>
Source record: 102658

Dean T. Miller (dtmiller@dsmnet.com) wrote:
: Hi Nils,

: In article <1996Sep3.204047@nova.wright.edu>, From
: nyoung@nova.wright.edu, the following was written:
: > I'd like to build a 30m tube transmitter and a matching 30m
: > regen receiver with one stage of audio amplification. I think
: > I can do that with the three working 6V6s and the 1625. Or
: > really go loonie and use the 829 B. I think that's it. The
: > single-envelope dual-pentode with internal self-neutralization.
: > Came out of a surplus rig, now that I think of it. And
: > I still have that ART13 down in the basement. Hmmm.....

: But where would you get the high voltage (not to mention filament)
: transformers these days??<BG>

: --
: Dean T. Miller dtmiller@dsmnet.com
: 09/04/96 01:55
: ---------
: -- Dean -- from Des Moines ---- Using: OUI TE 1.5 from http://www.dvorak.com

--High voltage trafos are a problem. If you can't scrape up an old one,
from surplus or hamfests, you have some options:

1) Antique Electronic Supply - sells Hammond replacement power trafos,
complete with 5VAC and 6.3VAC filament windings. Also sells
vacuum tubes, RF chokes, power supply chokes, High-voltage caps,
Hi-Z headphones, tube sockets, audio trafos, variable caps,
radio restoration parts and supplies, and books.
(Antique Electronic Supply, 6221 S. Maple Ave., Tempe, AZ, 85283,
(602)820-4643 or FAX(800)706-6789 - catalog was free)

2) Electronic wholesalers sell isolation trafos in various VA ratings,
with 115VAC or 230VAC secondaries. 110VAC is sufficient for regens.
230VAC is enough for a low powered 6V6 oscillator or MOPA rig.
Radio Shack sells small transformers for low-voltage power supplies.
These 12.6VAC secondaries are center-tapped for 6.3VAC. Really, I
guess they are filament trafos.

3) The Radio Shack trafos can be wired back-to-back in pairs to achieve
an isolation trafo with 110VAC secondary (Connect 12.6VAC secondaries
in parallel, in-phase. Use one trafo primary as the 110VAC
secondary, take 6.3VAC for filaments from the tied-together windings.)

****
** Shane <toyboat@freenet.edmonton.ab.ca> **

```
****************************************
** Edmonton, Alberta, Canada **
****************************
```

979. Vacuum Tube windows TTF font posted in alt.binaries.fonts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDx904L.G9@netcom.com>
Source record: 102659
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I made up a public domain Windows truetype font, each letter or number
inside a vacuum tube. Tubes are the "shoulder" style.

Find it posted in alt.binaries.fonts

enjoy
73s

980. Re: Stripline 10GHz varactor oscilator design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: sloman@sci.kun.nl
Message-ID: <50mf21$frk@wn1.sci.kun.nl>
Source record: 102660
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <slrn52odbb.8gq.paul@wit387304.student.utwente.nl>,
paul@wit387304.student.utwente.nl (Paul Boven) says:
>
>Hi everyone,
>
>I'm very interested in finding a design for an X-band (10GHz) stripline
>transistor-source, with a varactor for PLL-ing and frequency modulation.
>I'm planning to use this as a building block in an X-band AX25-interlink,
>with a high baudrate (10Mb/s). Postscript-layouts with parts-list would
>be extremely welcome ;) But also any other information you might have.
>

Avantek do two ranges of VCO's running up beyond 10GHz, one using
varactor diodes to vary the frequency, and the other chunks of YIG
(yttrium-aluminium garnet). The varactor-tuned parts were cheaper and
could be modulated faster. When I last looked the YIG-tuned parts cost
some hundreds of guilders.

Avantek is on the net (more or less) - see http:/www.penstock.avnet.com/
new.htm - but they haven't got their data sheets accessible yet.

I've got a 1990 catalogue at home (I think) and I'll e-mail you some
part numbers this evening.

I guess that you are aware that conventional pcb materials both
absorb and disperse at above about 500MHz, so you will need to buld the
10GHz parts of your circuit on some sort of microwave substrate.
Bill Sloman (sloman@sci.kun.nl) | Precision analog design
TZ/Electronics, Science Faculty, | Fast analog design and layout
Nijmegen University, The Netherlands | Very fast digital design and layout

981. Re: Case paint for Kenwood TS-940

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: hduff@ica.net
Message-ID: <50mgh4$b90@master.ftn.net>
Source record: 102661
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Dave Skarbowski <skarbows@ptd.net> wrote:

>D.W.Hemphill KC5NG wrote:
>>
>> This may sound silly, but, have you inquired with Kenwood?
>> It would be great if they had touch-up paint available.
>>
>> 73 de KC5NG
>> (also a big Kenwood fan!)
>>
>Well, no I haven't tried Kenwood parts. I just assumed....
>Anyone?

>Dave, n2fam
>(a Kenwood fan but also a Yaesu and Ten-Tec fan...)

Failing Kenwood supplying the paint (I somehow doubt they will be very obliging) here's what I do:

A local automotive supply chain here in Toronto (Canadian Tire) carries a large selection of car touch up spray paint. They carry OEM paints for most automakers' original colours.
The colour that I needed was a sort of grey with a hint of olive.
Of the 2 times that I decided to repaint a radio case I had little trouble coming up with a near match.

I spend a little extra time preparing the case before painting by sanding out any scratches and very carefully hammering out any dents. After painting, I oven bake the covers in the kitchen.
Of course, ventilate the kitchen during the bake and air it out afterwards.

Cheers,
Hugh Duff VA3TO Toronto

982. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: Jim Garland <4CX250B@msmail.muohio.edu>
Message-ID: <322EDC85.7F6F@msmail.muohio.edu>
Source record: 102662

Dave Kirkby wrote:
>
> In article 63222@ucl.ac.uk, davek@medphys.ucl.ac.uk (Dave Kirkby) writes:
> > I need a resistor of 10 Ohms in series with the anode supply to a tube taking 2A
> > max. Hence the resistor needs to be 40 W. However, in the event of a tube arc, I
> > do not want the resistor to fuse, so it must take the full HT (5kV) for a short time.
> > This imples it must dissipate 500,000 W. Clearly, I'm not going to buy a 500 kW
> > resistor, so I'm wondering what is the best choice to find a resistor(s) to withstand
> > this without going bang.

Actually, Dave, the calculation of the power rating of the resistor is a bit more complicated
than estimating the peak power from V^2/R. As you noted, when the tube arcs, the full power supply voltage drops across the resistor. As has already been noted, however, unless you have
a HUMONGOUS power supply, the supply won't be able to supply the 500A of current to the resistor. There are, in fact, two characteristic currents you need to consider.

The first is the "steady-state" current, which is the current the supply can deliver in the steady state when the output voltage is short-circuited to ground. This steady-state value is
limited by the resistance of the transformer windings and the mutual inductance between the primary and secondary. This steady state current is probably in the range 10-50 amps. However, a fuse or circuit breaker will (hopefully!) trip before the steady state current is
reached, so the steady-state current is largely a theoretical consideration.

The other relevant current is the peak current delivered to the resistor when the tube arc occurs. This current is much higher than the steady-state current, and is caused by the stored energy in the filter capacitors discharging through your 10 ohm current-limiting resistor. The amount of stored energy is given by CV^2/2 (joules), where C is the filter capacitance and V is the (5KV) power supply voltage. This energy corresponds to a charge stored on the capacitor of Q=CV (coulombs), and when the tube arc occurs, this charge decays
to ground through the 10ohm resistor with a time constant RC. A typical value for RC would be
(30uF)(10ohms)=300usec

The current associated with this discharge also decays exponentially through the resistor with the same time constant. The peak instanteous value of the current is given theoretically
by V/R, but because the time constant is so short, the actual instanteous current would be reduced by the inductance of the power supply leads and other stray inductance. I'm guessing
the actual peak current would be about 100-200A, but it would be in this range for less

than
a millisecond.

As a practical matter, I normally use a 0.82-2.0 ohm 2Watt wire wound resistor for current limiting purposes. The resistor explodes if a tube arc occurs, thus limiting damage to the amplifier. I have also used a 50 ohm 50W wirewound resistor BEFORE the filter capacitors, to
limit the charging current through the capacitor when the supply is first turned on, but it isn't really necessary if you use a (recommended) step-start circuit.

73,

Jim W8ZR

983. Re: restore antique radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: wilder@clark.net
Message-ID: <50msck$f7d@clarknet.clark.net>
Source record: 102663

Jay Ritch (Jay_Ritch@msn.com) wrote:
: Would like some guidance in restoring a Sear & Roebuck model 1996
: (wood cabinet "weather and foreign bands" cica 1930).
: All tubes installed, don't know condition.
: Batteries missing, must build power supply for +22.5 vdc, +180 vdc.
: What i don't know is the voltage on the + and - terminals of the
: "type A" battery. : HELP?!? : e-mail to Jay_Ritch@msn.com

First, probably the 22.5 vdc is a "C" battery (grid bias). If so,
then it is conected as -22.5 vdc.

The main problem is the "A" battery. That lights the filaments of the
tubes. You can determine this by looking up the tube types in a manual
and finding the filament voltage specification. If you don't have a
manual, email me the tube type numbers and I may be able to look them up.
At that time, the type 24A, 27, and 45 were popular tubes.

During the late 40's, while in high school, I had fun playing with junk
radios from he 30's. They were, of course, hand wired so you should be
able to trace the wires from the +A and -A leads to check that they did
not do a mix series and parallel wiring.

73, Dick Wilder, K3DI wilder@clark.net

984. Low-noise RF power transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <50msh6$m6c@mrnews.mro.dec.com>
Source record: 102664

I need recommendations for a good, cheap, low-noise, readily available RF power transistor. This will be the post-mixer IF amp in the receiver I'm about to begin building, 12 MHz IF. It needs to be able to dissipate around 1W, cuz I'm gonna run it with plenty of collector current to keep IMD low (this thing won't last long on battery power!). All I have in the junk box is 2N3866, but I'm sure there must be better transistors by now!

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
==========

985. Re: B&W Miniductor or Air Dux coils still made? Any for sale?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <50n20h$3pu@ka4ybr.netmha.com>
Source record: 102665

It's kinda silly when you can wind your own.
You can buy tin plated wire or tin it youself.
Use 'plexiglas' or even wood for the form.

Heck, I use soup cans for coil shields.
Paint em pretty colors too.

-bob

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

986. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: Alan.Peake@dstos3.dsto.gov.au
Message-ID: <Alan.Peake.218.008895C5@dstos3.dsto.gov.au>
Source record: 102666

>> I need a resistor of 10 Ohms in series with the anode supply to a tube taking
>2A
>> max. Hence the resistor needs to be 40 W. However, in the event of a tube arc,
>I
>> do not want the resistor to fuse, so it must take the full HT (5kV) for a
>short time.

>Sorry, I mean the resistor must dissipate 2.5 MW, not 500 kW!

It will only dissipate this if your power supply can supply 5KV/10ohms = 500A

If you limit the PSU current to 2A, then you need only dissipate 10KW. If it's only a short time (how short? mS? uS?) then you may be able to get away with a much lower power rating. The main worry that you may have is arcing between turns of the resistor element unless it is a composition type.

Alan

987. Re: restore antique radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDx9rD2.2Dr@netcom.com>
Source record: 102667

Take a look at the newsgroup rec.antiques.radio+phono which specializes
in antique radios and their restoration.

988. Re: Tell me about piss weakers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <50n2sg$bp4@nyx10.cs.du.edu>
Source record: 102668

Thus spake Ted Busky:

>I understand there is a low power home brew am transmitter building group
>out there known as the piss weakers. Can anyone send me information on them?

Uh....

Was that supposed to be "pipsqueakers"?

Sorry, but I don't have any info about them, under either name...
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx.net | http://www.nyx.net/~lekollar/
"So don't try to turn my head away
Flirtin' with disaster every day"

989. More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: nyoung@desire.wright.edu
Message-ID: <1996Sep5.132847@desire.wright.edu>
Source record: 102669

Well, where _would_ I get filament and plate
voltage transformers these here days? The filament
transformer is easy: Radio Shack. They have a couple
different 12.5 Volt center-tapped transformers that
would likely have enough hoos to light the filaments.
Maybe 5 A would do, seems to me.

Plate transformers are another matter, since it's
dagnab hard to find that sort of stuff now. WHich means
that I would have to do the flea market/surplus radio
search. Here in the Dayton, OH area we have the always
popular Mendelson's Surplus. Spend a couple days in there
looking for stuff what ain't where the sign says it would
be. ANd Midwest Surplus in Fairborn might have the stuff,
since they have a big pile of transformers... and you
can see what they are and don't have to wander around
to find 'em.

The rest of the stuff I'd drag out of old radios
what don't work no more. Easy part, that. Besides,
I've been blowing stuff up pretty much non-stop since
I was 12, so I have a big box of blown up stuff that
has trashformers and suchlike stuff in it. Even tubes.

I still like not havin' to take off my glasses and
get out the microfilament interlaminar exoskeleton
cosmic dry-ice evaporated vacuum gold-plated zee-tron
microscope to look at the resistor codes. Ah, the joys
of being old enough to know what to do with all this
old stuff that young whipper-snapper engineering
dreamer types can't even figure which end goes in the
socket.

That and tapioca.

73
Nils
WB8IJN &c

990. Re: Programmable Dividers + Freq. Std..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: dickrb@lsid.hp.com
Message-ID: <50n92n$5rs@hpcvsnz.cv.hp.com>
Source record: 102670

A good beacon frequency - it seems to me - would be 166.6666666666KHz.
This freq is 1MHz divided by 6 or your 5MHz divided by 30.

73 de w7wkr

991. Re: Low-noise RF power transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <50n625$rr5@abyss.West.Sun.COM>
Source record: 102671

In article <50msh6$m6c@mrnews.mro.dec.com>,
Tom Randolph <randolph@asic.enet.dec.com> wrote:
>
>I need recommendations for a good, cheap, low-noise, readily available RF
>power transistor. This will be the post-mixer IF amp in the receiver I'm about
>to begin building, 12 MHz IF. It needs to be able to dissipate around 1W, cuz
>I'm gonna run it with plenty of collector current to keep IMD low (this thing
>won't last long on battery power!). All I have in the junk box is 2N3866, but
>I'm sure there must be better transistors by now!

Well, you've got several factors to consider.

First of all, the amount of bias power in a transistor does influence
the IP3/IMD performance, but, for every transistor, there is a point
where you stop gaining improved IP3 for increased bias power. So,
for any transistor you select, the bias point should be selected
for the best IP3, not based on some pre-conceived notion of
bias level.

The desire for low noise is almost certainly going to trade-off
against the necessity for good mixer termination (assuming you use
a mixer that requires good termination). You can't just select
a transistor on the basis of NFopt (the optimal noise figure), since
this represents the best possible performance, usually at a
significant mis-match. You need to evaluate transistors in
a circuit which meets the requirements, and you'll find that
even very low-noise parts aren't that important.

Is a "low noise" stage *really* necessary here? Have you done a
cascade noise/gain analysis on the proposed receiver? My personal
slant is to distribute gain and loss in the front end in such a
way that most of the system gain comes after the first IF 'roofing'
filter. The post-mixer amplifier really exists to provide good
termination for the mixer and compensate for loss in the IF roofing
filter.

I'd suggest that the classic 2N5109 stage, biased at something
like 50mA/8Vce, with a gain of 10dB or so is probably more than
enough. If the system NF isn't good enough, try using a strong
low-noise RF amplifier before the mixer. In any event, CATV transistors
are the low-IMD parts, since cable TV consists of a great number of
signals just eager to mix.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *

* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

992. FCC Issues NAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: n7zzt@goodnet.com
Message-ID: <50n8ke$lki@news.goodnet.com>
Source record: 102672

The following was received from the FCC Daily Digest for immediate publication:

****

Daily Digest

Vol. 15 No. 166
September 5, 1996

PHOENIX. AZ. Issued a further notice of apparent liability in the amount of $6,000 against Timothy Harold Hoffman, Phoenix, Arizonia, for violations of various amateur radio rules. Action by Chief, Compliance Division, Compliance and Information Bureau. Adopted: August 30, 1996 by FNAL. DA No. 96-1478. CIB Internet URL: index.html

- FCC -

993. Re: restore antique radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: stevem@best.com
Message-ID: <50nani$r23@shellx.best.com>
Source record: 102673

In article <50msck$f7d@clarknet.clark.net>,
richard l wilder k3di <wilder@clark.net> wrote:
>Jay Ritch (Jay_Ritch@msn.com) wrote:
>: Would like some guidance in restoring a Sear & Roebuck model 1996
>: (wood cabinet "weather and foreign bands" cica 1930).
>: All tubes installed, don't know condition.
>: Batteries missing, must build power supply for +22.5 vdc, +180 vdc.
>: What i don't know is the voltage on the + and - terminals of the
>: "type A" battery. : HELP?!? : e-mail to Jay_Ritch@msn.com
>
>First, probably the 22.5 vdc is a "C" battery (grid bias). If so,
>then it is conected as -22.5 vdc.
>
>The main problem is the "A" battery. That lights the filaments of the
>tubes. You can determine this by looking up the tube types in a manual
>and finding the filament voltage specification. If you don't have a
>manual, email me the tube type numbers and I may be able to look them up.
>At that time, the type 24A, 27, and 45 were popular tubes.
>
>During the late 40's, while in high school, I had fun playing with junk
>radios from he 30's. They were, of course, hand wired so you should be
>able to trace the wires from the +A and -A leads to check that they did
>not do a mix series and parallel wiring.
>
>73, Dick Wilder, K3DI wilder@clark.net
>

If you want to keep running the radio off batteries (as was originally designed) you can make your own C and B batteries using series combinations of 9V batteries purchased from bulk supply stores like Costco etc. I have made some 90V B batteries for a Transocianic using that method. The contacts are easy to solder to and the batteries last quite a while since the current draw is low.

Steve Muther WF6R

994. Simple (Inexpensive) Radio Kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: n2tkx@aol.com
Message-ID: <50ndol$189@newsbf02.news.aol.com>
Source record: 102674

Does anyone know of a source for very inexpensive radio kits - like less than $5.00? I've got a bunch of Boy Scouts that want to earn their radio merit badge but one of the requirements is that they construct a radio circuit of some sort - code practice oscillators and crystal sets are ruled out. In the past I've been able to scrounge the parts for a 1-tube receive out of my parts pile but that's reached the end of it's usefulness. I'll probably have the kids buy a kit somewhere but I hate to ask them to spend more than $5.

Steve Auyer, N2TKX
Troop 139
Liverpool, NY

995. Re: restore antique radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <50ndq4$ikn@sjx-ixn3.ix.netcom.com>
Source record: 102675

In <50nani$r23@shellx.best.com> stevem@best.com (Stephen Muther)
writes:
>
>In article <50msck$f7d@clarknet.clark.net>,
>richard l wilder k3di <wilder@clark.net> wrote:
>>Jay Ritch (Jay_Ritch@msn.com) wrote:
...
... snip
...
>
>If you want to keep running the radio off batteries (as was originally
>designed) you can make your own C and B batteries using series
>combinations of 9V batteries purchased from bulk supply stores like
>Costco etc. I have made some 90V B batteries for a Transocianic using
>that method. The contacts are easy to solder to and the batteries last
>quite a while since the current draw is low.
>
>Steve Muther WF6R
>
I'm not familiar with that radio, but check if your library has Riders
or Sams manuals on Microfiche, some do, and check them.

I would recommend staying with batteries, the radio's built to use
batteries don't like even a hint of ripple.

An electronic store that has surplus telephone stuff with have nice
1 1/2 volt cells, to series for filament, if you need more than 1.5
volts.

They will also have 45 and 90 volt cells, with some of 45's tapped for
22 1/2.

Altex in Austin still has Eveready "B" cells, I noticed a while back,
but at 17.50 for 45 volt cell the 9 volts are cheaper but not original.

Good Luck

Glenn Sparks KI5GY

996. FS: Tube Tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: asiv
Message-ID: <322f40dd.1843626@news.earthlink.net>
Source record: 102676
Cross-posted to: alt.guitar,alt.bass,alt.guitar.amps,alt.guitar.bass,alt.ham.radio.amtor,rec.musicmakers.guitar,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Tube tester, Electron Tube model TV2C/U, in near dead mint condition, everything intact (including wheel). If you are near Nashville, I can deliver it, or otherwise you pay shipping, etc.

They don't even come close to making them like this anymore...

Best serious offer....please respond before 9/7

asiv@earthlink.net

997. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: joeld@sr.hp.com
Message-ID: <50nn3m$bab@canyon.sr.hp.com>
Source record: 102677
Cross-posted to: sci.electronics.components,sci.electronics.basics,rec.radio.amateur.homebrew

Jim Gyer (docjim@getnet.com) wrote:

: I disagree with Douglas J. Mar (mar@zoltar.nrl.navy.mil) below. If
: it, there is a area where the slope is negative. That is: take two

And Doug Mar Said:

: >Nitpick: the term should probably be "negative differential resistance" or
: > "negative incremental resistance", for both Gunn and tunnel diodes, since
: > the slope of the I-V curve is always positive. The "negative resistance"
: > region is that over which the resistance _decreases_ for increasing bias,
: > but it still remains positive. (It's possible to use active devices to
: > construct a negative resistance (or impedance).

More Nits: Both right (or both wrong).

The slope DOES go negative (dV/dI < 0) so the differential resistance (or small signal resistance) does indeed go negative. But the resistance (V/I) is always positive.

One way to think of it is that you DC bias the diode in the negative differential resistance region using DC current, then you put a small signal AC circuit around the diode, coupling energy in and out (for an amplifier), or simply making a feedback loop with a narrow band width for an oscillator, and you will get AC signal out with no AC in. But you will always burn up more DC power than the AC signal you get, usually a lot more.

Gunn diodes come from the Gunn effect in bulk GaAs material where the mobility of the electrons slows as the elecectron density increases, forming "wave like" regions of bunched up electrons, called Gunn domains. These have the effect of causing the current to be reduced if the voltage is further increased, thus negative differential impedance. Gunn modes often happened in early GaAs FETs, and these were very undesired,as they could cause spurious oscillations in amplifiers.

Joeld.

998. Who sells kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: Mark Engebretsen <mark_engebretsen@hp.com>
Message-ID: <322F7711.3042@hp.com>
Source record: 102678

I'm looking for HAM kit manufactures to build my own basic equipment.
Who is in the business these days and are there any Internet sites that can be referenced?

Many thanks for any leads.

Mark

999. Who sells kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: Mark Engebretsen <mark_engebretsen@hp.com>
Message-ID: <322F775C.F7F@hp.com>
Source record: 102679

I'm looking for HAM kit manufactures to build my own basic equipment.
Who is in the business these days and are there any Internet sites that can be referenced?

Many thanks for any leads.

Mark

1000. Re: Homebrewing for the less-than-affluent (was: "Commercial CW use")

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-05 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <50o29f$reb@news1.mnsinc.com>
Source record: 102680

gary@ke4zv.atl.ga.us (Gary Coffman) whistled a happy tune like:

|In article <841476129.13325.0@vantage.demon.co.uk> joe@vantage.demon.co.uk
(Joe Pritchard) writes:
|>Tovar <tvr@alive.com> wrote:
|>
|>>So what are my options? Is there much that one can do in the RF realm
|>>without a lot of money or learning CW first?

|Pardon me for following up Joe's message, but the original didn't
|make it here. Let me address what one can do without learning CW
|first. In a short sentence, the answer is "anything you wish outside
|of HF." Current regulations limit you to only receiver, accessory,
|and antenna projects for HF if you don't pass a Morse test, IE no
|transmitting. While those things are interesting in and of themselves,
|they're more SWL than amateur radio. Above 30 MHz, however, the whole
|world of amateur radio is open to you.

Joe - and Gary - for information about sources of parts to build such
equipment, kits from simple to advanced etc., call in to my Web Site for
free information. I am not selling ANYTHING!

http://www.mnsinc.com/bry/

SHORT DESCRIPTION:
Amateur Radio, Electronics,
Shortwave/Pirate Radio, Ice Hockey, UK/US English Dictionary,
picture of me, many hot links, files etc.

The site name is:
"MEGALIST + HAM RADIO + HOCKEY = Bry's Homepage"
E-mail: brybry@juno.com
http://www.mnsinc.com/bry/index.html
TRY MY WEB-SITE please!
See if I look as ugly as you would expect!

1001. Re: Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Peter Dingemans <129432pd@mstore.eur.nl>
Message-ID: <Pine.PCN.3.91.960906130855.7898B-100000@[130.115.53.78]>
Source record: 102534

G'day,

On 4 Sep 1996, Dean T. Miller wrote:

> But where would you get the high voltage (not to mention filament)
> transformers these days??<BG>

If you have a lot of spare time, you can of course wind them yourself... I usually do this, since it saves a lot of money as compared to buying them, even when you buy in dump-stores. I usually buy my heavy transformers at non-ham flea-markers, so they usually cost no more than 1 or 2 US$. (paid 2$ for a 750W transformer). However, it usually takes a while to wind, even with a home-made winding-machine (very simple, hand driven). In my neighbourhoud there's a transformer/electromotor winding-shop, which can do the job for about 60$. When I do it myself, it takes me about 3 days of 8 hours (on a 500W transformer) of boring work, but then you have a trafo exactly as you wish it, i.e. with 'extra' voltages, filament, grid, screen voltages, etc.

Hope this has been of help,

1002. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50p8ak$jqo@newsbf02.news.aol.com>
Source record: 102535

>As a practical matter, I normally use a 0.82-2.0 ohm 2Watt wire wound
>resistor for current
>limiting purposes. The resistor explodes if a tube arc occurs, thus
limiting
>damage to the
>amplifier. I have also used a 50 ohm 50W wirewound resistor BEFORE the
filter
>capacitors, to
>limit the charging current through the capacitor when the supply is first
>turned on, but it
>isn't really necessary if you use a (recommended) step-start circuit.

There was some good info there , but don't follow this advice!!!!!!!!!

I think that was the worse suggestion I've ever heard, short of using a thin piece of wire as a fuse. The use of a fractional ohm to 2 ohm resistor is incorrect in almost any application.

In a typical application using electrolytics, the ESR of the capacitors, the choke resistance and inductance, and other circuit losses would make the 2 watt resistor nothing but a very poor "fuse".... it most certainly would NOT limit current. Just what do you think the big flash is from? Until that sustained arc quits, the resistor is heavily conducting.

Let's look at a pratical example. One 3600 volt supply amplifier has a 6 ohm choke, and a typical minimum ESR of .6 ohms per electrolytic. It has 10.8 ohms of series resistance not including wiring and choke impedance. The peak discharge pulse during an arc will be 200 amperes (or less) in this example due to the accumulation of resistances and impedances, and the addition of a 2 ohm resistor would mean a reduction of surge to 180 amperes or so. Big deal!!!

To add any meaningful protection the surge resistor would have to be a minimum of ten ohms, and preferably something larger. Since the tube used in it can generally take a brief discharge of a few hundred amperes without permanent damge, everything is fine as is.

If the PA used a large oil capacitor and a larger plate choke, the ESR would be as low a fraction of an ohm. The surge current could easily approach 1000 amperes with the suggested two ohm limiter.... that value is useless to protect the tube. If the resistor vaporizes before the grid, you're in luck. Maybe it will, maybe it won't.

Depending on a resistor explosion to shut the system down is not very wise. Fuses are undependable enough for reliability and failure time when overloaded, I'd hate to think of the reliability of a component designed

for a totally different application.

Using a Triac trigger to test small 2 watt resistors, I found some that took a several hundred milliseconds to explode with a 1000 ampere surge. There is actually such a large time lag between overload and explosion resistors can explode AFTER the current dump has decayed!! Some protection that is.

If someone is going to go through all the difficulty to install protection, they might as well use the correct part. It isn't all that difficult. The correct component would LIMIT surge to a safe value for the tube and ALL other components until a breaker could open.

In the length of time it takes for the problem to degenerate to transformer ESR, the expensive damage would already be done. Transformer ESR has little to do with anything past the diodes except voltage regulation.

73, Tom

1003. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.186.0030BEEA@azstarnet.com>
Source record: 102536

In article <323018CB.724@pop.erols.com> Steve Ickes <thebizlk@pop.erols.com> writes:
>From: Steve Ickes <thebizlk@pop.erols.com>
>Subject: Re: 4CX250B as GG TRIODE amp ???
>Date: Fri, 06 Sep 1996 05:27:55 -0700

>Orr wrote an article in QST back in the 60's on cathode driving 4cx type
>tubes. He did not suggest triode connection but rather what he called
>super cathode drive. It involves feeding some drive to the grid as well
>and includes RF feedback ala Collins linears. According to the article,
>drive requirements are increased (lower stage gain) and IMD reduced.

>S

The article was, "Semi- and Super-Cathode Driven Amplifiers" by Orr and Sayer,
QST, July 1967.

73, Wes -- N7WS

1004. Re: WTB: Junk box stuff!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <50pcib$v1u@newsgate.sps.mot.com>
Source record: 102537
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Don't forget the obvious -- post on your local *.wanted and *.forsale groups, asking for free electronics stuff, and promise to haul it all off.

You can get some wonderful stuff this way. Especially, offer to haul off old TV sets, because they have a wealth of good stable coils and parts in the various oscillators.

1005. Re: Source for 0.05 Ohm Resistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <3230018B.1F24@apk.net>
Source record: 102538

> >> Why don't you build your own? Check out the copper wire table in the
> >> ARRL manual. Choose a suitable gauge of wire and cut the appropriate

> >The wire wouldn't stand the current.
> Hey, it said "Choose a suitable gauge of wire"! When it doesn't stand
> the current it wasn't a suitable gauge of wire.

Where do you put a roll of #10 in a power supply box, hi hi.

It's obvious that the resistor serves a purpose that is very difficult to fill with a roll of magnet wire. A number of responses have indicated that they sometimes fail and act as a fuse. The physical layout of the power supply is not cramped. However, there isn't room for whatever gauge wire would be required. Not replacing the resistor with a resistor would be poor engineering.

As the resistor is $1.00 from Astron and $1.76 from Newark, I went ahead and ordered a handful from Astron.

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

1006. Homebrew for lightning protection

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Harry Clinton <ni4p1@hcc-uky.campus.mci.net>
Message-ID: <32304047.21EA@hcc-uky.campus.mci.net>
Source record: 102539

Lightning protection informatiom sent to United States postal address only. Email address you wish info sent. Plans for static charge dissipation.

1007. Ham Radio as an *ENJOYABLE* Hobby

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: mpenner@cloud9.net
Message-ID: <323046D7.358D@cloud9.net>
Source record: 102540
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.policy,rec.ham-radio.swap,rec.ham-radio.packet

The QSY Society, a new Amateur Radio Organization for the Putnam,
Dutchess and Westchester area will hold its first meeting on Wednesday,
September 11, 1996, 7:30 PM, at the Carmel Ambulance Corps Headquarters
on Vink
Drive in Carmel, NY. (Behind the Carmel Firehouse on Route 52)

The primary goal of the group will be to fill an existing void by
providing an enjoyable forum for the discussion of technical, operating
and social topics of interest to radio amateurs.

Join us and share the Amateur Radio Experience.

73.......

N2YCR

1008. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50ph0e$mui@newsbf02.news.aol.com>
Source record: 102541

In article <n7ws.185.02AD4597@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) writes:

>Also note, most of the circuits in these books are stolen from somebody else,
>
>(I know, I'm one of them) and have not necessarily been approved (or proved)
>by either Bill Orr or EIMAC.
>
>73, Wes N7WS

Amen.

Stealing ideas is bad enough, but the real problem is the idea often gets misapplied because the thief doesn't want to ask WHY something was done. One of my friends there told me he used to lock his desk so his work didn't suddenly appear in a book that some else made money from, usually with the whole concept distorted.

Some guy in Texas grilled me on my phased receiving loops, and published an article that was all wet. It's a curse.

73 Tom

1009. Re: Tubes, fer cryin' out loud! Them's tubes, Martha!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: bbennett@smartt.com
Message-ID: <32304ff1.1199342@news.smartt.com>
Source record: 102542

On Fri, 6 Sep 1996 13:13:49 -0900, Peter Dingemans
<129432pd@mstore.eur.nl> wrote:

>G'day,
>
>On 4 Sep 1996, Dean T. Miller wrote:
>
>
>> But where would you get the high voltage (not to mention filament)
>> transformers these days??<BG>

I often drive around backroads to find ancient TVs illegally dumped at
the side of the road & scrounge the xformers. (& neat old tubes
sometimes)
& yes, Hammond makes a fair selection of xformers, but you pay through
the nose for them!

just my two cents worth!

Brian
VE7IJQ
Don't you just love the smell of tube equipment!!! Mmmmmm!

1010. Re: Ham Radio as an *ENJOYABLE* Hobby

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Dick Flanagan <dick@merlin.libelle.com>
Message-ID: <32306072.606@merlin.libelle.com>
Source record: 102543
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.policy,rec.ham-radio.swap,rec.ham-radio.packet

mpenner@cloud9.net wrote:
>
> The primary goal of the group will be to fill an existing void by
> providing an enjoyable forum for the discussion of technical, operating
> and social topics of interest to radio amateurs.

What a novel idea! :^) Here's hoping it catches on.
--
Dick Flanagan, W6OLD - (dick@merlin.libelle.com) - Minden, Nevada

1011. Re: Simple (Inexpensive) Radio Kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-0609961517310001@brainiac.hi.com>
Source record: 102544

In article <50ndol$189@newsbf02.news.aol.com>, n2tkx@aol.com (N2TKX) wrote:

> Does anyone know of a source for very inexpensive radio kits - like less
> than $5.00?

No, but you should be able to homebrew a crystal set for about that - $.30 for the 1N34A detector, several bucks for the crystal earphone, $.60 for the 10K resistor and 0.01 uF cap to parallel with the earphone, and $.50 for a fixed 350 pf cap. I'll assume you scavange some fine enameled wire from a TV flyback transformer or some such. Wind a 250 uH coil on a 2" paper mailing tube form and coat it with shellac to keep things together. Take some sheet brass or phosphor-bronze and make a sliding contact for the coil. Sandpaper off the insulation in a 1/4 inch wide strip where the slider makes contact along the coil. Arrange for the sliding contact to short the end of the coil, and you have a variable inductor that you will use to tune the radio, in place of a rather expensive variable capacitor.

Hook the coil and 350 pF cap in parallel and feed the earphone/resistor/0.01 uF capacitor combination through the 1N34A, attach antenna and ground, and voila, you have a radio.

As an alternative, consider using a varactor diode and potentiometer to tune the radio. You could build a little regen set around an MPF102, a home-made coil, a varactor and potentiometer tuning arrangement, and a crystal earphone.

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1012. 10m question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: ppak@inferno.eis.org.za
Message-ID: <50pp9p$h14@itu1.sun.ac.za>
Source record: 102545

I have two simple cb radios that uses crystal sets for each channel. Could i simply change these crystals to the frequency i want or do i have to retune some coils?

email
9308970@firga.sun.ac.za

1013. Re: Low-noise RF power transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <842036708snz@lfheller.demon.co.uk>
Source record: 102546

In article <50msh6$m6c@mrnews.mro.dec.com>
randolph@asic.enet.dec.com "Tom Randolph" writes:

> I need recommendations for a good, cheap, low-noise, readily available RF
> power transistor. This will be the post-mixer IF amp in the receiver I'm about
> to begin building, 12 MHz IF. It needs to be able to dissipate around 1W, cuz
> I'm gonna run it with plenty of collector current to keep IMD low (this thing
> won't last long on battery power!). All I have in the junk box is 2N3866, but
> I'm sure there must be better transistors by now!

There are other devices like the 2N5109 that are better, but the 2N3866
isn't too bad, and is easier to get hold of. A post-mixer amp circuit in
the ARRL Handbook can use both these devices, and I'm using it with a
2N3866, in an experimental Rx, although I have a couple of 2N5109s lying
around.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

1014. VT-25A Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <50pn1m$euj@freenet-news.carleton.ca>
Source record: 102547

The VT-25A tube is listed as a "10Y" or "10 Special" in the literature.
Does anyone know "Y" it is "Special"? Is it just a ruggedized 10?

Thanks for any help.

1015. Re: Low-noise RF power transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.960906165945.816C-100000@spork.callamer.com>
Source record: 102548

Wow! I guess great minds are one. I was just about ready to suggest the 2N5109 transistor as well. It was described in just that fashion (first IF following SBL-1 mixer) some years ago in QEX magazine. It might take some digging but it's there!! 73 Cliff Buttschardt K7RR ex W6HDO

1016. PIC Keyer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Rick Miller <rdmiller@execpc.com>
Message-ID: <01bb9c36$36bddc40$060801c1@eng06.digalogsys.com>
Source record: 102549
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I've got *working* code for the PIC16C84 to implement an iambic keyer in only
FOUR PARTS:
(1) PIC16C84, which is an 18-pin DIP or SOIC
(1) "ColorBurst" crystal (3.58 MHz) for its clock
(2) small (~22pF, value not critical) capacitors to help the crystal

That's all! NO POTS. When it "wakes up" (power-up or reset) it's in 'menu mode'
and sounds out the menu options in Morse code for you. You browse back and forth through the menu by tapping either paddle, you adjust rate and pitch the same
way. Your current selection is [Enter]'d when you squeeze both. The menu goes like this:

KEY-->Iambic keying, keys the transmitter.
RATE-->Adjust speed.
TONE-->Adjust pitch.
PRACTICE-->Iambic keying, does *not* key the transmitter.
QUIET/SIDETONE-->Toggles sidetone generation from the keyer.

The chip has internal pull-ups on its input pins and debouncing is done in firmware. All configuration options are stored in on-chip non-volatile memory.
The output pin emulates an open-collector output that can sink 25mA.
It needs a DC supply (2.0 to 6.0 Volts DC is fine) and should be capacitively
coupled to your rig's speaker (okay, that's *five* parts with the 0.01uF cap).

Like I said, I've already got this code written and *running*. The problem is that I'm completely new to iambic keying... I have no idea what it's *supposed* to 'feel' like except what I've read in the ARRL Handbook and the Curtis 8044 documentation. That means I'm looking for beta testers!

If anyone is interested in trying this keyer out, just email me: <rdmiller@execpc.com>. If you can program a PIC16C84, I'll send you the HEX file. Otherwise, we might be able to make arrangements to get a pre-programmed PIC16F84 to you. Anyone should be able to come up with the other parts themselves.

Later on, I may offer it as a complete board done in surface-mount which should come out to be a rectangle less than 15mm on a side. By then, the user interface should be somewhat improved and I'll include some Morse memory functionality and beacon-mode operation as well.

Anyone interested?

Rick Miller (kb9obn) rdmiller@execpc.com

1017. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <50q455$t7q@newsbf02.news.aol.com>
Source record: 102550

In article <323018CB.724@pop.erols.com>, Steve Ickes
<thebizlk@pop.erols.com> writes:

>Orr wrote an article in QST back in the 60's on cathode driving 4cx type

>tubes. He did not suggest triode connection but rather what he called
>super cathode drive. It involves feeding some drive to the grid as well
>and includes RF feedback ala Collins linears. According to the article,
>drive requirements are increased (lower stage gain) and IMD reduced.
>
>S

Of course that idea was pilfered from the wonderful Collins design used in the 4CX1000 amp they made, and was misapplied in the article. There are several major errors in the super cathode article.

The problems are:

1.) In order to function correctly as the original Collins circuit intended, the tube must NEVER draw grid current. This was overlooked in the article.

2.) The tube must be a multiple grid tube.This was overlooked in the article.

3.) The multiple grid tube must be unconditionally stable with the control grid floating for RF. This was ovelooked in the article.

It's an easy circuit to analyze. If the PA does not follow these guidelines, the super cathode driven circuit does the following:

1.) If the tube draws current over any portion of the RF drve cycle, the sudden drop or change in grid-cathode impedance during grid current causes a change in operating characteristics and a reduction in gain. This forces non-linearity just when it is needed most. The result is higher IMD, not less.

Why did a company like Collins do this? Because the 4CX1000 has a ZERO mA grid current rating. If grid current is ever drawn, it RUINS the tube. Collins did this to prevent overdissipating the grid with a 100 watt exciter, knowing the tube would never have grid current during correct operation.

2.) Because the control grid is "floated" on a high RF impedance, the grid no longer shields the anode and cathode. The additional feedback this causes is regenerative at some frequencies, and destabilizes the PA. If there are extra grids in the tube between the control grid and cathode, they sometimes offer enough shielding to prevent excessive feedback. If

the tube is a triode, stability is ALWAYS compromised with a super cathode driven circuit. The resulting uncontrolled feedback is just as likely to decrease IMD as improve it. The circuit has no place in a triode PA, even a class A triode.

3.) Even with an AB1 tetrode, connecting the grid to the cathode via a voltage divider is unwise UNLESS the PA is completely stable and has more than adequate input to output isolation without grounding the control grid. Feedthrough capacitance has a deleterious effect on performance and stability, and "floating" the grid even the slightest amount will increase this feedback. The 4CX1000A has very good cathode to anode isolation even withoutt depending on the control grid, but other tubes don't.

Heathkit was pushed into using this circuit in the SB-220, and it had detrimental affects on stability and IMD. If you remove the super cathode garbage from the control grids and ground the grids like Eimac intended, the Sb-220 has better IMD performance and gain vs frequency linearity.

You won't find a single paper appoved by Eimac's engineering department on super cathode circuits. None of the recommended circuits in official Eimac publications show grids in 3-500's going anywhere but the chassis for RF. I'd go to real company engineers for critical electrical data, not marketing guys.

A simple resistor in series with the cathode is simpler and really does IMPROVE IMD and stability.

73 Tom

1018. New QRP HF traceiver kit available for only $75

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: wb6siv@cyberg8t.com
Message-ID: <wb6siv-0609961907440001@host14.cyberg8t.com>
Source record: 102551

Emtech has a new QRP transceiver kit available for only $75, which my ham supply company just started to carry. You can order either the 80, 40,30, or 20 meter version. It is a superhet single signal receiver, with a variable crystal filter (available as an option for $20). The transmiter will put out 4-5 watts max, and adjustable down to the MW range. The keying and muting is very smooth and features solid state antenna switching. The rig also comes with full QSK keying. You supply the cabinet, power plug,and knobs. The rig is guranteed to work, as it is put together and tested in steps, you should not have any surprises. Full e-mail and phone tech support is available if needed.

I haven't even put this item in my products data base yet. Thought I would share it's capabilities with the group here first. If interested send me an e-mail and I'll provided more details. Best of 73's Ray
--
The Raymond Sarrio Co. a full feature Ham Radio Storefront and web site developer. Located at http://www.sarrio.com.

In association with Brillar Enterprises http://win-win.com/brillar provider of discount CD-Roms!

1019. FS 4CX1500B / socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <3230B2CA.4120@calweb.com>
Source record: 102552
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I have for sale a 4CX1500B with socket. Tested in Sunair amp, full power out all bands. $300 plus shipping.

Please resond via email, address below.

--
73 David KD6QFZ
dsipe@calweb.com

1020. Re: Who sells kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Michael Tracy <mtracy@arrl.org>
Message-ID: <32309A87.48B4@arrl.org>
Source record: 102553

Mark,
For ARRL's recently updated list of kit manufacturers, point
your web browser to:

ftp://oak.oakland.edu/pub/hamradio/arrl/infoserv/tech/kits.txt

For a list of all ARRL files at this site, see:

ftp://oak.oakland.edu/pub/hamradio/arrl/index.txt

Also be sure to check out Brian Carling's kits and parts list at:

http://www.mnsinc.com/bry/mega/megalist.txt

Although Brian doesn't always have the latest addresses, he does have
more suppliers on file than we do.

Best Regards, Michael Tracy, KC1SX, ARRL Technical Information Services
---
American Radio Relay League, Inc. Tel: 1-860-594-0200
225 Main Street Fax: 1-860-594-0259
Newington, CT 06111 Email: mtracy@arrl.org (internet)

1021. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.187.0024F278@azstarnet.com>
Source record: 102554

In article <50q455$t7q@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>From: w8jitom@aol.com (W8JI Tom)
>Subject: Re: 4CX250B as GG TRIODE amp ???
>Date: 6 Sep 1996 17:13:09 -0400

[lots of great stuff deleted for brevity (thanks Tom)

>You won't find a single paper appoved by Eimac's engineering department on
>super cathode circuits. None of the recommended circuits in official Eimac
>publications show grids in 3-500's going anywhere but the chassis for RF.
>I'd go to real company engineers for critical electrical data, not
>marketing guys.

The unfortunate thing about the QST article was that an EIMAC project
engineer was a co-author.

>A simple resistor in series with the cathode is simpler and really does
>IMPROVE IMD and stability.

Just can't beat a resistor for adding stability!
>
>73 Tom

73, Wes -- N7WS

1022. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <322FD92F.698B@rcru.rl.ac.uk>
Source record: 102681

The problem is, you have a resistor that must be able to handle the discharge of say 100uF at 5kV. It is 10 Ohms. Aside from the obvious solution of making the resistor 100 ohms and only needing to worry about 50A, you could add inductance to reduce the peak current. The real problem is an energetic dissasembly of the resistor with the 500A peak current. You will need a very large resistor, for example a wire wound one, with 18guage wire. Now where can one get one of these? An electric fire element perhaps?

I have a similar surge limiting resistor in my HT PSU. It is 90 ohms and ~100W, made from 5 20W 18 ohm resistors in series to ensure it does not arc. The EHT is 2-2.5 kV, typical current 500mA. Short circuit current ~28A. It has survived. If you were to scale it, assuming you can do that, to say 400W you should be OK.

You can also make your own EHT fuse. You need to get some old ceramic sand filled cartridge fuses, a length of fuse wire of appropriate rating, a glass or ceramic tube 3-4 inches long and 1/4-3/8 inch diametre, e.g from a glassblower supplier. Fabricate some end caps, fix the fuse wire in the middle of the tube and fill it with sand removerd from the cartridge fuses. (Don't use gunpowder from shotgun gartridges).

The sand absorbs the energy from the fuse rupture and surpresses arcing. Don't consider not using sand as you will breifly end up with an arc lamp, then a laundry bill.

1023. Re: Tell me about piss weakers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <3230176A.3642@pop.erols.com>
Source record: 102682

Yea, check out the following

http://www.localnet.com/~wa1sov/

http://webnotes.bicnet.net/$hamradio/

Enjoy,

S

Ted Busky wrote:
>
>
> I understand there is a low power home brew am transmitter building group
> out there known as the piss weakers. Can anyone send me information on them?
> I would like to put together a low power am transmitter.
> Thanks.

1024. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-06 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <323018CB.724@pop.erols.com>
Source record: 102683

W8JI Tom wrote:
>
> In article <322A2F32.5AD1@erols.com>, Larry Minnis <wb6vgi@erols.com>
> writes:
>
> >Bill Orr, W6SAI, has such an amp in his Radio Handbook, 17th edition,
> >on page682. He has the tubes configured as low-mu triodes. If he says
> >it can be done, I for for one would believe him. Larry, WB6VGI.
> >
>
> I wouldn't without careful consideration of potential problems. All
> suggestions you might find in books aren't always good.
>
> One of Orr's "favorite" tactics is connecting the control grid to the
> cathode. He suggests doing this in sweep tube amps even though it results
> in feedback levels that de-stabilize the amplifier and send IMD through
> the ceiling.
>
> Anyone owning a Dentron GLA1000 or an Amp Supply LA-1000 can see this
> problem... just set the amp to 15 or ten meters open the input port and
> tune the tank to resonance with the loading control meshed. The amp will
> oscillate like crazy. Measure IMD performance and it is over seven dB
> worse with the cathode and grid connected, as opposed to conventional "all
> grids grounded" operation.
>
> When cathode driven, the control grid is the primary shield between the
> input and output. The control grid belongs at low RF potential to ground.
>
> When tubes are designed great care is taken in grid design to be sure IMD
> is acceptable. Changing the mode of operation by not using the grid
> designed to do the control function, and exciting the grid designed to be
> operated at a high dc potential, might not be the best idea if distortion
> is a concern.
>
> 73 Tom

Orr wrote an article in QST back in the 60's on cathode driving 4cx type
tubes. He did not suggest triode connection but rather what he called
super cathode drive. It involves feeding some drive to the grid as well
and includes RF feedback ala Collins linears. According to the article,
drive requirements are increased (lower stage gain) and IMD reduced.

S

1025. Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: ab5qy@ix.netcom.com
Message-ID: <50qhjm$kdf@sjx-ixn3.ix.netcom.com>
Source record: 102555
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

>
"I saw an article in an Internet Newsgroup telling me I could make
>
>$50,000 within 4 weeks for an investment of only $5 just by sending $1
>
>bill to only five people. I thought this was just another get rich
quick
>
>scheme for "somebody-else", but because of my poor financial status at
>
>the time, I decided I had nothing to lose."
>
> "I followed the articles instructions and mailed out a single
dollar
>
>bill to each of the five people on the list that was contained in the
>
>article. I included a small note, with the dollar, that stated;
>
>"Please Add Me To Your Mailing List". I then removed the first name
off
>
>the top of the list of five and added my name to the bottom of the
list."
>
"I then posted the new article to 200 other newsgroups.
>
> One weeks later, to my surprise, I started receiving money in the
mail.
>
>The money came in slowly at first, but by the end of 4 weeks I had
>
>received $25,624. I could not believe it!! I the mail came from all
over
>
>the world. I know that it's not $50,000 but it sure beats nothing!
>
>Especially considering it coast me only $5 and a little time."
>
> Fisrt of all, this is completly LEGAL, by including the note
"Please
>

>Add Me To Your Mailling List" you are creating a service.This way you
>
>are paying for a legitimate service. This is NOT a Chain letter.
Second,
>
>HONESTY is the only way the system will work.
>
> If you follow the 3 steps below, the same results should happen
to you.
>
>Make a printout of this article so you refer to it latter.
>
>
>
>STEP 1:
>
> Write your name and address on 5 pieces of paper with the words
"Please
>
>Add Me To Your Mailling List". Fold the paper around a dollar and put
it
>
>in an envelpoe. Then send one envelope by mail (Postal Service) to
each
>
>of the five addresses below.
>
>
>
>
>
>
>
> 1. T. Poole
>
> 9270 Ladona Dr.
>
> Powell, OH 43065
>
> USA
>
>
>
> 2. Kelly
>
> 7209 E 108 Terr
>
> Kansas City, MO 64134
>
> USA
>

>
>
> 3. Marshall Daubs
>
> 365 West 200 South
>
> Saint George, UT 84770
>
> USA
>
>
>
> 4. Mark Gerasimenko
>
> P.O. Box 240402
>
> Honolulu, HI 96824
>
> USA
>
>

5. Betsy Dudley

11221 Carissa DR

Dallas, TX 75218

USA
>
>Step 2:
>
> Now remove the first name on the list and move the other 4 names
up. #5
>
>becomes #4 and #4 becomes #3 etc. Put your name and address as number
5
>
>on the list.
>
>
>
>Step 3:
>
> Post your new article to at least 200 news groups. There are
17,000 of
>
>them.
>
>
>

> You are now in the Mail Order Investment Business and you will
start
>
>receiving $1 returns by mail within a week. The more news groups you
>
>post to, the bigger the return will be.
>
>
>
> HERE IS HOW THE SYSTEM WORKS
>
>
>
> Of the 200 hundred postings I made, I received an average of
>
>5 replies, each with a 1 dollar bill enclosed. If each of the 5 people
>
>who sent you 1 dollar now make 200 postings with your name in the #4
>
>position . This would be 1000 postings with your name at #4. Therfore
>
>with the average reply rate, 50 people will send you 1 dollar. you
make
>
>50 dollars. The 50 new people make 200 posting each with your name at
>
>the #3 position which is10,000 postings. Using the average return,
>
>500 replies at 1 dollar equals $500. The 500 new people make 200
>
>postings with your name at #2 which is 100,000 postings. Your return
of
>
>5,000 at $1 equals $5,000. Now 5,000 people make 200 postings with
your
>
>name at #1 you get 50,000 replies at $1 = $50,000 The total income
cycle
>
>is $55,500.
>
>
>
> From time to time , when your name is no longer on the list. You
take
>
>the latest posting that is appearing in the news groups and invest
>
>another $5 by sending $1 to each person on the list and put you name
in

>
>at the bottom of the list again. Remember, 200 postings is only a
>
>guideline. The more you post, the greater the return.
>
>
>
> Let's review the reasons why you should do this: The only cost
factors
>
>are 5 stamps, 5 envelopes, and 5 1 dollar bills. Anyone can afford
five
>
>dollars to put into such an effortless investment which will
>
>bring spectacular returns.
>
>
>
> REMEMBER - HONESTY IS THE ONLY WAY THIS SYSTEM WILL WORK.

1026. new url in apeldoorn

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: adriaan <adpe1khp@pi.net>
Message-ID: <32313637.7AD7@pi.net>
Source record: 102556

```
Hello,

The url has change, see for it..

Greetings Adriaan

-----------------------------------------------
Adriaan PE1KHP Radioamateur
Homepage radioamateurs in Apeldoorn
http://www.pi.net/~adpe1khp/home.htm
-----------------------------------------------
Packet radio is tijdens de maand september NIET
in gebruik door een verhuizing van de shack
-----------------------------------------------
```

1027. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <323150D6.6A54@worldnet.att.net>
Source record: 102557

nyoung@desire.wright.edu wrote:
>
> Well, where _would_ I get filament and plate
> voltage transformers these here days? The filament
> transformer is easy: Radio Shack. They have a couple
> different 12.5 Volt center-tapped transformers that
> would likely have enough hoos to light the filaments.
> Maybe 5 A would do, seems to me.

I hope they have changed but, if not, beware of RS transformers.
The ones I tried several years ago were junk. Losses were so
bad that they would run hot even under near no load condx.
--- Keep that proffit high, RS! ---

> Plate transformers are another matter, since it's
> dagnab hard to find that sort of stuff now. WHich means
> that I would have to do the flea market/surplus radio
> search.

That's fer sure...

...snip...

> I still like not havin' to take off my glasses and
> get out the microfilament interlaminar exoskeleton
> cosmic dry-ice evaporated vacuum gold-plated zee-tron
> microscope to look at the resistor codes. ...snip...
Know what u mean... I do some UHF chip stuff.... Have several
diopter ranges of reading glasses useful for homebrewing.
Power supplies: 1.25 - HF 'brewing: 1.5 - VHF: 1.75 - UHF^: 2.25+
:-) Woody

> 73
> Nils
> WB8IJN &c

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
.

1028. Re: Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: gregwj@cwo.com
Message-ID: <50r2j0$gsb@news.xmission.com>
Source record: 102558

Lars (SM4RZW)

According to

ElectricalEngineers Handbook
(Electric Communications and Electronics)
John Wiley and Sons c1950)

Silicon glass lamanate sealing compound
2.4 to 2.85 when Freq < 2kc power factor 0.01 (Note D)
2.4 to 2.82 when Freq = 300 to 2000 kc power factor 0.02 to 0.06 (note
d)

"where possible the ranges of dielectric constant and power factor
include the variations to be expected over the indicated frequency
ranges, although the values up to 2 kc are for 60 cycles or 1 kc and
most of the values in the higher frequency ranges are for 1 mc. For
good insulating materials the dielectric constant does not change
greatly at higher frequencies, but the power factor may rise or fall
considerably...."

Couldn't find any data forthe other...

Greg KB6WKW

In article <322A587C.79AC@plea.se>, arvid@plea.se says...
>
>Hello, all hams and other!
>A friend of mine got this problem, he's
>trying to find the dielectric constants for
>epoxy resin (Araldite) and silicon sealant (that acetic acid-smelling
>stuff that you use for windowsealing)
>Anyone got a clue ?
>73 de SM4RZW /Lars

1029. Re: Who sells kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: "A.A.D.E." <aade@ix.netcom.com>
Message-ID: <32311DBE.770F@ix.netcom.com>
Source record: 102559

check http://www.aade.com

1030. Re: FCC Issues NAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: n7zzt@goodnet.com
Message-ID: <50r484$lpi@news.goodnet.com>
Source record: 102560

n7zzt@goodnet.com (Eric Oyen) wrote:

>The following was received from the FCC Daily Digest for immediate
>publication:
>**
>Daily Digest
>
>Vol. 15 No. 166
>September 5, 1996
>
>PHOENIX. AZ. Issued a further notice of apparent liability in the
>amount of $6,000 against Timothy Harold Hoffman, Phoenix, Arizonia,
>for violations of various amateur radio rules. Action by Chief,
>Compliance Division, Compliance and Information Bureau. Adopted:
>August 30, 1996 by FNAL. DA No. 96-1478. CIB Internet URL:
>index.html
>
> - FCC -

****
For those of you wanting answers as to how and why, I publish the following from the FCC:
****

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20054

In the Matter of }
}
Timothy Harold Hoffman }
Phoenix, Arizona

OFFICIAL NOTICE OF VIOLATION
(corrected copy)
Released: June 26, 1995
By the Compliance and Information Bureau

I. Introduction
1. This is a Notice of Violation issued in accordance with Section 1.89 of the Rules, 47 C.F.R. § 1.89, to Timothy Harold Hoffman for willful violations of sections 301, 303(n), and 333 of the Coomunications Act of 1934, as amended (47 C.F.R. §§301, 303(n), 333) and sections 15.29, 95.413(a)(4), 95.413(a)(6), 95.426(a)) for operating a radio transmitter on amateur radio service frequencies without a valid license, failing to allow inspection of the radio station by authorized fcc personel, willfully and maliciously interfering with radio communications of licnensed stations, and on CB channel 36 transmitting one-way communications, Transmitting material to amuse or entertain.

II. Background

2. On may 14, 1995, Agents from the Commission's Compliance and Information Bureau (CIB), Using
mobile direction finding techniques, detected radio signals on CB channel 36, J3E emmission (lower
sideband), coming from an antenna located at 911 West Highland Avenue, Phoenix, Arizona 85013. The
transmissions consisted of retransmitted signals from an Amateur Radio Service repeater on 147.240
MHz. The following violations were observed from 8:05 until 8:50 pm MST and from 8:55 until 9:15 pm
MST:

Rule Violation Description

47 C.F.R. 95.413(a)(4) Prohibited transmission of one-way communications

47 C.F.R. 95.413(a)(6) Prohibited transmission of any material to amuse or entertain.

3. On May 15, 1995, Agents from the Commissions CIB, Using mobile direction finding
techniques, dtected radio signals being transmitted on 146.340 MHz, F3E emission, coming from an
antenna located at 911 West Highland Avenue, Phoenix, Arizona 85013. The transmissions consisted of
the use of Amateur Radio Service call sign N7ZZT and asking for a new white cane and new eyes, among
other things. Transmissions were observed at 7:44 pm and 8:21 pm MST. At 8:25 pm MST, the FCC
agents attempted to inspect the radio station at 911 West Highland Avenue. The adult male that came
to the door admitted to being Timothy Hoffman and would not allow the agents to inspect the radio
installation. The following Violations were observed this date:

Rule Violated Description

47 U.S.C 301 Transmitting on Amateur Radio Service frequencies without a valid
operator or station license.

47 U.S.C. 333 Willfully and Maliciously interfering with radio communications
of licensed Amateur Radio Service stations.

47 U.S.C 303(n) and Failure to allow station inspection by authorized FCC personel
47 C.F.R. 15.29 and
47 C.F.R. 95.426(a)

III. Discussion

4. Timothy Harold Hoffman was clearly in violation of 47 C.F.R. ¤¤ 15.29, 95.413(a)(4),
95.413(a)(6), and 95.426(a) and in violation of 47 U.S.C. ¤¤ 301, 303(n), and 333.

IV. Ordering Clauses

5. Accordingly, IT IS ORDERED, pursuant to Section 308(b) or the Communications act of 1934, as amended, 47 U.S.C. 308(b) and section 1.89 or the Commission's Rules, 47 C.F.R. 1.89, that Timothy Harold Hoffman submit a written statement concerning the Violations of 47 C.F.R. 15.29, 95.413(a)(4), 95.413(a)(6), and 95.426(a) and of 47 U.S.C. 301, 303(n), and 333 to the following Address:

Federal Communications Commission
P.O. Box 6
Douglas, Arizona 85608-0006

The answer shall contain a statement of action taken to correct the cinditions in violation and
action to preclude recurrence. Each rule section in shown violation shall be addressed seperately.

The staff will use all relevant and material information before it, including the information
disclosed in your reply, to determine what, if any, enforcement action is required to ensure the
current and future Rule compliance. Willful or repeated violation or failure to reply may result in
monetary forfeiture.

A WILLIFULLY FALSE STATEMENT IN RESPONSE TO A REQUEST FOR INFORMATION BY A FEDERAL AGENCY COULD BE
PUNISHABLE BY A FINE OF $10,000 OR IMPRISONMENT FOR 5 YEARS, OR BOTH, UNDER TITLE 18, U.S. CODE
1001.

6. IT IS FURTHER ORDERED that this notice shall be sent by certified mail, return receipt requested, and by regular mail, to Timothy Harold Hoffman, 911 West Highland Avenue, Phoenix,
Arizona 85013.

FEDERAL COMMUNICATIONS COMMISSION

[Signature]
Stephen Y. Tsuya
Engineer in charge
Douglas office

****
END OF FILE.......

****

Since the writing of this notice of violation, Mr. Hoffman has repeatedly violated the terms and
conditions as stated in the above notice. He also jammed emergency communications on the autopatches, falsely reported emergencies, and generally created lots of havoc. He use the Call
N7ZZT on a number of such occasions, as well and the following calls:

AA7KV (Craig Ickes)
K3NPR (invalid call)
K7UZI (Invalid Call)
and others...

His was a pattern of lack of respect for the law. He also used telephone harrassment as a tool to
get what he wanted. This pattern has continued until fairly recently (about 3 weeks before the NAL
was issued). According to the Local Official Observer, numerous tapes and documents were received
regarding this individual and his acctivities. I could not get access to the tapes, or the transcripts of such, as the investigation was still ongoing.

I hope this document answers the many questions you might have regarding this case..

Thank you.

Eric Oyen.

1031. Re: Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: carl@ais.net
Message-ID: <50s6rm$a97@news.ais.net>
Source record: 102561
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

The only way to effectively stop this chain-letter crap is to alert the
ISP from which it originates ... as follows:

(mail/foward the SPAM to "abuse@<abuser's_ISP_domain>" and
"Postmaster@<abuser's_ISP_domain>) with a note like this:

Dear Netcom (chage ISP name as appropriate) System Administrator:

Please deal with this jerk who is SPAMing the net from one of your
sites. (assuming the address is not forged)

I forwarded a similar SPAM to "abuse" and "postmaster" at
PSInet/Interramp, and got a prompt response that the user's account had
been terminated.

I hope I will get the same sort of reaction from your organization.
This stuff has got to stop and the only way is for ISPs to act
responsibly by not allowing their users to spew this stuff to the
newsgroups and/or as unsolicited e-mail to hundreds(thousands) of
unwilling recipients.

Thanks in advance for your attention to this matter,
Carl Stevenson
carl@ais.net

ab5qy@ix.netcom.com(michael dudley) writes:
>>

In <50qhjm$kdf@sjx-ixn3.ix.netcom.com>, ab5qy@ix.netcom.com(michael dudley) writes:
>>
(a whole bunch of SPAM soliciting participation in a chain letter
scheme, and encouraging readers to "post it to at least 200 newsgroups)

(be sure to include the SPAMer's entire serving of SPAM, so the ISP can
enjoy it to its fullest ... and appreciate that it really is abuse of
the net)

1032. Good ideas, and thanks to all

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: zommbee@nwlink.com
Message-ID: <50sfcu$hu5@texas.nwlink.com>
Source record: 102562
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <50pcib$v1u@newsgate.sps.mot.com>, Jim <jstrohm@texas.net> wrote:
>Don't forget the obvious -- post on your local *.wanted and
>*.forsale groups, asking for free electronics stuff, and promise
>to haul it all off.
>
>You can get some wonderful stuff this way. Especially, offer to haul
>off old TV sets, because they have a wealth of good stable coils and
>parts in the various oscillators.

I in fact tried that, and had a wonderful response from some local electronics firms with gobs of old junk, ripe for stripping, that they didn't want to have to haul away.

And thanks to those with their generous offers! I now have enough homebrew parts coming (or already here) to build just about anything I could want.

Nice bunch of folks here!

Dave WB7AWK
zommbee@nwlink.com

1033. W. CT Hamfest close to NY state line, 15-Sep

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <3231C57F.C72@ix.netcom.com>
Source record: 102563
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

THE WESTERN CONNECTICUT HAMFEST
Sponsored by the Candlewood Amateur Radio Association

Just 14 miles from the NY/CT State line!

Sunday, Sept. 15, 1996 0900-1400
Edmond Town Hall Route 6, Newtown, CT
Tables inside Tailgating outside
ARRL Sanctioned Handicapped Access
Door Prizes Ample Parking
Gourmet Fare Rain or shine

Talk-in 147.12/.72 PL 141.3

General admission $4.00 at the door (what a deal!)

Tailgating $6.00, inside table reservations $10.00 each, (both
include 1 admission), mail to:
Candlewood Amateur Radio Association, PO BOX 3441, Danbury CT 06813

For more info, phone (203) 790 7041 or (203) 438 6782.

Hope to see you all there.
73 de KD1YV
Jim

1034. Re: Programmable Dividers + Freq. Std..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.960907170422.293C-100000@spork.callamer.com>
Source record: 102564

I suspect you are replying to AA1A's inquiry regarding a stable lowfer frequency. 166.66666.... has been tried for years and in fact the US Navy used it for a link between San Diego and San Francisco (which clobbered our efforts!) Most unfortunately, SOMETHING tends produce a signal on that frequency almost continually. I would suppose the great number of one megahertz signals floating around eventually would produce a divide by six signal in some strange fashion---BUT the signal is there! Cliff K7RR

On 5 Sep 1996, Dick Bingham wrote:

> A good beacon frequency - it seems to me - would be 166.6666666666KHz.
> This freq is 1MHz divided by 6 or your 5MHz divided by 30.
>
> 73 de w7wkr
>
>
>

1035. Need Schematic for Knight KG-696 Signal Generator.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <32324655.4F5A@hevanet.com>
Source record: 102565
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

It's the older solid state unit with the big vernier dial that takes
up most of the front panel.
thanks, miker

1036. VACUUM VARIABLE CERAMIC CAPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <50sh6s$cqk@cletus.bright.net>
Source record: 102566

I have some Ceramic Variable Vacuum caps 5 to 125 pf, 5kv
will sell for $45 each. I also have some doorknob caps 100 and 200 pf @
15kv, need 12 each for these. Conact Norm N8RGR norsan@bright.net

1037. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <50sht9$cqk@cletus.bright.net>
Source record: 102567

Hey Dave....The rating on a resistor is continous. I would put in a regular 50 (or 100 watt) resistor. It will do the job and run cool. If you have an arc over for a short time the resistor eill not "fuse". If the plate supply is over current for very lonf the plate supply fuse should go.

Norm N8RGR

1038. NEW POWER SUPPLYS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-07 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <50shct$cqk@cletus.bright.net>
Source record: 102568

I have some new POWER-ONE adjustable supplies. 13.5 to 17 VDC @1.5 amps.
Has over voltage protection. open frame type. Will sell for $15 ea. or
2 for $30. Contact Norm N8RGR norsan@bright.net

1039. Re: Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <50tdq4$46u@nadine.teleport.com>
Source record: 102569

>In article <322A587C.79AC@plea.se>, arvid@plea.se says...
>>
>>Hello, all hams and other!
>>A friend of mine got this problem, he's
>>trying to find the dielectric constants for
>>epoxy resin (Araldite) and silicon sealant (that acetic acid-smelling
>>stuff that you use for windowsealing)
>>Anyone got a clue ?
>>73 de SM4RZW /Lars
>
Lars,

There are a lot of different formulations of both materials, so it's likely to vary a lot from one manufacturer or formulation to another. Also, the dielectric constants are likely to change with frequency. I suggest contacting the manufacturer of the particular material to be used. Alternatively, you might try making a capacitor with the material as a dielectric, measuring the capacitance at the frequency of interest, and calculating the dielectric constant from that.

Roy Lewallen, W7EL

1040. Re: Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <50tj1f$l5t@crash.microserve.net>
Source record: 102570

Does the dielectric constant of a material change with frequency? Please fill me in on this, I always thought the dielectric constant was a fixed value independent of frequency. What about the impedance of microwave strip line filters and transmission lines (etched on printed circuit boards), they don't change impedance when the frequency changes and the formula for calculating impedance for strip lines only uses the copper thickness, strip width and dielectric constant of the circuit board material as variables to calculate the impedance of the stip line independent of frequency.

Steven Kerns N3FTI

>Lars,
>
>There are a lot of different formulations of both materials, so it's
>likely to vary a lot from one manufacturer or formulation to another. Also,
>the dielectric constants are likely to change with frequency. I suggest
>contacting the manufacturer of the particular material to be used.
>Alternatively, you might try making a capacitor with the material as a
>dielectric, measuring the capacitance at the frequency of interest, and
>calculating the dielectric constant from that.
>
>Roy Lewallen, W7EL

1041. Re: Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: zvyezda@ix.netcom.com
Message-ID: <50tr23$3lk@sjx-ixn5.ix.netcom.com>
Source record: 102571
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

carl@ais.net wrote:
> The only way to effectively stop this chain-letter crap is to alert the
> ISP from which it originates ... as follows:
> (mail/foward the SPAM to "abuse@<abuser's_ISP_domain>" and
> "Postmaster@<abuser's_ISP_domain>) with a note like this:
> Dear Netcom (chage ISP name as appropriate) System Administrator:
> Please deal with this jerk who is SPAMing the net from one of your
> sites. (assuming the address is not forged)

Read the headers to double-check this. E-mail address can be faked fairly
easily (no I'm *not* saying how), but "X-NNTP-Posting-Host" (I think) will
indicate the machine from which the message was really posted, and I suspect
that that's rather more difficult to fake.

--
Ed Murphy (FDC DW) "A person who is 'of sound mind' is one who
zvyezda@ix.netcom.com keeps the inner madman under lock and key."
#include <std/disclaimer.h> -Paul Valery

1042. Frequency Standards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <50um55$3iv@News.IDT.NET>
Source record: 102572

Gudday fellow Home Brewers..

My best shot so far for accurate frequency calibration is as follows:

A 5mhz James Knight Proportional Oven Oscillator divided down to 100khz and then compared on the scope with Nantucket Loran 'C' via a TRF receiver does better than .001 PPM with just manual control. This will be much more than needed for LOWFER transmitter frequency calibration. It also lets me tweek the 10ghz brick to within a couple hundred cycles at 10ghz..
I found that by varying the DC on the tuning cap inside the oven and isolating by a 68k resistor then varied from 0 to 28 VDC swings the 5mhz sig by 4 hertz.. This is via a 10 turn precision pot. I never need to turn the pot. more than a quarter turn now to be well within .001ppm..

What are you using??

The TRF receiver is a converted Navy RAK with J-Fets at each tube base.. works fine..

73's de Dave Riley AA1A Marshfield, Mass.

1043. Siliconix/MACom VMP-4 mosfets

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <50undl$jl6@newsbf02.news.aol.com>
Source record: 102573

Several years ago, both Siliconix and PHI, a division of MACom made a device numbered the VMP-4, a power VMOS fet. Anyone that has any of these devices that they'd rather have cash for, please let me know via the address below.

JohnsonHE@AOL.COM

W4ZCB

1044. ATV Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: Paul Bastian <pbastian@sprynet.com>
Message-ID: <01bb9d9b$1db03700$2dd5aec7@default>
Source record: 102574
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I am interested in getting into the ATV aspect of the hobby. I have read a little bit about it, but I am in need of equipment. Does anybody know a good source to get the ATV equipment. Any information is greatly appreciated.

1045. Re: ATV Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: chris.muriel@analog.com
Message-ID: <50v2vr$5p3@nwd2nws1.analog.com>
Source record: 102575
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Paul Bastian" <pbastian@sprynet.com> wrote:

> I am interested in getting into the ATV aspect of the hobby. I have
>read a little bit about it, but I am in need of equipment. Does anybody
>know a good source to get the ATV equipment. Any information is greatly
>appreciated.
Couldn't see an email address,callsign etc. so I'm unsure whether
you're in USA or Europe!!
In Europe,most ATV is on 24Cms & 10GHz bands using FM Video
modulation,almost the same as used by analogue satellite receivers.
Indeed,most people's receive setup uses TVRO parts.
IN USA,they're "behind the times" in that most ATV uses AM Video
(often on 70Cms band which uses a lot of the available bandwidth).
I know that HRO (Ham Radio Outlet) in USA lists some ATV gear.
There's also an outfit called "ATVQ" who were at Dayton hamfest
when I attended 3 years ago.They had European & USA books on
ATV.
There must also be a national organisation for ATV in the USA.
OTOH,if you're in Europe,give an idea of location or callsign &
I'll respond with where to get info & equipment in Europe.

Chris Muriel,Manchester,England (G3ZDM)
[chris.muriel@analog.com).

1046. Re: Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <50v55h$o6e@nadine.teleport.com>
Source record: 102576

In article <50tj1f$l5t@crash.microserve.net>,
skerns@mail.talon.net (Steven Kerns) wrote:
>Does the dielectric constant of a material change with frequency? Please
>fill me in on this, I always thought the dielectric constant was a fixed
>value independent of frequency. What about the impedance of microwave strip
>line filters and transmission lines (etched on printed circuit boards), they
>don't change impedance when the frequency changes and the formula for
>calculating impedance for strip lines only uses the copper thickness, strip
>width and dielectric constant of the circuit board material as variables to
>calculate the impedance of the stip line independent of frequency.
>
>Steven Kerns N3FTI

Quite a few materials change dielectric constant with frequency. The better materials change very, very little. The change generally isn't large.

Strip lines are transmission lines which are embedded in a dielectric and have ground planes on both sides. These change impedance only to the extent that the dielectric constant of the material changes. Microstrip lines are lines typically etched on a circuit board with a ground plane on a lower layer. These change both characteristic impedance and propagation velocity with frequency. This is because the fields are more concentrated in the dielectric right under the line at high frequencies, and spread out more through the air (which has a lower dielectric constant) at low frequencies. Consequently, the propagation velocity gets slower and the characteristic impedance gets lower as frequency increases. Most of the formulas are for the high-frequency limit. Look through the IEEE publications for references under the topic of "dispersion".

Roy Lewallen, W7EL

1047. WANTED OPEN FILAMENT 8874 TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: K4PI@WORLDNET.ATT.NET
Message-ID: <50v8g8$6rh@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 102577

WANT OPEN FILAMENT 8874 TUBES FOR EXPERIMENTING. WILL PAY $5 EA PLUS
SHIPPING.

1048. crystal osc and ID transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: af389@lafn.ORG
Message-ID: <32333612.22BE@lafn.org>
Source record: 102578

Hi,

Does anyone have a transistor cross reference to give us a specs for
some transistors marked R1001, R1004, and R2004? Can I access this on
the web?

I am trying without success to locate packaged crystal oscillators
in the frequency range of 72 to 75 mhz and closer to 73 mhz, the better.

Thanks, W6MIK
--

____
Dave Shalita, af389@lafn.org

1049. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <32339303.5609@monmouth.com>
Source record: 102579
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

Robert Casey wrote:
>
> Found an improvement on this AM stereo mod I posted a few weeks ago.
> Namely, better fidelity and less distortion by raising the SRF42
> circuit supply from 3V to 5V.
>
> Also note you can get a SRF42 at radio shack, ask for catalog number 12-127
> (look at page 61 of the '97 catalog). And be sure to look for astonished
> looks on the sales droids faces, when they see it there!
>
> AM STEREO modification of digital AM/FM stereo receivers, using a Sony
> SRF42 AM stereo walkman radio chassis
>
> You probably have a stereo FM/ mono AM receiver for your home
> stereo system. And it probably is a PLL digitally tuned radio,
> maybe even tunes up to 1700KHz. But still mono. It's nearly
> impossible to find an AM stereo set, the only one you can hope to
> find is a portable, a Sony SRF42. But it's analog tuned, but it is
> possible to use the innards of this Sony to demodulate AM stereo
> signals tuned by your PLL digital mono set's front end. Idea
> is to disable the Sony's front end, and feed the IF (intermediate
> frequency) from the PLL digital circuit to the IF amp section of
> the Sony. And take the left and right outputs and substitute
> those in your reciever for the mono AM signal.
>
> This is not a project for beginners, you'll need some experience
> with radio circuits and fine soldering.
>
> Before you tear into the SRF42, tear into your receiver, and look
> for the AM circuitry. Probably a chip. Helps if you have the
> service manual. Look for a small squarish plastic part, probably
> colored orange. Hopefully it has a marking like "450". Other
> shapes these filters come in are a rounded brown 3 leaded thing,
> marked "450" (AM) or "107" (FM). The IF frequency of the AM
> section needs to be 450 KHz, because that's the frequency used in
> the SRF42. Other IF freqs used are 455KHz, which is too much
> of a mismatch for the below to work.
>
> Open up the Sony SRF42. First, remove the volume control knob (pulls
> out). No need to remove the tuning knob, and don't try to remove
> the on=off switch knob. unscrew three screws, and the front comes
> off. Unsolder the battery connections to then be able to remove
> the radio's circuit board. You'll see a plastic gear that controls

> the tuning capacitors. replace the volume control knob on the
> volume control shaft (so you can vary the output level later).
> Now for the interesting part: connect a jumper wire across the
> AM local oscillator coil, located next to tuning cap trimmer CT4.
> Jumper goes from ground to the pad connecting the coil to the
> tuning cap. This disables the Sony's front end.
>
> Now connect a small cap (about 0.01 uF ceramic) to the SRF 42 at
> this point: Look for pin 12 of IC1, and follow the pad to R26,
> the point you want to connect the cap to is the pad on the other
> side of R26 away from the IC1. Keep the leads short on the cap.
> Connect a length of shielded wire to the free end of the cap, and
> the shield connects to a 0.1uF cap, and that connects to a local
> ground (look for the connection of the metal shield of a nearby
> IF transformer). Purpose of this cap is to provide an RF ground,
> but to block DC and audio frequencies.
>
> **** Update, distortion improvement ****
> I found that the SRF42 offers beter fidelity and less distortion
> if operated at 5V DC. Normal supply voltage is 3V. The extra
> voltage appears to offer more dynamic range on the audio. I don't
> know how close I'm pushing overvoltage, though, so do this at
> your own risk!
>
> At the other end of the shielded cable connect a 1K resistor to the
> center conductor. Now you will need to do a bit of poking around
> in your reciever with the power on, and power up the SRF42 and listen
> with headphones (you should only hear some hiss, no stations). Tune
> a local AM stereo station on your reciever (though your reciever only
> gets it in mono now). Look around the above mentioned IF frequency
> modules you checked before you took the SRF42 apart. Now tune the
> volume on the reciever down, and the SRF42 up some, and start poking
> around with the 1K resistor attached to the cable. Oh yeah, connect
> the minus power terminal of the SRF42 to the reciever's ground. Poke
> near modules marked "450" and you should soon hear the SRF42 playing
> the station you tuned the reciever to. Try a number of locations
> and note which sounds better (less distortion, a reasonable amount
> of high audio freqs, and when you select a point, check a few other
> stations. When I selected a point to tap, I connected a 1K resistor
> to the top of a 1K trimpot, the other end grounded, and the wiper
> feeding the cable. Then I could tweak the level for a reasonable
> signal, decent signal to hiss, vs distortion if the signal gets too
> strong. If the point you selected has a DC bias on it, use a 0.01
> cap in series with the 1K resistor to avoid loading the DC.
>
> To power the SRF42 "chassis", I used a 5V regulator chip. See above
> note on overvoltaging hazards that may exist when running 3V circuits
> at 5V. Though analog circuits tend to be more forgiving of overvoltage
> than digital stuff. Proceed at your own risk on this.
>

> To cut some of the high frequency audio hiss and noise, I connected
> 0.015 uF caps to ground, and the other end of one to a pad connected
> to IC5 pin 2 and the other cap to pin 4. A more convenient attachment
> points are located just under the volume control. Not the pot
> connections themselves, but look for 2 pads closer to the board edge
> that lead to the IC5 pins 2 and 4.
>
> I just connected the headphone jack to the audio amp, and used the
> SRF42 volume control to set a reasonable and undistorted signal
> level.

Haven't you noticed that most all auto radios have am stereo? Both of
our cars have them and I have one for my bench radio that's at least
10 years old. Works fine on the few am stereo stations here.

--
****
Bob Bissett rbissett@monmouth.com
****

1050. I need a radio schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-08 00:00:00 UTC
From: slug@bbs.aeminium.pt
Message-ID: <26qu05.9m1.ln@bbs.aeminium.pt>
Source record: 102580

Hello guys,

I need the schematic of the Guaranty 4000D CB to convert it do 10 meters
operation. Can someone point me were i can get it please?

--

slug@cygnus.ci.uc.pt slug@ciunix.uc.pt http://www.ci.uc.pt/~slug/
CT1FOX CQG9304 CQM9228 Eng.Electrote'cnica FCTUC

Linux 2.0.7 - Aeminium BBS - Coimbra - Portugal - Europe
Please reply to this message on this newsgroup

1051. Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDxFv48.C66@netcom.com>
Source record: 102581
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

Found an improvement on this AM stereo mod I posted a few weeks ago.
Namely, better fidelity and less distortion by raising the SRF42
circuit supply from 3V to 5V.

Also note you can get a SRF42 at radio shack, ask for catalog number 12-127
(look at page 61 of the '97 catalog). And be sure to look for astonished
looks on the sales droids faces, when they see it there!

AM STEREO modification of digital AM/FM stereo receivers, using a Sony
SRF42 AM stereo walkman radio chassis

You probably have a stereo FM/ mono AM receiver for your home
stereo system. And it probably is a PLL digitally tuned radio,
maybe even tunes up to 1700KHz. But still mono. It's nearly
impossible to find an AM stereo set, the only one you can hope to
find is a portable, a Sony SRF42. But it's analog tuned, but it is
possible to use the innards of this Sony to demodulate AM stereo
signals tuned by your PLL digital mono set's front end. Idea
is to disable the Sony's front end, and feed the IF (intermediate
frequency) from the PLL digital circuit to the IF amp section of
the Sony. And take the left and right outputs and substitute
those in your reciever for the mono AM signal.

This is not a project for beginners, you'll need some experience
with radio circuits and fine soldering.

Before you tear into the SRF42, tear into your receiver, and look
for the AM circuitry. Probably a chip. Helps if you have the
service manual. Look for a small squarish plastic part, probably
colored orange. Hopefully it has a marking like "450". Other
shapes these filters come in are a rounded brown 3 leaded thing,
marked "450" (AM) or "107" (FM). The IF frequency of the AM
section needs to be 450 KHz, because that's the frequency used in
the SRF42. Other IF freqs used are 455KHz, which is too much
of a mismatch for the below to work.

Open up the Sony SRF42. First, remove the volume control knob (pulls
out). No need to remove the tuning knob, and don't try to remove
the on=off switch knob. unscrew three screws, and the front comes
off. Unsolder the battery connections to then be able to remove
the radio's circuit board. You'll see a plastic gear that controls
the tuning capacitors. replace the volume control knob on the
volume control shaft (so you can vary the output level later).
Now for the interesting part: connect a jumper wire across the
AM local oscillator coil, located next to tuning cap trimmer CT4.

Jumper goes from ground to the pad connecting the coil to the
tuning cap. This disables the Sony's front end.

Now connect a small cap (about 0.01 uF ceramic) to the SRF 42 at
this point: Look for pin 12 of IC1, and follow the pad to R26,
the point you want to connect the cap to is the pad on the other
side of R26 away from the IC1. Keep the leads short on the cap.
Connect a length of shielded wire to the free end of the cap, and
the shield connects to a 0.1uF cap, and that connects to a local
ground (look for the connection of the metal shield of a nearby
IF transformer). Purpose of this cap is to provide an RF ground,
but to block DC and audio frequencies.

**** Update, distortion improvement ****
I found that the SRF42 offers beter fidelity and less distortion
if operated at 5V DC. Normal supply voltage is 3V. The extra
voltage appears to offer more dynamic range on the audio. I don't
know how close I'm pushing overvoltage, though, so do this at
your own risk!

At the other end of the shielded cable connect a 1K resistor to the
center conductor. Now you will need to do a bit of poking around
in your reciever with the power on, and power up the SRF42 and listen
with headphones (you should only hear some hiss, no stations). Tune
a local AM stereo station on your reciever (though your reciever only
gets it in mono now). Look around the above mentioned IF frequency
modules you checked before you took the SRF42 apart. Now tune the
volume on the reciever down, and the SRF42 up some, and start poking
around with the 1K resistor attached to the cable. Oh yeah, connect
the minus power terminal of the SRF42 to the reciever's ground. Poke
near modules marked "450" and you should soon hear the SRF42 playing
the station you tuned the reciever to. Try a number of locations
and note which sounds better (less distortion, a reasonable amount
of high audio freqs, and when you select a point, check a few other
stations. When I selected a point to tap, I connected a 1K resistor
to the top of a 1K trimpot, the other end grounded, and the wiper
feeding the cable. Then I could tweak the level for a reasonable
signal, decent signal to hiss, vs distortion if the signal gets too
strong. If the point you selected has a DC bias on it, use a 0.01
cap in series with the 1K resistor to avoid loading the DC.

To power the SRF42 "chassis", I used a 5V regulator chip. See above
note on overvoltaging hazards that may exist when running 3V circuits
at 5V. Though analog circuits tend to be more forgiving of overvoltage
than digital stuff. Proceed at your own risk on this.

To cut some of the high frequency audio hiss and noise, I connected
0.015 uF caps to ground, and the other end of one to a pad connected
to IC5 pin 2 and the other cap to pin 4. A more convenient attachment
points are located just under the volume control. Not the pot
connections themselves, but look for 2 pads closer to the board edge
that lead to the IC5 pins 2 and 4.

I just connected the headphone jack to the audio amp, and used the SRF42 volume control to set a reasonable and undistorted signal level.

1052. Converting a CB radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: author@poboxes.com
Message-ID: <50vnru$i62@hawk.branch.com>
Source record: 102582

I am looking to convert a CB radio to 10M. I am need of some help
on a PLL02A rig. It is a midland 13-857B. I have successfully
changed the binary coding to higher frequencies but the
radio only puts out about 1W. Does something need to
be re-tuned besides the power coils in back? TIA for
any help.

Ryan

1053. VT-25A Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: eugene.welcome@rook.wa.com
Message-ID: <174564494-960908211508@rook.wa.com>
Source record: 102583

GS> The VT-25A tube is listed as a "10Y" or "10 Special" in the
GS> literature. Does anyone know "Y" it is "Special"? Is it just a
GS> ruggedized 10?

Hi Gordon, the 10 and 10Y differences is in the plate to filament capacitance. 10 = 4 Pfd and 10Y = 3 Pfd. The 10 = 6 mHz had a lower maximum frequency to the 10Y which = 8 mHz. If you find a Raytheon RK10, it had a guaranteed frequency of 60 mHz which at that time was in the UHF band. The 10, 10Y and RK10 all are equal in power requirements and output specs are identical. The 10 tube was also used in receivers and had specs for that use and can be located in the early ARRL Handbooks.
_ /|
\'o 0'
73, Gene, K7"EEK" !! a =(_"_)= ?? He ate my Mouse !
U
eugene.welcome@rook.wa.com

1054. Re: Homebrew SINAD meter ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDxGDxM.HBy@netcom.com>
Source record: 102584

Hugh Duff%1:2619/211.9 (Hugh.Duff%1:2619/211.9) wrote:
: Looking for details on homebrewing a SINAD meter.
: Means of display is not important. I'm mainly interested
: in the method of sampling so I can process it with a microcontroller.

Here is a somewhat simplified explanation. A SINAD meter is essentially a type of audio distortion meter. You also need an RF signal generator and a precise audio frequency source to modulate the RF (usually 1 KHz). The SINAD meter is connected across the audio output of of the receiver. The modulated RF is fed into the receiver's front end. The SINAD meter has a sharp notch filter to cut the 1 KHz modulated signal. The receiver's IF cans are adjusted to minimize reading on the SINAD meter (i.e. minimize noise).

SINAD measurement approximates signal to noise ratio as (signal + noise) / noise. So if you divide the signal sampled just before the notch filter by a sample of the signal just after the notch filter, you will have a handle on the signal to noise ratio. Generally, you use a very weak RF signal when doing SINAD measurements so that internal RX noise is a major component of the audio signal.

A commercial SINAD meter will perhaps use analog multipliers, agc, and have calibration scale. But for tweaking the cans of an RX there is no need for any calibration. If you wish to do SINAD digitally, you need to implement a digital notch filter. It would make a good DSP project. Any good book on FM communications will have a detailed description of SINAD.

tgm@netcom.com

1055. SOLVE YOUR CASHFLOW PROBLEM, NOW.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Akweli Parker <akweli@nr.infi.net>
Message-ID: <323411B0.568D@nr.infi.net>
Source record: 102585
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.scanner

Here is a way to quickly, easily generate large streams of cash in relatively little time with very little investment. It's worked for others and unlike most get-rich-quick schemes, it will work for you. Does a $7,000 return on a $7 investment sound like a worthwhile opportunity? $17,000? $27,000? If you could use that type of money, and you can spare seven bucks - five $1 bills, envelopes and postage - read on. I know you're skeptical, and so was I at first, but I ask you to please read on and get all the facts before you write off this incredible, legal business opportunity. Someone else wrote the instructions below, but they did such a good job I figured "why mess around with them?" They might seem long-winded, but please bear with them - you *will* thank yourself later... if you're paying an hourly connection fee, it probably doesn't matter since you'll soon be swimming in cash anyway. But if it's really a concern, download this article to your computer or print it out and read it offline. You will NOT be sorry! Here are the instructions:

****
*

!!!HONESTY IS WHAT MAKES THIS PLAN WORK!!!

****
*
I wrote a small note to send with the dollar saying "please add my name to your list." I then took the first name on the list off and moved the
rest of the names up one slot. Then I added my name in the number 5 slot of the list (The placing your name on the list is where you make money). I then took the new list of names, which now included my own, and E-Mailed it to every BBS operator in Fidonet, which is a group of BBS operators across the world. I figured that was a good way to get it to a lot of people fast. I then sat and waited for the money to come in. I was expecting to maybe make, at the most $500 to $600 dollars, or at least somewhere in that area.

The secret from my wife was out after about 2 to 3 weeks. It became very hard to keep the secret any longer from her, because of the return addresses. She was wanting to know who, what and why there people from all over the world where sending me a dollar bill. I then explained it to her and she could not believe it. The mail continued to come in every day. My mail carrier even questioned me once or twice. it was a feeling beyond belief. I guess that you want to know how much I made now? Well, I did not reach $35,000, but I did bring

in $14,684. I just could not believe that it worked this well.

The first thing I did was pay off mine and my wife's car. It felt so good calling the bank and asking for a payoff. I then took the rest of the money and paid off as many of my credit cards as I could. Now after 1 year, I am ready to do it again. This time my spouse suggested USEGROUPS on the Internet, and I believe that it should work better than before. I think that someone could hit that $35,000 mark, but I do not know that yet. It all really depends on you, the individual. You have to follow through and re-post this message everywhere you can put it. the more people you get it to the better the response you will get. It is just too easy to pass up this money making system!

I will say this much about this system, it works! I got hold of this list after it had already been all over my home town. I have talked with everyone of the below list, and they said that they started out thinking that it would not work. Most of them made more than I did on the first go around. I am not yet really sure who started this thing or really where, but THANKS!"

!!A LOOK AT THE REASONS YOU NEED TO DO THIS!!

Let's look at the reasons you need to do this. First of all it only costs less than $7 - 5 $1 bills, 5 $0.32 stamps, and 5 envelopes that you need to mail to the 5 names on the list. Then simply re-post the message and list, with your name on it, to all the USEGROUPS and public BBS's you can. Then just sit back, relax, and enjoy receiving mail in your mailbox - mail with dollar bills in every envelope! Everybody has $5 dollars to put in something that will make them $10,000 to $15,000 dollars in about 3-6 weeks. Ask yourself this simple question, "Where can I get $5?" Take lunch to work one day, drink water instead of pop or tea five times, hold off on those lottery tickets, and put $5 dollars in this MONEY MAKING SYSTEM NOW! It is really hard to lose.

Follow these instructions step-by-step if you are ready to make some money. You might want to make a printout of these steps to make them easier to follow.

1. On a blank piece of paper write the following message:

"Please add my name to your list".
** YOUR NAME AND ADDRESS **

You will be paying for a legitimate service and making this money system completely legal. You will not be just sending a dollar to someone, but paying for the legitimate service of adding your name to their list. Make sure to also write down your name and address on this piece of paper. I assure you once again that this is completely legal!

2. Fold your piece of paper around the dollar bill, (NO CHECKS OR MONEY ORDERS), and put both in the envelope. Address an envelope to all 5 of the people on the list. You will find that list at the end of this message.

3. Now, here is where you make your money. Look at your list of 5 people. Remove the name in slot number 1, and move all the other names up 1 slot. For instance, move the name in slot number 2 up to slot number 1. The name in slot number 3 then moves up to slot number 2. The name in slot number 4 should then be moved up to slot number 3, then finally the name in slot number 5 up to slot number 4. Then put you name and complete mailing address in slot number 5.

4. Now, upload this updated file, with your name in slot number 5, to as many USEGROUPS and BBS conference areas and file areas as you can. Remember the more people that get the message to the better the response will be for you, and the other people on the list. Give the message a real eye catching name so it will catch someone's eye. Some examples are: "Need some extra money?", "Need some money quick?", "A way to pay off your bills fast!!!", or "Money!". Set a goal on how much money you want to make and keep these numbers in mind at all times. With this goal in mind, you will get a good figure of how many people must read the message and then respond. You can make it easier for people to receive your message in USEGROUPS by UUE encoding the file when you are uploading it. That way people can download it to their hard drive or a floppy. Don't alter the file type, leave it as a MS-DOS Text file. The best way to test the file is to open the file using Notepad in windows to make sure the margins look right. You should make sure that the viewing person does not have to slide the screens back and forth to read the message. One other thing about the list of names, you should not try any funny editing of the list of names.
You should add only your name and no others to the list. If you want a friend to do it with you give them a copy of your edited list, with your name on it, so you can make a dollar for yourself.

5. If you need help uploading your file, ask someone on the system you are trying to upload to. Somebody will always help you with the matter. When you upload it as a file on a BBS by sure to give the file an eye catching name like: "CASH.TXT", or "MONEY.TXT".

6. After you do all the above steps sit back and wait for the money to come in. Expect to see some money start in about 2 weeks. When week 3-4 rolls around, the money will really start coming. It is more than just a normal feeling to see all the money that you will receive.

7. Now you pay off all your debts, and then go and buy something that you have always wanted or maybe something that you have always wanted to get someone else. After that, just enjoy life!

8. When you have spent all of that money, simply start posting the same message again. Post it in the old places, and maybe some new

places. Don't just delete this file after the first time, because you
can reuse it time and time again in the same
way you did the first time.

The list of names are below.

****

THE NAME AND ADDRESS LIST

****

HONESTY IS WHAT MAKES THIS PROGRAM WORK

Slot 1: Matthew Brodeur
60 Division ST.
Easthampton, MA 01027

Slot 2: Rich Giannone
75 Surrey Lane
Colonia, NJ 07067

Slot 3: Johnny Tillery
6233 Cockspur Dr.
Alexandria, VA 22310

Slot 4: D. Waxman
PO box 50
Champlain, NY, 12919

Slot 5: Akweli Parker
2805 Fire Road
Egg Harbor Twp., NJ, 08234
****

HONESTY IS THE BEST THING WE HAVE GOING
FOR US ON THIS PLAN.

1056. Re: Morse training programs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Ron Schweitzer <rswitzer@brutus.bright.net>
Message-ID: <NEWTNews.842284752.19781.rswitzer@rswitzer.bright.net>
Source record: 102586

In Article<50dn8q$9qp@lex.zippo.com>, <mista.moron@mail.link.no> write:
> Path: news.bright.net!chi-news.cic.net!arclight.uoregon.edu!news.uoregon.edu!enews.sgi.com!super.zippo.com!zdc!zippo!drn
> From: mista.moron@mail.link.no
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Morse training programs?
> Date: 1 Sep 1996 21:19:38 -0700
> Organization: Zippo
> Lines: 13
> Message-ID: <50dn8q$9qp@lex.zippo.com>
> NNTP-Posting-Host: user112.link.no
>
> I'm considering to get a ham licence, and since this here in
> No-way means that I have to learn morse, I was wondering if
> there is any morse training programs for DOS/Windows 3.1
> available, preferably PD/shareware.
> I also wonder if there is possible to get some kind of
> automatic morse decoding programs, so I could connect the
> receiver (and maybe also a transmitter) to the computer (ie.
> via the soundcard or a simple home-made interface) so I
> could receive (and maybe also xmit) morse as text on the
> screen.
>
> Mista Moron
> mista.moron@mail.link.no

There are several on the internet, search using morse as the
key word. But the best i have found is Morse Academy. I don't know
if it has a windows version, but the DOS has gotten me through
5 WPM and I'm making a strong run for 13.

The best practice is to copy off a actual transmission though.

1057. Need schemo for R174 military surplus rx.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: nyoung@desire.wright.edu
Message-ID: <1996Sep9.090631@desire.wright.edu>
Source record: 102587

Here's a weird one (for most folks... for me it's typical):

I seem to have misplaced my two copies of the schematic
for my R174 general coverage military surplus receiver. This
beast was made by Emerson Radio around the 1950s. It covers
1.5 through 18 MHz and uses 1.5vDC tubes. The tubes are
(in varying quanties) 1L5, 1R5, 1U5 and 3V4. IF=455 kHz.
Big green box with a monster two-gearing dial and 9 "channel"
buttons that are really little screw-stops around the inside
channel of the outter knob's ring.

Anyone got a copy of the schemo for this monster? I'll
pay for copying cost and mailing. (It sure beats having
to take the cover off the radio every time I wanna check
out how it's working.)

Nils R. B. Young
WB8IJN &c

1058. Re: Morse training programs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: subbustr@whidbey.net
Message-ID: <5119ns$g7o@news.whidbey.com>
Source record: 102588

Super Morse is real good for DOS based O/S's
You can send/recieve from 1-99 wpm.
Real EASY!! I got to 15 wpm in 6 months!!
If I can do it..anybody can....dave

Oak Harbor, WA USA
Ham Radio - VE7-LFA/W7
subbustr@whidbey.net

1059. Re: Case paint for Kenwood TS-940

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Kenwood Customer Care <cuyeda@ix.netcom.com>
Message-ID: <32343BEA.38C2@ix.netcom.com>
Source record: 102589
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

D.W.Hemphill KC5NG wrote:
>
> This may sound silly, but, have you inquired with Kenwood?
> It would be great if they had touch-up paint available.
>
> 73 de KC5NG
> (also a big Kenwood fan!)
>
> In article <32284CFE.2FC373C2@ptd.net>, skarbows@ptd.net says...
> >
> >Has anyone found a suitable source for the case and
> >front panel paint on Kenwood HF gear? I have a
> >relatively late S/N TS940 with scatches on the case
> >and the outer rim of the front panel and I'd love
> >to refinish them. The case finish looks like it would
> >be tough to match as it's a textured (splattered?)
> >finish. The front panel rim is just a plain semi-gloss.
> >Anybody tackle this sort of thing? Could a local
> >auto-body shop duplicate these finishes? All suggestions
> >welcomed.
> >
> >Dave, n2fam

Dear Dave,

Sorry, there have been no touch-up paint kits for the Kenwood radios.
The casings are powder coated when painted. I will forward your comments
to our Product Planners. There can be a slight difference in color even
with the new radios from batch to batch.

73
--
|___/| http://www.kenwood.net
| o o | 73 de Kenwood Customer Care
----oOO-------OOo---------------------------

1060. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: szekeres+@pitt.edu
Message-ID: <511gf7$3vo@usenet.srv.cis.pitt.edu>
Source record: 102590
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

In article <32339303.5609@monmouth.com>,
Robert Bissett <rbissett@monmouth.com> wrote:
>Robert Casey wrote:
>>

.....

>> Open up the Sony SRF42. First, remove the volume control knob (pulls
>> out). No need to rem> connections themselves, but look for 2 pads closer to the board edge
>> that lead to the IC5 pins 2 and 4.
>>
>> I just connected the headphone jack to the audio amp, and used the
>> SRF42 volume control to set a reasonable and undistorted signal
>> level.
>
>Haven't you noticed that most all auto radios have am stereo? Both of
>our cars have them and I have one for my bench radio that's at least
>10 years old. Works fine on the few am stereo stations here.
>

Daaah, what. I've never seen one yet. My truck dosn't
have one, none of the other cars I've seen have one, not
one aftermarket unit in Crutchfield has one.

greg

1061. Re: 4CX250B as GG TRIODE amp ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Robert Ganter <ganter@ens.ascom.ch>
Message-ID: <3233E81D.4E0D@ens.ascom.ch>
Source record: 102591

Hi there,

this might not be directly about this thread (which is very interesting
for a 'post-tube-aera ham'):

I am about to build two 4XC250 based linears for 2m and 70cm. I have
found several descriptions in old ARRL and RSGB VHF/UHF manuals which
might be a way to go (one uses water pipes as transmission line in a 2m
push pull design).
But maybe some of You 'tubers' knows about more recent designs published
somewhere?
I don't think, that tube linear design has changed much since the time
these books were published, but some parts may be hard to find nowadays.
I have 4 4XC250FG tubes I bought at the HAMRADIO in Friedrichshafen some
two years ago. They are B types with 26.5V filament voltage.

Thanks in advance for any help.

Best 73

Robert (HB9NBY)

1062. Re: Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <511njc$nsb@hpcvsnz.cv.hp.com>
Source record: 102592

Steven Kerns (skerns@mail.talon.net) wrote:
: Does the dielectric constant of a material change with frequency? Please
: fill me in on this, I always thought the dielectric constant was a fixed
: value independent of frequency. What about the impedance of microwave strip
: line filters and transmission lines (etched on printed circuit boards), they
: don't change impedance when the frequency changes and the formula for
: calculating impedance for strip lines only uses the copper thickness, strip
: width and dielectric constant of the circuit board material as variables to
: calculate the impedance of the stip line independent of frequency.

I think Roy Lewallen, W7EL, already provided a pretty good answer to this.
I'll add that typically materials with high dielectric constants get them
from having molecular dipoles that are moved in the electric field. As
the frequency increases, these dipoles have a harder time responding to the
field, so their effect decreases and the dielectric constant decreases.
For example, the dielectric constant of water is listed in Sams' "Reference
Data for Engineers" as follows:

freq	dielectric const.
1MHz	78.2
100MHz	78
3GHz	76.7
25GHz	34

The dissipation factor goes up correspondingly, as the dielectric constant
goes down. The effect isn't limited to liquids. Here's Nylon, for
instance. Though not as dramatic, it's quite significant.

freq	dielectric const.
60Hz	3.7
1kHz	3.50
1MHz	3.14
100MHz	3.0
3GHz	2.84
25GHz	2.73

Dielectrics generally considered "good" at RF tend to have very stable
dielectric constants with frequency: Teflon, polyethylene, polystyrene.

--
Cheers,
Tom
tomb@lsid.hp.com

1063. Part 15 (re: Improving antenna on cordless phone?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Tovar <KD6PAG@alive.com>
Message-ID: <323460A4.167E@alive.com>
Source record: 102593
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Here are some relevant provisions of Part 15:

> Sec. 15.233 Operation within the bands 46.60-46.98 MHz and
> 49.66-50.0 MHz.
>
> (a) The provisions shown in this section are restricted to
> cordless telephones.
> (b) An intentional radiator used as part of a cordless telephone
> system shall operate on any frequency within 10 kHz of one or more
> of the following frequency pairs:
>
> ...
>
> (c) The field strength of the fundamental emission shall not
> exceed 10,000 microvolts/meter at 3 meters. The emission limit in
> this paragraph is based on measurement instrumentation employing an
> average detector. The provisions in Sec. 15.35 for limiting peak
> emissions apply.

So, if your replacement or supplemental antenna exceeds these standards, then you have a problem. My layperson's understanding is that if you repair or modify such equipment, *you*, rather than the manufacturer, become responsible for it! They really expect you to know what you're doing.

By contrast, the general provisions for that band are less restrictive and recognize homebrew devices:

> Sec. 15.235 Operation within the band 49.82-49.90 MHz.
>
> (a) The field strength of any emission within this band shall not
> exceed 10,000 microvolts/meter at 3 meters. The emission limit in
> this paragraph is based on measurement instrumentation employing an
> average detector. The provisions in Sec. 15.35 for limiting peak
> emissions apply.
> (b) The field strength of any emissions appearing between the
> band edges and up to 10 kHz above and below the band edges shall be
> attenuated at least 26 dB below the level of the unmodulated
> carrier or to the general limits in Sec. 15.209, whichever permits
> the higher emission levels. The field strength of any emissions
> removed by more than 10 kHz from the band edges shall not exceed
> the general radiated emission limits in Sec. 15.209. All signals
> exceeding 20 microvolts/meter at 3 meters shall be reported in the
> application for certification.

> (c) For a home-built intentional radiator, as defined in Sec.
> 15.23(a), operating within the band 49.82-49.90 MHz, the following
> standards may be employed:
> (1) The RF carrier and modulation products shall be maintained
> within the band 49.82-49.90 MHz.
> (2) The total input power to the device measured at the battery
> or the power line terminals shall not exceed 100 milliwatts under
> any condition of modulation.
> (3) The antenna shall be a single element, one meter or less in
> length, permanently mounted on the enclosure containing the device.
> (4) Emissions outside of this band shall be attenuated at least
> 20 dB below the level of the unmodulated carrier.
> (5) The regulations contained in Sec. 15.23 of this part apply to
> intentional radiators constructed under the provisions of this
> paragraph.
> (d) Cordless telephones are not permitted to operate under the
> provisions of this section.

and as an individual, the standards are much less rigorous:

> Sec. 15.23 Home-built devices.
>
> (a) Equipment authorization is not required for devices that are
> not marketed, are not constructed from a kit, and are built in
> quantities of five or less for personal use.
> (b) It is recognized that the individual builder of home-built
> equipment may not possess the means to perform the measurements for
> determining compliance with the regulations. In this case, the
> builder is expected to employ good engineering practices to meet
> the specified technical standards to the greatest extent
> practicable. The provisions of Sec. 15.5 apply to this equipment.

So ordinary folks can do interesting things without learning CW, such
as:

> Sec. 15.217 Operation in the band 160-190 kHz.
>
> (a) The total input power to the final radio frequency stage
> (exclusive of filament or heater power) shall not exceed one watt.
> (b) The total length of the transmission line, antenna, and
> ground lead (if used) shall not exceed 15 meters.
> (c) All emissions below 160 kHz or above 190 kHz shall be
> attenuated at least 20 dB below the level of the unmodulated
> carrier. Determination of compliance with the 20 dB attenuation
> specification may be based on measurements at the intentional
> radiator's antenna output terminal unless the intentional radiator
> uses a permanently attached antenna, in which case compliance shall
> be demonstrated by measuring the radiated emissions.

although, being able to send and receive CW might be be essential to use
that band effectively. But you aren't required to be able to copy CW by
ear (or flashing light if you're deaf) in order to use it...

Where the FCC expects ordinary folks to operate, they provide less technically demanding standards for compliance that parallel the field strength measurements that most of us are not able to make.

-- KD6PAG (networking old-timer, RF newbie)

Unofficial Part 15:
http://www.alive.com/~tvr/KD6PAG/localcopy/Part15.html

1064. Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: rdmiller@execpc.com
Message-ID: <511rsl$6o5@newsops.execpc.com>
Source record: 102594
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I don't know why I didn't think of it before, but instead of the crystal and two capacitors, my PIC-based keyer could use a single ceramic resonator. Now though, I may have to add a part...

Could someone tell me if there's a "standard" specification for the voltage across an open Morse key/paddle, or how much current the contacts are expected to handle?

Specifically, I need to know if 5 Volts open-circuit is typically enough, and whether sinking 25 mA closed-circuit is sufficient. If not, I'd have to add a FET to my dinky keyer. Oh well, I was thinking I should add a cap across the PIC's power pins anyway.

Rick Miller (kb9obn) rdmiller@execpc.com

1065. Any homebrew uses for scanner crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <511rn1$7ou@dfw-ixnews5.ix.netcom.com>
Source record: 102595

I've ended up with a few bags of scanner crystals in the 150-160 and 450-460 MHz range, and I'm trying to think of something useful to to with them (other than to shim the leg of my chair). Since I've got a number of identical units the thought of filters naturally occurred, but (a) the fundamental frequency (~16 MHz) is higher than I think of when I think of filters, and (b) I don't know how well overtone crystals would work in a filter (in their fundamental mode). Any ideas?

Another question about overtone crystals: can they be operated at any odd overtone up to their designed frequency just by tuning the oscillator tank, or is there something that only allows an Nth overtone crystal to work at the N overtone? I know the frequencies won't be exact submultiples, but there might be a useful frequency in there somewhere.

Finally, is there a typical "N" for an Nth overtone crystal in the two above ranges? I measured one of the 460 crystals and got a fundamental about 27.6 times lower than the marked freq. I gathered from this that it's either a 7th overtone meant to be quadrupled or a 9th overtone meant to be tripled.

73,
Mike, KK6GM

1066. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <511t3r$jtr@peabody.colorado.edu>
Source record: 102596

>> Plate transformers are another matter, since it's
>> dagnab hard to find that sort of stuff now. WHich means
>> that I would have to do the flea market/surplus radio
>> search.
>
>That's fer sure...

I just took apart my first microwave oven. Despite the horribly banged-up door and timer, the power stuff inside, including a nice 110 V -> 3.3 V & 1850 V transformer all looked brand new, and tested out ok with the inductance meter. It also had an HV diode, a .77 uF 2100 VAC cap, and a hefty blower. (Um, and a magnetron.) Not bad for something in a ditch by the side of the road!

I don't know the power rating of the transformer, but the oven was fused at 10 amps (120 V) so it'll probably run a kilowatt input amp no sweat.

Here's to abandoned microwave ovens!

Bruce
N6URH

1067. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <323479BB.59DE@uiuc.edu>
Source record: 102597
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

rdmiller@execpc.com wrote:
> Could someone tell me if there's a "standard" specification for
> the voltage across an open Morse key/paddle, or how much current
> the contacts are expected to handle?

Well, if you're keying an old-time tube transmitter, you could have
+150V or more on the key during key-up (cathode keying). If it's a
grid-block-keyed system, it might be -150V (if memory serves, the
once-popular Heath HW-101/SB-102 had this kind of voltages). You can't
just put a zener across the keyer to clamp this, either, since that will
effectively turn the rig on all the time.

73!

Carl
K8CG

1068. Slipper Dipper GDM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: hjohnson@pluto.njcc.com
Message-ID: <4H4DouoWWZZ7079yn@pluto.njcc.com>
Source record: 102598

I've just built a 400 MHz "Slipper dipper" grid dip meter as per the
construction article in the ARRL Handbook of the early 1980's, to tune
up a 408 MHz collinear array I've built (yes, 408 MHz, radio astronomy).
It apparently does not oscillate: my 100 MHz oscilloscope has NO indication
(even at 400 MHz it has some response); the sensing ammeter does not
register any output; and my cable-ready TV does not respond on any channels.
It is built very close to the specifications given EXCEPT:
different transistor (new UHF\VHF NPN transistor used)
MAYBE different PCB material (unclear if FR-4 or G-10 specified,
different versions of the article contradictory, I used FR-4)
slightly longer brass and copper tubing (by .5 inch)
used Teflon for mounting tubing
used lock washers to hold tubing and to make contact to brass rod

I'd like to find someone in the greater NJ/PA/NY area with 400 MHz
equipment to help me get this working. Or, who has the equipment to tune
AND match this antenna to our LNA's. I don't want to send this unit
cross country for obvious reasons. Though I'm an electrical engineer,
I'm not an RF engineer by profession so I may have missed a trick somewhere
here.

Herb Johnson
Trenton/Ewing area, NJ
hjohnson@pluto.njcc.com

Herbert R. Johnson voice/FAX 609-771-1503 day/nite
hjohnson@pluto.njcc.com Ewing, NJ (near Princeton) USA

occasional amateur astronomer at odd frequencies and hours
and senior engineer at Astro Imaging Systems: old photons to new bits!

1069. Re: Dielectric constants ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <511um5$ke1@peabody.colorado.edu>
Source record: 102599

>I think Roy Lewallen, W7EL, already provided a pretty good answer to this.
>I'll add that typically materials with high dielectric constants get them
>from having molecular dipoles that are moved in the electric field. As
>the frequency increases, these dipoles have a harder time responding to the
>field, so their effect decreases and the dielectric constant decreases.
>For example, the dielectric constant of water is listed in Sams' "Reference
>Data for Engineers" as follows:
>
>freq dielectric const.
>---- ----------------
>1MHz 78.2
>100MHz 78
>3GHz 76.7
>25GHz 34

And at 500 THz - light - the "dielectric constant" gets renamed
"refractive index" (maybe there's an extra square root, though) and for
water it's only 1.33 at optical frequency. (Techinically, permeability
matters too, but it's negligible for water.)

There are few things with refractive index as LOW as that of water up at
optical frequencies. Most minerals and most organic materials are higher.
Diamond has a very high index, 2.42. Which isn't much to an RF engineer!

Bruce
N6URH

1070. Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Rick Miller <rdmiller@execpc.com>
Message-ID: <01bb9e8e$8ea8ea80$060801c1@eng06.digalogsys.com>
Source record: 102600
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi!

Can someone tell me what open-circuit voltage and closed-circuit current the device attatched to the "key" input of a rig is supposed to be able to handle? If 5 Volts and 25 mA is sufficient, I'll be a happy camper!

Otherwise, I'll have to use a FET I guess.

Rick Miller (kb9obn) rdmiller@execpc.com

1071. Re: More tubes & more transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <32348DC5.1D3E@uiuc.edu>
Source record: 102601

TIEMANN BRUCE wrote:
>
> >> Plate transformers are another matter, since it's
> >> dagnab hard to find that sort of stuff now. WHich means
> >> that I would have to do the flea market/surplus radio
> >> search.
> >
> >That's fer sure...
>
> I just took apart my first microwave oven. Despite the horribly banged-up
>
> I don't know the power rating of the transformer, but the oven was fused
> at 10 amps (120 V) so it'll probably run a kilowatt input amp no sweat.

Typical microwave ovens are only rated at about 600-700 W. Not sure if that is DC input or RF output, though. Of course, it is quasi-cw!

73!
Carl
K8CG

1072. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com>
Message-ID: <32348F38.6AFD@ccm.ch.intel.com>
Source record: 102602
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Rick Miller wrote:
> Can someone tell me what open-circuit voltage and closed-circuit current
> the device attatched to the "key" input of a rig is supposed to be able to
> handle?

Hi Rick, it sure would help to know the part number of the rig.

73, Cecil, W6RCA (not speaking for my employer)

1073. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: dledoux@laci.net
Message-ID: <512ai4$g4o@news1-alterdial.uu.net>
Source record: 102603

tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

>>> Plate transformers are another matter, since it's
>>> dagnab hard to find that sort of stuff now. WHich means
>>> that I would have to do the flea market/surplus radio
>>> search.
>>
>>That's fer sure...

>I just took apart my first microwave oven. Despite the horribly banged-up
>door and timer, the power stuff inside, including a nice 110 V -> 3.3 V &
>1850 V transformer all looked brand new, and tested out ok with the
>inductance meter. It also had an HV diode, a .77 uF 2100 VAC cap, and a
>hefty blower. (Um, and a magnetron.) Not bad for something in a ditch by
>the side of the road!

>I don't know the power rating of the transformer, but the oven was fused
>at 10 amps (120 V) so it'll probably run a kilowatt input amp no sweat.

>Here's to abandoned microwave ovens!

>Bruce
>N6URH

You have the makings of one FINE bugzapper there!

On a serious note, you are probably looking at the makings of a fine
600 -800 watt amp assuming you can find and afford the proper tubes
and associated variable caps.

Be very careful, though, when playing with your new-found toys. 3 KV
AC is definitely in the fatal range. Louisiana used to pump 2.4 KV
into the electric chair...

73
KD5QI

1074. Re: Simple (Inexpensive) Radio Kits?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: dave eckhardt <davee@hp5800.desk.hp.com>
Message-ID: <32349DB1.3F60@hp5800.desk.hp.com>
Source record: 102604

Steve Byan wrote:
>
> In article <50ndol$189@newsbf02.news.aol.com>, n2tkx@aol.com (N2TKX) wrote:
>
> > Does anyone know of a source for very inexpensive radio kits - like less
> > than $5.00?
>
> No, but you should be able to homebrew a crystal set for about that - $.30
> for the 1N34A detector, several bucks for the crystal earphone, $.60 for
> the 10K resistor and 0.01 uF cap to parallel with the earphone, and $.50
> for a fixed 350 pf cap. I'll assume you scavange some fine enameled wire
> from a TV flyback transformer or some such. Wind a 250 uH coil on a 2"
> paper mailing tube form and coat it with shellac to keep things together.
> Take some sheet brass or phosphor-bronze and make a sliding contact for
> the coil. Sandpaper off the insulation in a 1/4 inch wide strip where the
> slider makes contact along the coil. Arrange for the sliding contact to
> short the end of the coil, and you have a variable inductor that you will
> use to tune the radio, in place of a rather expensive variable capacitor.
>
> Hook the coil and 350 pF cap in parallel and feed the
> earphone/resistor/0.01 uF capacitor combination through the 1N34A, attach
> antenna and ground, and voila, you have a radio.
>
> As an alternative, consider using a varactor diode and potentiometer to
> tune the radio. You could build a little regen set around an MPF102, a
> home-made coil, a varactor and potentiometer tuning arrangement, and a
> crystal earphone.
>
> Regards,
> -Steve
>
> --
> Steve Byan internet: steve@hi.com
> Hitachi Computer Products (America), Inc.
> 1601 Trapelo Road phone: (617) 890-0444
> Waltham, MA 02154 FAX: (617) 890-4998

Steve:

Just one further thought. As a kid (now 50) I even collected my own
galena and made that work. We didn't even have Schottky diodes in those
days. a 1N34 was high tech! White (grey) razor blades also work as does
pyrite and powdered (rusty) iron filings. Galena is best. I note you
are in Ma. I know you can collect galena and pyrite at the Sterling
Hill Museum near Franklin, NJ. I had a lot of fun as a kid trying to

find the "most sensitive" spot on the small crystal. I even managed HCJB - Quito, Equador - on my galena crystal radio one night from central Michigan! Have fun - combine a mineralogy/mining trip with building a cheap radio!

Dave - W7LEV

1075. Re: Low-noise RF power transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: dave eckhardt <davee@hp5800.desk.hp.com>
Message-ID: <3234A16A.796C@hp5800.desk.hp.com>
Source record: 102605

Tom Randolph wrote:
>
> I need recommendations for a good, cheap, low-noise, readily available RF
> power transistor. This will be the post-mixer IF amp in the receiver I'm about
> to begin building, 12 MHz IF. It needs to be able to dissipate around 1W, cuz
> I'm gonna run it with plenty of collector current to keep IMD low (this thing
> won't last long on battery power!). All I have in the junk box is 2N3866, but
> I'm sure there must be better transistors by now!
>
> ==
> Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
> ==

Tom:

If you REALLY want what you ask for (don't think you need low noise
AFTER the mixer), you might give the Motorola CA5815C a try. It'll set
you back about $100, but It'll do what you ask for. BUT, its not a
single transistor.

Dave - W6LEV

1076. Re: 10m question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960909231314.30874C-100000@primeline.net>
Source record: 102606

You have to do both.

Gary Tait , VE3VBF

On 6 Sep 1996, PPA Kotze wrote:

> I have two simple cb radios that uses crystal sets for each channel. Could i simply change these crystals to the frequency i want or do i have to retune some coils?
> email
> 9308970@firga.sun.ac.za

1077. W. CT Hamfest This Sunday, Newtown, CT 15-Sep

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <3234C9E2.6547@ix.netcom.com>
Source record: 102607
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.space,rec.radio.amateur.antenna

THE WESTERN CONNECTICUT HAMFEST
Sponsored by the Candlewood Amateur Radio Association

Just 14 miles from the NY/CT State line!

Sunday, Sept. 15, 1996 0900-1400
Edmond Town Hall Route 6, Newtown, CT
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Gourmet Fare Rain or shine

Talk-in 147.12/.72 PL 141.3

General admission $4.00 at the door (what a deal!)

Tailgating $6.00, inside table reservations $10.00 each, (both
include 1 admission), mail to:
Candlewood Amateur Radio Association, PO BOX 3441, Danbury CT 06813

For more info, phone (203) 790 7041 or (203) 438 6782.

Hope to see you all there.
73 de KD1YV
Jim

1078. Re: Frequency Standards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <RGR0wDAc3DNyEwKp@ddwyer.demon.co.uk>
Source record: 102608

In article <50um55$3iv@News.IDT.NET>, daveaa1a@pcix.com writes
>Gudday fellow Home Brewers..
>
>My best shot so far for accurate frequency calibration is as follows:
>
>A 5mhz James Knight Proportional Oven Oscillator divided down to 100khz
and then
>compared on the scope with Nantucket Loran 'C' via a TRF receiver does
better
>than

>
>What are you using??

I have some surplus 12V precision 16.384 MHz OCXOs that are adjustable
by external pot +-0.5ppm and stable to 0.001 after warm up. These can be
devided by 2^12 to 4kHZ or 2^14 to 1kHZ. I can supply them precalibrated
to +-0.2ppm, ageing is very good so calibration will last for a year or
so. Let me know if any one is interested.
regards

Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,
TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_Precision/

1079. DSP software for sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <51189o$lo9@news1.total.net>
Source record: 102609

Hi everyone,

I 'think' I have seen somewhere, on this or other radio n.g., there are sound card softwares (DOS or WIN 3.X) that permit to implement some kind of DSP filtering of the audio spectrum, requiring only a cable connection between rcver headset's output and card mike's input.

Or was it just a daydream? Any sharewares, demos, beta release, commercial products out there?

Anyone to wake me up?

Thanks,

H. C.

1080. FREE Ham Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-09 00:00:00 UTC
From: "Charles H. Reichert" <qa2696@email.mot.com>
Message-ID: <323464F3.41C67EA6@email.mot.com>
Source record: 102610

I uploaded 4 FREE DOS programs for use by amateur radio homebrewers.

They are located on ftp site;

oak.oakland.edu/pub/simtelnet/msdos/hamradio/

asp_40.zip B 234830 960818 RF weak signal amplifier design
pll2v2.zip B 113669 960818 PLL design program for 2nd Order Loops
pll3v2.zip B 120931 960818 PLL design program for 3rd Order Loops
tap2.zip B 101135 960818 Triode RF Power Amplifiers for Grounded Grid

Courtesy KD9JQ

\|/
^ ^
(O O)
==========.ooO==U==Ooo.==========
| KD9JQ 847-358-3827 Home |
| Charles H. Reichert 847-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
==========

1081. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: "August H. Johnson" <kg7bz@whitemtns.com>
Message-ID: <32361A9E.6D7A@whitemtns.com>
Source record: 102484

William W Janssen wrote:
>
> I THINK you will find that the transformer has poor voltage regulation.
>
> The Core is configured differently than normal.
>
> If anyone has used one of these I would like to hear of the results.
>
> Bill K7NOM

Just knock out the two shunts in the magnetic circuit to remove the current limiting on the microwave transformer. The shunts are the two metal blocks that are between the primary and secondary windings. These work in the same way that the shunts do in a neon-sign transformer to make a current-limited transformer.

August
--
August Johnson KG7BZ AMI 733 http://www.whitemtns.com/~kg7bz
P.O. Box 795
Pinetop, AZ 85935

(520) 367-0592

1082. Ku-band transceivers for sale for parts.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: Dacha <robert@visor.com>
Message-ID: <01bb9ec3$cc636d20$8c016fcc@dacha>
Source record: 102611

New or like new Ku-band transceiver RF heads for sale $50.00 each. Cheaper
by the dozen.
PLL sub-system. Great for parts or use as is. No data.

1083. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <32350006.292C@monmouth.com>
Source record: 102612
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

Greg J Szekeres wrote:
>
> In article <32339303.5609@monmouth.com>,
> Robert Bissett <rbissett@monmouth.com> wrote:
> >Robert Casey wrote:
> >>
>
> ......
>
> >> Open up the Sony SRF42. First, remove the volume control knob (pulls
> >> out). No need to rem> connections themselves, but look for 2 pads closer to the board
edge
> >> that lead to the IC5 pins 2 and 4.
> >>
> >> I just connected the headphone jack to the audio amp, and used the
> >> SRF42 volume control to set a reasonable and undistorted signal
> >> level.
> >
> >Haven't you noticed that most all auto radios have am stereo? Both of
> >our cars have them and I have one for my bench radio that's at least
> >10 years old. Works fine on the few am stereo stations here.
> >
>
> Daaah, what. I've never seen one yet. My truck dosn't
> have one, none of the other cars I've seen have one, not
> one aftermarket unit in Crutchfield has one.
>
> greg

Well, actually there are no marking on the panels of our sets that say
AM Stereo until you tune in to a station that is transmitting am stereo
and then it lights up. The first car that I had it in was a 86 Plymouth
Reliant and then a 88 Dodge. Look for one of those in the junk yards.
The problem now is that there are only a few stations still using
am stereo, and in our area there were only two. Now one.
It may be nobody is making the am stereo radios anymore, I can't say
for
sure, our newest car is a 91. Call a local am station and ask if they
know
of any am stereo stations in your area. Good luck.

--
****
Bob Bissett rbissett@monmouth.com

****

1084. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: Ed Ellers <edellers@mis.net>
Message-ID: <323508F5.2A39@mis.net>
Source record: 102613
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

Robert Bissett wrote:

> Haven't you noticed that most all auto radios have am stereo? Both of
> our cars have them and I have one for my bench radio that's at least
> 10 years old. Works fine on the few am stereo stations here.

Many (but not all) *factory* car radios these days have AM stereo, but
it's a very rare feature on aftermarket radios.

1085. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: pacrimgolf@kuentos.guam.net
Message-ID: <513c0j$hre@lehi.kuentos.guam.net>
Source record: 102614
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Rick Miller" <rdmiller@execpc.com> wrote:

>Hi!

>Can someone tell me what open-circuit voltage and closed-circuit current
>the device attatched to the "key" input of a rig is supposed to be able to
>handle? If 5 Volts and 25 mA is sufficient, I'll be a happy camper!

>Otherwise, I'll have to use a FET I guess.

>Rick Miller (kb9obn) rdmiller@execpc.com

Give us a clue, Rick. Which 'rig' ?

1086. Schematict amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: Frans van Eck <fek@nuclint.nl>
Message-ID: <32353091.41C6@nuclint.nl>
Source record: 102615

Where can i find schematics for an amp with a 4cx1000 connected as a
tetrode? It is for a frequenty range from 1.8mc to 30-50mc.
--

Frans

/\/\/\

1087. Re: Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: zvyezda@ix.netcom.com
Message-ID: <513dn7$6bc@dfw-ixnews4.ix.netcom.com>
Source record: 102616
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

mwalker@astral.magic.ca (Mike Walker) wrote:
> Now, I'm not saying I plan to do this myself, but what would happen if
> someone downloaded and printed out some of the that child porn I am told is
> lurking all over the internet, then put it in a CLEARLY MARKED envelope
> ("Attn: Kiddie Porn") and sent it to each of the 5 names on the list?
> Perhaps with a nice note ("Here are the child sex photos you requested.
> Thank you for the really juicy ones you sent me, if you have any others
> featuring (you supply the smut), you know how to get hold of me. - Rocko").
> Do you think that would likely get someone's attention (esp. since several
> of these are in other coutries)? I bet the number of people posting this
> spam would drop very quickly!

That depends. Would you be dumb enough to put your own return address on any
of the envelopes?

--
Ed Murphy (FDC DW) "A person who is 'of sound mind' is one who
zvyezda@ix.netcom.com keeps the inner madman under lock and key."
#include <std/disclaimer.h> -Paul Valery

1088. Re: Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: mwalker@astral.magic.ca
Message-ID: <AE5A686F966868C827@baator2.magic.ca>
Source record: 102617
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

In article <50s6rm$a97@news.ais.net>,
carl@ais.net wrote:

>The only way to effectively stop this chain-letter crap is to alert the
>ISP from which it originates ... as follows:
>
>(mail/foward the SPAM to "abuse@<abuser's_ISP_domain>" and
>"Postmaster@<abuser's_ISP_domain>) with a note like this:

Well, there is also another approach! Discussion here indicates that electronic repsonses to their providers will likely not work, since many post from anon accounts or otherwise disgusise or avoid retribtion for their garbage. But they do POST THEIR REAL SNAIL MAIL ADDRESSES in order to get the thousands, perhaps millions (yeah, right!) of $$$ fools are going to send them.

Now, I'm not saying I plan to do this myself, but what would happen if someone downloaded and printed out some of the that child porn I am told is lurking all over the internet, then put it in a CLEARLY MARKED envelope ("Attn: Kiddie Porn") and sent it to each of the 5 names on the list? Perhaps with a nice note ("Here are the child sex photos you requested. Thank you for the really juicy ones you sent me, if you have any others featuring (you supply the smut), you know how to get hold of me. - Rocko"). Do you think that would likely get someone's attention (esp. since several of these are in other coutries)? I bet the number of people posting this spam would drop very quickly!

1089. Re: Case paint for Kenwoo

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8C81041.03670007FA.uuout@sourcebbs.com>
Source record: 102618

KCC>-Sorry, there have been no touch-up paint kits for the Kenwood radios.
>-The casings are powder coated when painted. I will forward your comments
>-to our Product Planners. There can be a slight difference in color even
>-with the new radios from batch to batch.

Hi,

I would also like to be able to get "near match" paint so I could make
all my other equipment look as good as my trusted old TS-830.

73 de KE4QOK
Bob

* SLMR 2.1a * * A Blonde saw a sign that said WET CEMENT -- So she did.

1090. A not so obvious ham-homebrew posting qu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <1996Sep10.095700.1540.192517@mailgate02.mobility.com>
Source record: 102619

Why would this ham-homebrew server post a response that I sent on.....

Date: 4 Sep 96 13:16:43 GMT
From: tkomljan@mobility.COM (Komljanec, Tony)
Subject: A not so obvious resistor question.

On Sept. 9th, Ham-Homebrew Digest V96 #389....
re-posting an old response 5 days later?

Tony K
VA3TK

1091. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <513u7f$2bd@news.calweb.com>
Source record: 102620

I THINK you will find that the transformer has poor voltage regulation.

The Core is configured differently than normal.

If anyone has used one of these I would like to hear of the results.

Bill K7NOM

1092. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: feinstei@mailhost.fsic.ford.com
Message-ID: <5141c6$sp3@eccdb1.pms.ford.com>
Source record: 102621
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

Robert Bissett <rbissett@monmouth.com> wrote:

>Greg J Szekeres wrote:
>>
>> >
>> >Haven't you noticed that most all auto radios have am stereo? Both of
>> >our cars have them and I have one for my bench radio that's at least
>> >10 years old. Works fine on the few am stereo stations here.
>> >
>>
Ford premium radios with cassette and/or CD players all have
AM stereo. Also, while in Japan, I found that AM stereo is
really popular due to difficult FM propagation (due to
Japan's mountainous terrain). Almost all stations in
Japan use AM stereo. There's an excellent
AM Stereo/FM/Japan TV pocket radio made
by AIWA sold in Japan. It tunes 76-108 MHz and
has selectable 9 kHz, 10 kHz AM band spacing.
I have one and it gives superb reception of AM
stereo. They go for about $65.00 in Japan. It
would be a great idea if Grove or someone would
import a bunch of these things. AM Stereo or not,
it's a great receiver! AIWA does market a similar
unit here in the U.S. but it lacks AM Stereo,
the Japanese FM band, and TV band.

1093. low power 300MHz transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <DxIv95.L1n@actcom.co.il>
Source record: 102622

Hello,

For a security application, we're looking for a simple swept frequency (i.e. varactor tuned) oscilator/transmitter design for the 300-400MHz range. Power output should be about 500mW. Coupling to an antenna (such as a simple rod) is also necessary. Frequency stability isn't mandatory and a simple design (even single power transistor) is preffered. Fixed frequency (manual tuning) designs are also welcome. Can anybody point us to a simple design (and save us some of the hassle when designing from scratch...:-)

thanks and best regards,
Inno

1094. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32358B6D.42C5@rcru.rl.ac.uk>
Source record: 102623

Dale LeDoux wrote:
>
> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:
>
> >>> Plate transformers are another matter, since it's
> >>> dagnab hard to find that sort of stuff now. WHich means
> >>> that I would have to do the flea market/surplus radio
> >>> search.
> >>
> >>That's fer sure...
>
> >I just took apart my first microwave oven. Despite the horribly banged-up
> >door and timer, the power stuff inside, including a nice 110 V -> 3.3 V &
> >1850 V transformer all looked brand new, and tested out ok with the

SNIP

>
> >Here's to abandoned microwave ovens!
>
> >Bruce
> >N6URH
>
> You have the makings of one FINE bugzapper there!
>

But you will find that the regulation of the transformer is very poor.
It is designed to be that way for current limiting. The diodes and
blower are useful.

1095. Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep10.150841.2923@ke4zv.atl.ga.us>
Source record: 102624
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <50ps5d$9gr@news.Hawaii.Edu> jherman@Hawaii.Edu (Jeffrey Herman) writes:
>I would venture to guess that of those radios still being built at home,
>more are being built for CW use than SSB, FM, ATV, RTTY, digital, et
>cetera. I make this judgement based on what appears on the QRP and
>GLOWBUGS lists (Glowbugs is devoted to homebrewing tube gear).

I'm not so sure of that. Between Hamtronics, Ramsey, Tentec, the late unlamented VHF Engineering, Down East Microwave, etc, and conversion of commercial surplus, I'd suggest that FM is the most popular for those who build or modify. And a good deal of that gets pressed into digital service. Note that this isn't scratch construction for the most part, but rather depends on kits or commercial surplus assemblies for the parts and basic design. However, a look at _Microwave Update_ or one of the Proceedings issues shows considerable at home scratch construction of this sort of equipment too. (And most of the kits aren't of Heathkit quality so they require considerable skills by the builder beyond simply following instructions and knowing how to solder in order to get them operational. Thus I'd tend to lump them under the banner of homebrew.)

I know the sales figures for the GRAPES 29 MHz quadrature transceiver kit (several thousand units), and I have a fair guess for some of the others. Discounting commercial surplus conversion for the moment, I'd suggest we're looking at something on the order of 30,000 to 70,000 non-CW units which have been shipped. Add in conversion of commercial surplus and you're looking at well over 200,000 units (conversion sometimes only requires changing the crystal and repeaking, which shouldn't qualify here, but often it requires fairly extensive changes which IMHO could fall into the category we're discussing). Note for the most part we're talking about both transmitters and receivers here, not just transmitters, IE complete working stations.

If we also include the CB->10m conversions (including conversion of AM rigs to FM), we're looking at several thousand more non-CW home projects. And we have ringers like Campbell's T2 and R2. They're quadrature units. They can be used for CW, but they also work fine for SSB or digital (which is how I'm using mine). I have no idea how many kits Kanga has sold, or how many were built directly from the QST articles. I built mine from the articles, and modified them extensively in the process by replacing the analog audio phasing section with a DSP. I use them for QPSK experiments, but they would have worked for that without the DSP (just not as well). I know several others doing similar things with them, and some folks using them as SSB exciters (followed by a homebrew amp) and receivers.

Most ATV transmitters (and receiving converters) have been homebuilt. They've either been kits or scratch built for high level modulated VSB, and for FM they have been mostly kits with only a few scratch built (pity, the FM units are easier to scratch build than the VSB units, and offer better performance). Of course the total isn't huge in any case since ATV isn't a hugely popular amateur mode.

I'm leaving out what was historically the biggest kit supplier, Heathkit, because I don't think of them in the same way as the others. They are truly just home assembly rather than what we'd consider homebrew because of the extensive instructions and the care with which the units were designed to make them foolproof to assemble by someone with virtually no skills beyond reading and following directions. If they were included, you'd have a large number of respectable SSB transceivers and FM transceivers to add to the total. (I believe the HW-101 was the largest selling amateur kit of all time.)

>Jeff KH2PZ / KH6 (ex WA6QIJ) (exclusively using homebuild CW transmitters)

But the transmitter is only half of the station, and usually the simpler half at that. What about homebuilt receivers? I'd say by far the most popular receiver to build is a simple FM monitoring receiver. It is only one chip today, and can be assembled in an evening, yet it offers remarkably good performance (and you can build a matching one chip FM transmitter to go with it). Even a simple DC CW receiver is usually considerably more time consuming to build, and performance can be poor because of oscillator stability problems, no single signal filtering, and the hum pickup problem. The DC receiver works as well (or as poorly) for SSB or RTTY as it does for CW too (much the same can be said of superhets, depending on the filter chosen).

I don't have much info on sales figures of QRP CW kits, though I suspect most of them sell in the hundreds, not the thousands, and I'm fairly confident the total is below that for the FM units mentioned. Quadrature and SSB kit sales (other than Heathkit) probably lag the CW kits because they are a bit more complex and specialized (but not very much, most of the complexity is in the receivers, and for good performance the CW receiver can't be much simpler than the others).

I've only addressed radios, but if we look at other parts of the station suitable for home construction, we see a lot of activity. TAPR says their TNC kit sales exceeded 20,000, and GLB sold a bunch of their kits too. If we were to include Baycom or Hamcom style modems, the numbers would be huge, but I'll ignore them as too simple to fit this category.

And of course there are amplifiers, antenna tuners, and antennas. They aren't respectors of mode, but many many amateurs build them. Now neither of the latter are rocket science, but it does take a wee bit of skill to get all but the simplest working right. Linear amplifiers are one of the most popular home contruction projects, and one of the most common homebrewed items seen for sale at hamfests. They can be challenging to do properly.

I think you see CW transmitters as the most common because that's all you do, so your vision is a bit myopic on the subject of home constructed equipment (or you may be insisting on a purist definition of homebrew which doesn't admit anything but an original design by the home constructor). If you were active on other modes, you might find that there is quite a bit of building going on for them as well. Probably only at microwave, and for ATV, is homebrew the majority course, but it is alive and well on most of the other modes, not just among CW operators.

For beginners, I think FM offers the best point of entry. The systems are simple (considering both transmitter and receiver), stability is less of a concern, performance can be quite good thanks to the common availability of high integration parts, and the only encoding you need to understand to use them is ordinary speech. There's also the factor that RF gets easier to do as you go up in frequency to where you can use simple striplines printed on circuit board, IE the "no tune" designs, and where you can use unconditionally stable MMIC amplifiers, and where high gain antennas are small and practical to build and install.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1096. Re: 10m question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <5149jf$sl1@sf18.dseg.ti.com>
Source record: 102625

In article <50pp9p$h14@itu1.sun.ac.za>, ppak@inferno.eis.org.za says...
>
>I have two simple cb radios that uses crystal sets for each channel. Could
> i simply change these crystals to the frequency i want or do i have to ret
>une some coils?
>
>email
>9308970@firga.sun.ac.za
>

You will have to replace the crystals, AND re-tune the transmitter stage coils and the receiver front-end coils (i-f coils should not need to be adjusted, except to peak the alignment due to old age). I assume from your too-brief description that the radios use a pair of crystals for each channel. If this is the case, I wouldn't bother with them. Rocks cost about $10 each, or $20 per frequency, and IMHO that's too much to waste on 10m AM. Save your money and your trouble. If you wanna do a CB-to-Ten conversion, pick up a 40-channel SSB rig at a flea market or pawn shop and convert that. It will be infinitely more useful when it is all said and done.

73 de KC5NG

1097. FS: Filter Capacitors for Heath power supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <5149m9$sl1@sf18.dseg.ti.com>
Source record: 102626

Are you rebuilding a Heath HP-23 series power supply? You are? Well, great... I have the capacitors you need to complete the job:

Sprague 150 uf, 500 WVDC, twist-lock cans, brand new fresh stock (not dried-out leftovers from some old TV shop!). Set of four is $40 plus $3.00 for postage. Nearest caps on the market these days cost $20 to $25 each! Sold in sets of four only! I have TWO sets available, and I may not be able to get any more I know I said this once before, but my supplier managed to locate a few more).

Contact me via email: kc5ng@dlep1.itg.ti.com

Thanks and 73! Dean Hemphill, KC5NG

1098. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep10.173602.3624@ke4zv.atl.ga.us>
Source record: 102627
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <01bb9e8e$8ea8ea80$060801c1@eng06.digalogsys.com> "Rick Miller"
<rdmiller@execpc.com> writes:
>Can someone tell me what open-circuit voltage and closed-circuit current
>the device attatched to the "key" input of a rig is supposed to be able to
>handle? If 5 Volts and 25 mA is sufficient, I'll be a happy camper!

That depends entirely on the rig. Some can be keyed with TTL levels
and currents, others have open circuit voltages of -150 volts or more,
or key down currents of an ampere or greater. One size does not fit
all. Most modern Japanese radios will work with TTL levels, but consult
the documentation of the particular radio before trying that.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1099. Re: A not so obvious ham-homebrew posting qu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <514cv7$n71@newsbf02.news.aol.com>
Source record: 102628

In article <1996Sep10.095700.1540.192517@mailgate02.mobility.com>,
tkomljan@mobility.COM (Komljanec, Tony) writes:

>
>On Sept. 9th, Ham-Homebrew Digest V96 #389....
>re-posting an old response 5 days later?
>
>Tony K
>VA3TK

Because a end system reflected it back on internet. Sometimes that happens
when a system is "full" and/ or the software is flawed. I'm not sure if
that was the case here or not.

The same thing happened with that very same system a month ago, it stated
bouncing everything back. Either the operator is a Lid or the software is
incorrect.

73 Tom

1100. All-American 5 Kit or Wired Available???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: jrybak@mesa5.Mesa.Colorado.EDU
Message-ID: <514rkm$6q8@mesa5.mesa.colorado.edu>
Source record: 102629

Does anyone still have available, either in kit or wired form, what used to be called the "All-American 5" radio? (This was a 5 tube set with filaments connected in series such that the sum of the 5 required filament voltages was 117 volts.)

I am interested in buying one for "old time's sake."

Thanks.

Jim Rybak

1101. WTB: Schematic for microwave modules MMT 144/28 xverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: "James R. Chastain" <chastain@compunet.net>
Message-ID: <01bb9f68$c2d3dba0$d4479fcf@ns.compunet.net>
Source record: 102630

Hi,
I am looking for a schematic/service manual for a Microwave
modules MMT 144/28 transverter. I recently had to sell my
primary VHF/UHF allmode and need to repair the xverter
to get back on. I would be happy to pay for reproduction
and shipping costs. Please E-mail chastain@compunet.net

Thanks, Rod. (KD0XX)

1102. Re: DSP software for sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <842391324snz@lfheller.demon.co.uk>
Source record: 102631

In article <51189o$lo9@news1.total.net> hugo@infobahnos.com "H. Caron" writes:

> Hi everyone,
>
> I 'think' I have seen somewhere, on this or other radio n.g., there
> are sound card softwares (DOS or WIN 3.X) that permit to implement
> some kind of DSP filtering of the audio spectrum, requiring only a
> cable connection between rcver headset's output and card mike's input.
>
> Or was it just a daydream? Any sharewares, demos, beta release,
> commercial products out there?
>
> Anyone to wake me up?

This sort of thing is available free for the PSA DSP-based sound cards
like the Cardinal, which I use. I think Echo (who designed the PSA ASIC)
is the only firm making them now, but you might find a second-hand one
going cheap.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

1103. FS: NEW Eimac/National NL-8161R/3CX2500A3 for sale.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: "James R. Chastain" <chastain@compunet.net>
Message-ID: <01bb9f69$d8ce45c0$d4479fcf@ns.compunet.net>
Source record: 102632

Hi,
I have a NEW Eimac/National NL-8161R for sale.
The tube is very similar to a 3CX2500A3
I have a standing offer of $400.00 from
a well known electronics distribitor.
I am looking for a best offer before 6pm
September 11, 1996. If you would be interested,
Please E-mail chastain@compunet.net or call
540-565-2896 and leave a message on the machine.

Thanks, Rod (KD0XX)

1104. DR-610T Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-10 00:00:00 UTC
From: tsiandrews@aol.com
Message-ID: <515br1$721@newsbf02.news.aol.com>
Source record: 102633

I'm looking for any info on the Alinco DR-610T. I found the standard red and blue
jumper mods. However, this clipped the red jumper and it did not restore the 800-900MHz Rx. As far as I can tell it only allowed access to the AM Aircraft band. Is there a button combination I need to press to access the extended upper frequencies?
The mod file also mentioned a set of touch pad sequences used to modify the radio when the key-lock mode is in place on the mic. What are they?

1105. Re: Ham Radio as an *ENJOYABLE* Hobby

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <5159pn$6kf@kanga.accessone.com>
Source record: 102485
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.policy,rec.ham-radio.swap,rec.ham-radio.packet

In article <32306072.606@merlin.libelle.com>, dick@merlin.libelle.com says...
>
>mpenner@cloud9.net wrote:
>>
>> The primary goal of the group will be to fill an existing void by
>> providing an enjoyable forum for the discussion of technical, operating
>> and social topics of interest to radio amateurs.
>
>What a novel idea! :^) Here's hoping it catches on.
>--
>Dick Flanagan, W6OLD - (dick@merlin.libelle.com) - Minden, Nevada

You know, this is why we created Ham Radio Online. Ham Radio is actually a heck of a lot of fun!!!! And we are trying our best to report on the fun that most hams (who have not discovered the Internet :)) are having on the air, building antennas, tinkering with equipment, or slogging through a forest on a volunteer search/rescue mission.

Stop on by and enjoy our web site, http://www.hamradio-online.com - now read in 43 countries around the globe.

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

1106. WTB:HV capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bb9f93$8791aa60$7d229bcf@kn6dv.qnet.com>
Source record: 102486

Thanks for reading this.
I am looking for 470pf (need 4) and 220pf(need 1)
about 7 kV.
Please send me a e-mail if you have something like this.
Thanks 73 Will KN6DV

kn6dv@contesting.com

1107. Re: Slipper Dipper GDM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: Carl Black <cblack@capecod.net>
Message-ID: <32363C51.1157@capecod.net>
Source record: 102487

Herbert R Johnson wrote:
>
> I've just built a 400 MHz "Slipper dipper" grid dip meter as per the
> construction article in the ARRL Handbook of the early 1980's, to tune
> up a 408 MHz collinear array I've built (yes, 408 MHz, radio astronomy).
> It apparently does not oscillate: my 100 MHz oscilloscope has NO indication

I built one of those several years ago and it worked fine. To be sure
that it is oscillating, I suggest that you use a sensitive counter such
as the Startek with a short whip sniffer. I use a Startek with the
bargraph display for tuning many oscillators and multiplier stages.
Works great. Good luck.

73, Carl, W3KI

1108. Re: Copper Cactus

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: Carl Black <cblack@capecod.net>
Message-ID: <3236398D.41BA@capecod.net>
Source record: 102488

Ken White wrote:
>
> Need help finding plans for building the 2M antenna called the "Copper
> Cactus". I built one some time ago using plans I'd downloaded from an
> FTP site somewhere but can't for the life of me, remember where. It
> used 1/2 inch copper pipe, was simple to build and works like a charm.
> It may have come from a site in Buffalo.
> Any thoughts? Thanks, KE4WIS

Sounds like you're talking about the venerable J-pole antenna which looks something like a cactus, especially the copper pipe variety. :-) There have been many ham mag articles on building J's. I think the last one I saw was in the July or August issue of '73, if you can dig it out from amid the multipage, never-ending diatribe of Wayne Green. The ARRL Handbook and Antenna Handbook also are sources. Hope this helps you.

73, Carl, W3KI (50th year in ham radio)

1109. Re: Ham Radio as an *ENJOYABLE* Hobby

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32368938.7DD0@ccsnet.com>
Source record: 102489
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.policy,rec.ham-radio.swap,rec.ham-radio.packet

Ed Mitchell wrote:

> You know, this is why we created Ham Radio Online. Ham Radio is actually a heck
> of a lot of fun!!!! And we are trying our best to report on the fun that most
> hams (who have not discovered the Internet :)) are having on the air, building
> antennas, tinkering with equipment, or slogging through a forest on a volunteer
> search/rescue mission.

Ham radio is so much fun that I gave up sex just to call CQ contest
and pass routine traffic.

```
#================#=====================================================#
| Burt Fisher | Teacher of video, broadcasting and electronics |
| Amateur call | South Dennis, Ma. (Cape Cod) |
| K1OIK | The less you say, the more people will remember |
#================#=====================================================#
| k1oik@ccsnet.com |
#=========================================================================#
```

http://www.qrz.com/cgi-bin/qrz_gifs?k1oik.gif

1110. ** FLEA at MIT ** Sunday 15 September Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <5168li$aml@senator-bedfellow.MIT.EDU>
Source record: 102490
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

This comming Sunday...

*** !!!! WE ARE BACK IN THE GARAGE !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
September 15th, 1996
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >1000 cars!

Buyers admission is $4 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $10.00-each at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 146.52 and W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ***********

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

1111. Tek scope sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: Tom Phillips <76252.2720@CompuServe.COM>
Message-ID: <516do9$49v$1@mhafn.production.compuserve.com>
Source record: 102491
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Tektronix 453 dual channel 60mhz (110mhz with x10 mult) with delay
time mult. for sale. Mint condition, original manual plus one
probe. $650.00. On used market now for $850 - $900.
All functions work and still in calibration.

Email respose to tomsrig.@flash.net, or post reply here.
Tom - AB5ZJ

1112. Using GPS as accurate frequency reference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <516eba$6f3@dfw-ixnews4.ix.netcom.com>
Source record: 102492

At a recent swapmeet I picked up a couple of old Trimble Navigation GPS receivers. I've been told that these can be used to perform frequency comparisons between an external reference oscillator and *something* from the GPS satellites. Does anyone know what this might be? Can GPS satellites be used as an accurate, stable frequency reference, and if so, what are the principles involved?

These receivers happen to have connectors for an external oscillator (to be used in lieu of the internal oscillator), and there is a display menu that displays both 'delta f/f' and the average of this quantity. I've assumed this is a comparison between the internal (or external) oscillator frequency and something in the GPS signal, but the manual copy that I have is quite unclear regarding this feature. Does anyone out there know what might be going on?

I'd like to use one of these receivers (the one I've been able to repair, that is) to adjust and monitor a frequency standard (I just picked up an HP 106B that also needs repair). I was about to build a WWVB receiver for this purpose when I stumbled across these last weekend. Hopefully they can be used in this application, otherwise, at least I'll have an accurate time reference and I'll always know where my house is!

- Jeff, WA6AHL

1113. 2M linear PA problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: christer.jogenborn@era.ericsson.se
Message-ID: <516fe8$kmp@erinews.ericsson.se>
Source record: 102493

Got a 'ex.linear' transistor final amp. for 144MHz.
On SSB the PA sounds very bad, according to
the guys on the band.
It is a 12VDC two-transistor PA with a gasfet preamp.
MIRAGE rated 160W output, but i'd rather say 125W
at the moment.

I want to get the PA into shape again, and need
some hints on what-to-check, bias, current balance
on the transistors etc..

Chris SM0NCL, now QRP on 2M

1114. BSX59 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <516oej$rns@mrnews.mro.dec.com>
Source record: 102494

Anything that anyone can tell me about the BSX59 transistor would be greatly appreciated. It's apparently an RF power transistor. I'm looking for stuff like Ft, dissipation, Ic, max voltages, etc...

We inherited several hundred of these from a video lab downstairs from us that closed up a couple of weeks ago.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
==========

1115. FS: NIB Eimac 304TL tube very cheap.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: mays@indigo
Message-ID: <516stt$gj9@mark.ucdavis.edu>
Source record: 102495

Hello there,
I've found a new Eimac 304TL on the shelf in the original box. Nice,
clean and new, for sale real cheap. Just email me with any real offer and
it could be yours.
Thanks
Skip May wv6f
mays@indigo.ucdavis.edu

1116. Re: Using GPS as accurate frequency reference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <516u84$n65@peabody.colorado.edu>
Source record: 102496

In article <516eba$6f3@dfw-ixnews4.ix.netcom.com>,
Jeff Anderson <jeffa@ix.netcom.com> wrote:
> At a recent swapmeet I picked up a couple of old Trimble Navigation
>GPS receivers. I've been told that these can be used to perform
>frequency comparisons between an external reference oscillator and
>*something* from the GPS satellites. Does anyone know what this might
>be? Can GPS satellites be used as an accurate, stable frequency
>reference, and if so, what are the principles involved?

The orbiting GPS satellites have cesium clocks aboard each one, so they know what time it is. They broadcast this, and your handheld picks up these transmissions. However, the handheld is a different distance from each bird, so the speed-of-light propagation time is different for the signals from the different birds. Your handheld then solves for where it must be located in order to receive these signals with the relative delays that actually occured. There must be as many equations as unknows: If you can receive three birds's signals, you can solve for latitude, longitude, and time. With four birds you can also find your elevation. With more than four, you are in "overdetermined" mode and can take averages of the different solutions, gaining accuracy.

When I say "solve for time," this means to the nearest 100 nS or so, in an absolute sense (and with the fuzzing, "selective availability," turned on, rather better if it's off, which will be permanently soon), but if you just sit there and don't move, well, basically, you have a dozen or so cesium clocks all orbiting you, and telling you what time they think it is. They also tell you what their ordits are, updated several times a day, so you can make the doppler and the time-of-flight corrections yourself.

I work part-time in Jila, where one of the world's foremost metrologists plays^H^H^H^H^Hworks (Ever heard of Bose-Einstein condensation? That lab's up two floors.) He's decided it's worth while to have a GPS receiver doing exactly this. He finds it nice to have a clock with about a part in 10^-13 absolute accuracy (for $200!) lying around. Like, to measure the frequency of some particular color of green to a few Hertz, and get it right.

Bruce
N6URH

1117. Collins filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: darrellk@iland.net
Message-ID: <3236ffdd.238061@news.iland.net>
Source record: 102497

WTB Collins mechanical filters. Need PWB mount type of series 5269689010 and 5269692010. These are 455Khz center freq with 400 Hz and 2.5Khz bandpass respectivly. Center freq must be 455Khz, but band pass can vary some.(+ or - 200Hz) Old Collins numbers are F455fd-04 and F455fd-25. Impedance should be around 2k. E.mail darrellk@iland.net. Tnx Darrell Kimball W1TXX

1118. preamp 70 cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: Lars Arvidsson <arvid@plea.se>
Message-ID: <32376AE7.49EF@plea.se>
Source record: 102498

Hello.
I'm gathering information to build a state-of-the-art preamp
for my ham-clubs EME-gear. There are some projects described in
the ARRL handbook, and also in the VHF-UHF manual, but -
these constructions were designed mainly in the 1970s and early 1980s.
Thers's been quite a evolution in the GaAsFET business.
Does anyone have a suggestion for a modern FET with very low NF?
And a source for the data sheet, cause I need the scatter parameters for
the device to make the rest of the circuit.

best 73s SM4RZW /Lars

1119. Re: What is a Gunn diode ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: jesus@simu1.ele.cie.uva.es
Message-ID: <5170qv$qd0@simancas.cpd.uva.es>
Source record: 102499

Jim Gyer%1:2619/211.9 (Jim.Gyer%1:2619/211.9) wrote:

: Now, what's a gun diode? Don't know beyond Doug's comment that it's
: an active device used at microwave frequencies. Gunn is the name of
: its inventor. Now aren't you sorry you asked?

: >Gunn diodes are used in oscillators at microwave frequencies.

This is right, Gunn diodes are fabricated with GaAs or other III-V
semiconductors, because Silicon can't exhibit this particular fenomenon.

--
$$
$ Jes&#65533;s Arias (jesus@simu1.ele.cie.uva.es) $
$$

1120. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: Hans K0HB <71111.260@CompuServe.COM>
Message-ID: <5176pr$8d7$1@mhafn.production.compuserve.com>
Source record: 102500
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

It will depend on the rig, but 5 volts strikes me as too low.

I know many radios have 12VDC open circuit voltage
on the key jack. Check the specs of your rig.

--
73, de Hans, K0HB
--
The sum of the intelligence on the planet is a constant;
the population is growing.

1121. Re: All-American 5 Kit or Wired Available???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: bb840@scn.org
Message-ID: <DxL0BE.91r@scn.org>
Source record: 102501

In a previous article, jrybak@mesa5.Mesa.Colorado.EDU (James P. Rybak) says:

>
>Does anyone still have available, either in kit or wired form, what used
>to be called the "All-American 5" radio? (This was a 5 tube set with
>filaments connected in series such that the sum of the 5 required
>filament voltages was 117 volts.)
>
>I am interested in buying one for "old time's sake."
>
>Thanks.
>
>Jim Rybak
>
Try picking up a used AM 5 tube radio at a thrift store. It's probably
your best bet. Probably less than $5.
--
Jim Aeschliman bb840@scn.org
Black Diamond, Washington KD7MK

1122. Parts Identification

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: chasteen@juno.COM
Message-ID: <19960911.172424.3246.5.chasteen@juno.com>
Source record: 102502

Hello All

I have several 7 pin PR Mallory Selp Molding Resonant Relays
RRC- SPO 1274E (175 255 marking on top)

I need to know what equipment they can be used

And their present value.

Thanks for all replys

73 John
St. John of Wood Dale ====================================
John Chasteen (Near the center of the Universe...)
1 Thes 5:16 (Near Chicago, Illinois.. USA)
voice 630-860-2580 chasteen@juno.com
==

1123. cat system circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: (unknown)
Message-ID: <32373582.2157635@news.telepac.pt>
Source record: 102503

for all o read this lines 73's and good day from CT1FRN Jose.

Please i need the circuit of the cat system for the radio Yaesu
FT-840, if any wan have please send me.

thanks for riding this lines and see you soon mabey on the frequenci.

73's best whish from

CT1FRN
Jose
Montijo Portugal [IM58MQ]

Email: cepinha@mail.telepac.pt

1124. ht50 motorola

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: tcsham@usit.net
Message-ID: <515f7p$g92@news.usit.net>
Source record: 102504

Help, I need a Prom dump for a vhf 8 channel motorola Ht-50 hand held radio. I replaced the program module and need to re-initialize it with a 6 or 8 channel VHF CODE PLUG.

Please contact at tcsham@usit.net, or just send file.....

thanks ted, >>>>>>

1125. Re: 2M linear PA problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <517ipl$1ej@newsbf02.news.aol.com>
Source record: 102505

In article <516fe8$kmp@erinews.ericsson.se>,
christer.jogenborn@era.ericsson.se writes:

>
>Got a 'ex.linear' transistor final amp. for 144MHz.
>On SSB the PA sounds very bad, according to
>the guys on the band.
>It is a 12VDC two-transistor PA with a gasfet preamp.
>MIRAGE rated 160W output, but i'd rather say 125W
>at the moment.
>
>

Most solid state 2 VHF and UHF amplifiers have very poor linearity. Part is due to the poor bias circuits, and part to the coupling being too light.

Too light of coupling improves efficiency on FM and CW but reduces linearity because the source impedance becomes lower than the load impedance at high drive levels.

You can do a crude test of linearity by slowing increasing drive power from zero while watching power output. Power output over power input should be the same ratio at all drive levels. If you have gain non-linearity at low power levels in the form that gain increases quickly, the PA needs more bias current. If you have gain reduction at higher drive levels the PA has either a poorly regulated bias source, or too light loading, or bad output devices.

73 Tom

1126. Re: DSP software for sound card?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: brucetw@ix.netcom.com
Message-ID: <517m5u$4ln@dfw-ixnews8.ix.netcom.com>
Source record: 102506

hugo@infobahnos.com (H. Caron) wrote:

>Hi everyone,

>I 'think' I have seen somewhere, on this or other radio n.g., there
>are sound card softwares (DOS or WIN 3.X) that permit to implement
>some kind of DSP filtering of the audio spectrum, requiring only a
>cable connection between rcver headset's output and card mike's input.

>Or was it just a daydream? Any sharewares, demos, beta release,
>commercial products out there?

>Anyone to wake me up?

>Thanks,

>H. C.

See Sept. 96 QST; Brian Beezly, K6STI; commercial program, $100

1127. Re: Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: jghasler@win.bright.net
Message-ID: <bufck81j.fsf@hasler.gt.org>
Source record: 102507
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

Mike Walker writes:
> Discussion here indicates that electronic repsonses to their providers
> will likely not work, since many post from anon accounts...

I have never seen one from an anon account, however, email to the anon system admin will result in the spammer losing the right to post via the anon server, and perhaps eamil to the spammer's sys admin from the anon's admin. The anon systems promise to keep your identity secret from the recipients of your stuff, not to tolerate abuse.

> ...or otherwise disgusise or avoid retribtion for their garbage.

I've seen a few who have made pitifully inept attempts to hide. In every case I have been able to identify the source.

> But they do POST THEIR REAL SNAIL MAIL ADDRESSES...

They post *a* snail mail address. What makes you think it is theirs? Most of them are doing this as a prank, not in any expectation of getting money. They would find it hilarious for you to do as you suggest using the University president's home address.

If you can figure out the source, send email to the postmaster. If you can't, leave it to those of us who can. But what ever you do,

DONT FOLLOWUP TO SPAM
--

John Hasler This posting is in the public domain.
jghasler@win.bright.net Do with it what you will.
Dancing Horse Hill Make money from it if you can; I don't mind.
Elmwood, Wisconsin

1128. List Of Stamp Applications [960911]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: cj@hth.com
Message-ID: <3236d860.0@news.buller.se>
Source record: 102508
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

Since the L.O.S.A is getting bigger I only post the index of
applications to the newsgroups and you can download the complete
L.O.S.A from the following places...

FTP:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

WWW:

http://www.hth.com/losa.htm

1.0 Whats is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great
ideas and many problems that are solved with the BASIC Stamp and the
main purpose of this list is to get an idea of what other people are
using their BASIC Stamps for and maybe get some inspiration or hints.

1.1 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that
you are willing to tell others please use the form given below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Visit the following Web site and fill in the contribution form...

http://www.hth.com/losa.htm

1.2 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder
006 Pager
007 HexWalker Mobile Robot
008 Robo Bug
009 EXPBOT Robot controlled by Stamp

010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
># 014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
025 Sculpture control
026 Commercial clothes dryer controler
027 Morse Code Keyer
028 Traffic Light Controller
029 Automotive Lamp Control
030 Single Switch Scanning Device for Disabled
031 Bell timer for school bell control
032 RIMS controller for beer making
033 Stamp 1 and ISD 25XX Sound Chip Application
034 Camera Wireless Controller
035 Simple Battery Check using the BS2-IC
036 Photocell MIDI Controller
037 DCF-Clock
038 Radio-controlled Digital Clock
039 Weather Station I
040 Private Aid To Navigation
041 Stamp II in Space
042 MAT32 long integer math routines
043 Distinctive Ring Detector
># 044 Extended Stamp Memory
># 045 Debate Stoplite
># 046 Digital nametag

I also want to thank _ALL_ of you that contributed your applications
and ideas over the past year !

Regards,

/Christer

-=-=-=

1129. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: brucetw@ix.netcom.com
Message-ID: <517q5o$oa2@sjx-ixn3.ix.netcom.com>
Source record: 102509
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <50ps5d$9gr@news.Hawaii.Edu> jherman@Hawaii.Edu (Jeffrey Herman) writes:
>>I would venture to guess that of those radios still being built at home,
>>more are being built for CW use than SSB, FM, ATV, RTTY, digital, et
>>cetera. I make this judgement based on what appears on the QRP and
>>GLOWBUGS lists (Glowbugs is devoted to homebrewing tube gear).

>I'm not so sure of that. Between Hamtronics, Ramsey, Tentec, the late
>unlamented VHF Engineering, Down East Microwave, etc, and conversion of
>commercial surplus, I'd suggest that FM is the most popular for those
>who build or modify. And a good deal of that gets pressed into digital
>service. Note that this isn't scratch construction for the most part,
>but rather depends on kits or commercial surplus assemblies for the
>parts and basic design. However, a look at _Microwave Update_ or one
>of the Proceedings issues shows considerable at home scratch construction
>of this sort of equipment too. (And most of the kits aren't of Heathkit
>quality so they require considerable skills by the builder beyond simply
>following instructions and knowing how to solder in order to get them
>operational. Thus I'd tend to lump them under the banner of homebrew.)

>I know the sales figures for the GRAPES 29 MHz quadrature transceiver
>kit (several thousand units), and I have a fair guess for some of the
>others. Discounting commercial surplus conversion for the moment, I'd
>suggest we're looking at something on the order of 30,000 to 70,000
>non-CW units which have been shipped. Add in conversion of commercial
>surplus and you're looking at well over 200,000 units (conversion sometimes
>only requires changing the crystal and repeaking, which shouldn't qualify
>here, but often it requires fairly extensive changes which IMHO could fall
>into the category we're discussing). Note for the most part we're talking
>about both transmitters and receivers here, not just transmitters, IE
>complete working stations.

>If we also include the CB->10m conversions (including conversion of AM
>rigs to FM), we're looking at several thousand more non-CW home projects.
>And we have ringers like Campbell's T2 and R2. They're quadrature units.
>They can be used for CW, but they also work fine for SSB or digital (which
>is how I'm using mine). I have no idea how many kits Kanga has sold, or
>how many were built directly from the QST articles. I built mine from the
>articles, and modified them extensively in the process by replacing the
>analog audio phasing section with a DSP. I use them for QPSK experiments,
>but they would have worked for that without the DSP (just not as well).
>I know several others doing similar things with them, and some folks

>using them as SSB exciters (followed by a homebrew amp) and receivers.

>Most ATV transmitters (and receiving converters) have been homebuilt.
>They've either been kits or scratch built for high level modulated VSB,
>and for FM they have been mostly kits with only a few scratch built (pity,
>the FM units are easier to scratch build than the VSB units, and offer
>better performance). Of course the total isn't huge in any case since
>ATV isn't a hugely popular amateur mode.

>I'm leaving out what was historically the biggest kit supplier, Heathkit,
>because I don't think of them in the same way as the others. They are
>truly just home assembly rather than what we'd consider homebrew because
>of the extensive instructions and the care with which the units were
>designed to make them foolproof to assemble by someone with virtually
>no skills beyond reading and following directions. If they were included,
>you'd have a large number of respectable SSB transceivers and FM transceivers
>to add to the total. (I believe the HW-101 was the largest selling amateur
>kit of all time.)

>>Jeff KH2PZ / KH6 (ex WA6QIJ) (exclusively using homebuild CW transmitters)

>But the transmitter is only half of the station, and usually the simpler
>half at that. What about homebuilt receivers? I'd say by far the most
>popular receiver to build is a simple FM monitoring receiver. It is
>only one chip today, and can be assembled in an evening, yet it offers
>remarkably good performance (and you can build a matching one chip FM
>transmitter to go with it). Even a simple DC CW receiver is usually
>considerably more time consuming to build, and performance can be poor
>because of oscillator stability problems, no single signal filtering,
>and the hum pickup problem. The DC receiver works as well (or as poorly)
>for SSB or RTTY as it does for CW too (much the same can be said of
>superhets, depending on the filter chosen).

>I don't have much info on sales figures of QRP CW kits, though I suspect
>most of them sell in the hundreds, not the thousands, and I'm fairly
>confident the total is below that for the FM units mentioned. Quadrature
>and SSB kit sales (other than Heathkit) probably lag the CW kits because
>they are a bit more complex and specialized (but not very much, most of
>the complexity is in the receivers, and for good performance the CW receiver
>can't be much simpler than the others).

>I've only addressed radios, but if we look at other parts of the station
>suitable for home construction, we see a lot of activity. TAPR says
>their TNC kit sales exceeded 20,000, and GLB sold a bunch of their kits
>too. If we were to include Baycom or Hamcom style modems, the numbers
>would be huge, but I'll ignore them as too simple to fit this category.

>And of course there are amplifiers, antenna tuners, and antennas. They
>aren't respectors of mode, but many many amateurs build them. Now neither
>of the latter are rocket science, but it does take a wee bit of skill to
>get all but the simplest working right. Linear amplifiers are one of the
>most popular home contruction projects, and one of the most common homebrewed

>items seen for sale at hamfests. They can be challenging to do properly.

>I think you see CW transmitters as the most common because that's all
>you do, so your vision is a bit myopic on the subject of home constructed
>equipment (or you may be insisting on a purist definition of homebrew which
>doesn't admit anything but an original design by the home constructor). If
>you were active on other modes, you might find that there is quite a bit of
>building going on for them as well. Probably only at microwave, and for ATV,
>is homebrew the majority course, but it is alive and well on most of the
>other modes, not just among CW operators.

>For beginners, I think FM offers the best point of entry. The systems
>are simple (considering both transmitter and receiver), stability is
>less of a concern, performance can be quite good thanks to the common
>availability of high integration parts, and the only encoding you need
>to understand to use them is ordinary speech. There's also the factor
>that RF gets easier to do as you go up in frequency to where you can
>use simple striplines printed on circuit board, IE the "no tune" designs,
>and where you can use unconditionally stable MMIC amplifiers, and where
>high gain antennas are small and practical to build and install.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

Gary,
I was a bit puzzled by the focus of the survey. Why cw vs. no-cw as
THE pressing issue to bring before WARC? Are we satisfied with the
concept of incentive licensing, as administered by VECs, with multiple
choice question pools that very young children can memorize? Is IT a
world-wide issue? As I recall, incentive licensing was supposed to
promote proficiency by dangling exclusive band segments as a carrot.
Well, technology has changed a bit in the last couple of decades. I
was "proficient" by the FCC's determination in cw, and knowledge of
am, ssb, and fm theory, but I'm certainly notproficient in digital
modes. And the insides of my current fm rigs don't resemble the old
Motorola 41v boatanchor I used to use on the .34 -.94 repeaters from
here to California. I try to keep current, but the educational
channels tell me I'm not growing any new neurons.

IF we need to make class distinctions among hams, I think interest in
modes, bands, activities, etc. should be explored as a criterion for a
way of spreading out the congestion on the air. How about 3 basic
classes of licenses (novice, tech, advanced, or whatever) with
endorsements for cw, packet, ssb, EME, ...? The commercial licensing
system uses endorsements.

I'd hope that we would forever stay away from anything that smells of
type-accepted appliance operating as a distinction from our unique

privilege of homebrewing. Also, years of experience or "service" doesn't make much sense as a criterion, and not just from the neuron-depletion effect. Just because I've driven a car for 35 years, that doesn't say anything about whether I'm a capable, courteous and responsible driver.

I am afraid that the League is focusing on the minutae, with the cw issue at the forefront. Yes, it has to be addressed, because it is an international treaty stipulation. I'd like to see more thought put into how we can continue to cope with the pressures of accelerated growth in numbers of licensees competing for bandwidth, and the attendant need for more commercializaton to "keep our numbers up". The '99 Conference will produce answers; it's supposed to. Since it is, however, a conference, I think we need to bring up some real questions.

Ted / W2ICV (ex-K4UHR) Marietta, GA

1130. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-11 00:00:00 UTC
From: tsw@3do.com
Message-ID: <tsw-1109962034310001@cypher.3do.com>
Source record: 102510
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <513c0j$hre@lehi.kuentos.guam.net>, pacrimgolf@kuentos.guam.net wrote:

> "Rick Miller" <rdmiller@execpc.com> wrote:
>
> >Hi!
>
> >Can someone tell me what open-circuit voltage and closed-circuit current
> >the device attatched to the "key" input of a rig is supposed to be able to
> >handle? If 5 Volts and 25 mA is sufficient, I'll be a happy camper!
>
> >Otherwise, I'll have to use a FET I guess.
>
> >Rick Miller (kb9obn) rdmiller@execpc.com
>
> Give us a clue, Rick. Which 'rig' ?

Clues needed!! Many rigs are vastly different!! The most reliable method is a mercury whetted relay. These can be very small, but are VERY reliable!!

--
Tom Watson
tsw@3do.com (Home: tsw@johana.com)

1131. Re: Help: Need specs on some power diodes (thanks to all)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: Glenn Baddeley <gbaddele@vitgssw.telecom.com.au>
Message-ID: <32382C57.1B50@vitgssw.telecom.com.au>
Source record: 102511

Thanks to the following people who provided the specs
I wanted on the various diodes:

Jim <airioch@telalink.net>
Mark <mzenier@eskimo.com>
Tom WA1RHP <tcs@cmcorp.com>
Charlie KX7L <charlier@lsid.hp.com>
Tom WB6IQD <dunnt@starbase1.caltech.edu>

Some WWW sites were also useful:
http://www.nteinc.com/
http://www.natsemi.com/
http://www.mot.com/

For the record, this is what I ended up with:

GE A327B Si, GP Rectifier, 18A, VRRM 200, VF 1.3.
Replaceable with MR1122 (12A 200V)

NAE 1N1202A 200PRV, 12A, Cathode Case.
Replaceable with NTE 5874

IR 20FQ035 Schottky Rectifier
Vrrm = 35V
If(avg) = 30A at 111 deg C
Vfm = 0.47V at Ifm (but they don't say what Ifm is)
Eas = 40 mJ
Iar = 4A (current decaying to zero in 1usec)
Irm = 150mA at Vrwm
Max Tj = 150 deg C.
If follows IR part numbering system, it's
a 20 amp diode.
Replaceable with MBR3535 (35A 35V).
Replaceable with NTE6084 (35A 45V).

M 1901-0630 Used in HP computer power supply.
This is a Motorola MR1123R,
Vrev (repetitive) = 300V
Vrev (Non-Repetitive) = 400V
If(avg) = 12.0 A
If(pk) = 75.0 A
If(peak surge) = 300A (half wave of 60 Hz sine)
Vf = 1.0V at 12A
Irev = 0.5 mA at 300V
Thermal resistance 2.5 deg C/W

M 1-1035 Used in HP computer power supply.
1901-1035 == Motorola MR881R
Vrmax = 100V
Ifpk(repetitive) = 12A
Reverse recovery time = 1uS
One cycle surge current = 200A
Max Vf at 12A = 1.4V
Leakage current at Vrmax = 0.5mA

TRW SD51 Schottky, 45PRV, 60A, Cathode Case.
Replaceable with NTE 6094 (45PRV, 60A)

Cheers,
Glenn <gbaddele@vitgssw.telecom.com.au>
Melbourne, Victoria, Australis

========= The world is a data book ============

1132. Re: Field Strength Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: glenn@esaserv1.dseg.ti.com
Message-ID: <517k6d$9rp@sf18.dseg.ti.com>
Source record: 102512

In article 6B1F@one.net, Rich Griffiths <richg@one.net> writes:
> Hugh Maher wrote:
> >
> > Some time ago I started collecting parts for a Field strength meter I was
> > going to build from a magazine article. This got put aside and now I cannot
> > find the magazine article. This meter operated over several decades as I
> > recall and used matched diodes for rectification and feedback around an
> > op-amp to get linear res> I don't recall a magazine article, but I remember FS meter articles in some
> of the older handbooks I've got. Unfortunately, all my radio stuff is still
> in boxes, as I've just moved from NJ to OH.
>

My OLD 1965 ARRL Handbook has a transistorized one,
so surely later versions do also.
Also, Jan 1992 '73 magazine has a combined FS/Dip meter.
Its uses 1 transistor for each function.

Glenn Manuel Texas Instruments, Inc.
email: gmanuel@ti.com 8330 LBJ Fwy, Dallas, TX 75243
Voice: (214) 997-5419 Dallas, TX 75265
FAX : (214) 997-5682
Home: 424 Bedford Dr. Richardson, TX 75080 (214) 231-5639

1133. Re: Using GPS as accurate frequency reference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <517od3$rn9@sjx-ixn2.ix.netcom.com>
Source record: 102513

In <516u84$n65@peabody.colorado.edu> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:

>I work part-time in Jila, where one of the world's foremost
>metrologists plays^H^H^H^H^Hworks (Ever heard of Bose-Einstein
>condensation? That lab's up two floors.) He's decided it's worth
>while to have a GPS receiver doing exactly this. He finds it nice to
>have a clock with about a part in 10^-13 absolute accuracy (for $200!)
>lying around. Like, to measure the frequency of some particular color
>of green to a few Hertz, and get it right.
>
Sounds like what I want to do, but with a lab frequency standard, rather than light! Now if I can just figure out how to do it (the receiver is a Trimble Navigation 4000S).

- Jeff, WA6AHL

1134. Re: Copper Cactus

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <5186a3$it0@news1.inlink.com>
Source record: 102514

Carl Black <cblack@capecod.net> wrote:

>Ken White wrote:
>>
>> Need help finding plans for building the 2M antenna called the "Copper
>> Cactus". I built one some time ago using plans I'd downloaded from an
>> FTP site somewhere but can't for the life of me, remember where. It
>> used 1/2 inch copper pipe, was simple to build and works like a charm.
>> It may have come from a site in Buffalo.

St. Louis, http://www.inlink.com/~raiar

TTUL - 73+ de Gary - KG0ZP

>> Any thoughts? Thanks, KE4WIS

>Sounds like you're talking about the venerable J-pole antenna which
>looks something like a cactus, especially the copper pipe variety. :-)
>There have been many ham mag articles on building J's. I think the last
>one I saw was in the July or August issue of '73, if you can dig it out
>from amid the multipage, never-ending diatribe of Wayne Green. The ARRL
>Handbook and Antenna Handbook also are sources. Hope this helps you.

>73, Carl, W3KI (50th year in ham radio)

1135. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <518bd1$d5o@newsbf02.news.aol.com>
Source record: 102515

In article <32361A9E.6D7A@whitemtns.com>, "August H. Johnson"
<kg7bz@whitemtns.com> writes:

>Just knock out the two shunts in the magnetic circuit to remove the
current
>limiting on the microwave transformer. The shunts are the two metal
blocks
>that
>are between the primary and secondary windings. These work in the same
way
>that
>the shunts do in a neon-sign transformer to make a current-limited
>transformer.
>
>

And watch that secondary voltage rise!

While you are at it, rewind the primary and secondary because they're not designed to deliver low ESR. Better yet, move the secondary right over the primary to get rid of flux leakage, and shorten the core path to decrease flux leakage.

Then you'll have a good transformer.

73 Tom

1136. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: Chris Broadbent <cfb@bga.com>
Message-ID: <32383D5A.5E58@bga.com>
Source record: 102516
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

brucetw@ix.netcom.com wrote:
>
> gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
> ...<SNIP>
>
> >I think you see CW transmitters as the most common because that's all
> >you do, so your vision is a bit myopic on the subject of home constructed
> >equipment (or you may be insisting on a purist definition of homebrew which
> >doesn't admit anything but an original design by the home constructor). If
> >you were active on other modes, you might find that there is quite a bit of
> >building going on for them as well. Probably only at microwave, and for ATV,
> >is homebrew the majority course, but it is alive and well on most of the
> >other modes, not just among CW operators.
>
> ...<SNIP>
>
> >Gary
> ...<SNIP>

I can't let this one pass. About two or three months ago I was involved in a discussion on .misc about why I supported CW. I had yet to do my tests then. My main reason for wanting to do the Morse test was the relatively easy entry into real homebrew afforded by CW TX's. Gary and others were opposed to the CW requirement in the test. I supported it for the reasons given below.

I have been quiet since then. But in the interim, I have passed my Novice and Tech exams. My CW TX is all but complete. This is not a kit, but a from-scratch homebrew project, based on a 6LR8 TV sweep tube. With the power being fed to the circuit, I will get about 35W to 40W. Gary, despite your protestations to the contrary, it is hard to beat a simple CW TX for ease of design and construction, especially when dealing with powers above a few watts. It is a great entry point. BTW, my profession involves the development of device drivers & microcontrollers and work on new CPU designs. I say this not to brag but to explain that I am no digital myope or luddite and thus am not opposed to digital modes.

This may single me out as arrogant or puritanical, but I do not consider wiring a module to a PSU as homebrew. Too much of the work has been done already. If the entry point became nothing less than some digital rig, it'd be the end of real homebrew and we'd all become module pluggers and appliance users, without any real understanding of the foundations. We would encounter few of the real, physical difficulties. One could argue that the TX could still be developed

and thence tied to the computer. But the price of the project would jump from a few tens of $'s to at least a few hundreds of $'s, with the complexity going up significantly - thus making the entry point much more expensive and more difficult.

I recognise there are many occasions when using monolithic or integrated devices is mandatory. However, I think it is a poor starting point as no gut feel for the device's operation is aquired (IMO, of course). If you do have a gut feel for the underlying science, then I maintain you'll make much better use of the integrated devices.

Again I must say that while I don't like unnecessary government interference in my life, I have a hard time opposing the requirement to learn something, especially something as easy as CW (15 minutes per night for a month folks - is that really too hard?). Some opponents of the CW requirement remind me of my childhood school colleagues who complained loudly to the teacher about having to learn something because, "I'll never use this". With the hindsight of age, one realises just how silly such sentiments are.

And again, if the CW requirement must go, then I maintain one can use the same arguments to eliminate most of the technical questions. Except for some propagation knowlege, why would anyone need to know what a transistor symbol is, or what the block diagram of a phase modulated TX is? How does that knowlege affect today's appliance operators? Would it not be a sad day if it came to that? The value in the license would be lost.

If the technical requirements of the license were dropped, how long would it be before the FCC started mandating emmision tests on homebrew equipment? It is a natural progression (regression?). Have you priced FCC emmision tests recently ($500 per half day - the usual minimum time slice)?

The CW requirement caused me to enter the field, for I am interested in its homebrew aspects. With the CW requirement, I know there are others out there with whom I'll be able to communicate using my homebrew CW TX. There is no simpler, low level, entry point than a CW TX.

Cheers,

Chris (KC5VQL)

1137. WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <519hpi$clv@freenet-news.carleton.ca>
Source record: 102517

I need enough spreaders for a 1/4 wave open wire line at 80m. 6" spacing preferred, as that will give 600 ohm surge impedance with 12 ga wire.

I have had varying opinions about how many I need, probably at least 30 for the 60+ ft feeder.

This is for a 1927 transmitter project, thanks for any help.

1138. Mid Atlantic VHF conference/Packrats Hamfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Sep12.140357.634@main03>
Source record: 102518
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew

*** Mid Atlantic VHF Conference ***

The 20th Annual Mid-Atlantic States VHF Conference sponsored by the Mt. Airy VHF Radio Club will be held on Saturday, 5 October at the Days Inn in Horsham PA. Technical presentations relating to VHF/UHF/SHF weak signal operating will begin at 9AM.

The Days Inn is located just north of exit 27 (Willow Grove exit) of the PA Turnpike, just north of Philadelphia, in Horsham, PA. Rooms at the Days Inn can be reserved by calling 215-674-2500. Mention Pack Rats for a discount. The Days Inn is filling up quickly, so reserve soon. Additional lodging is available in the Horsham area.

*** HAMARAMA ***

On the following day, Sunday 6 Oct. the Packrats will have their annual hamfest at the Bucks County Drive In Theater, about 5 miles north of PA Tpk. exit 27 on Rte. 611. Talk-in on 146.52 simplex and the W3CCX repeater on 224.58.

Ron, WZ1V has placed the flyer for the events, including a preliminary list of presentations, on the N.E.W.S. Group web page:
http://uhavax.hartford.edu/~newsvhf/hamarama.html

For more information on the technical conference or a possible presentation slot, contact John Sortor, KB3XG, at 610-584-2489 or at JohnKB3XG@aol.com.

Joe - AA3GN
--
landisj@nad.com - speaking

1139. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <519qt7$d75@peabody.colorado.edu>
Source record: 102519

In article <518bd1$d5o@newsbf02.news.aol.com>,
W8JI Tom <w8jitom@aol.com> wrote:
>In article <32361A9E.6D7A@whitemtns.com>, "August H. Johnson"
><kg7bz@whitemtns.com> writes:
>
>>Just knock out the two shunts in the magnetic circuit to remove the
>current
>>limiting on the microwave transformer. The shunts are the two metal
>blocks
>>that
>>are between the primary and secondary windings. These work in the same
>way
>>that
>>the shunts do in a neon-sign transformer to make a current-limited
>>transformer.

You're right. There were two such blocks, and they knocked out fine with a
hammer. Too bad neon sign transformers are potted; this one was
open-frame, and you can see (and get to) what's happening.

>And watch that secondary voltage rise!

That's ok, I didn't *need* 1,850 volts specifically. It's just what it
looked like with the shunts in place. 2 kV would be fine too. Or 3.

>While you are at it, rewind the primary and secondary because they're not
>designed to deliver low ESR. Better yet, move the secondary right over the
>primary to get rid of flux leakage, and shorten the core path to decrease
>flux leakage.

The primary is about 60 turns of pretty hefty (10? 12? g.) solid copper,
and the HV secondary is a bunch of ~18-20 g. solid copper. Not too bad in
the ESR department, but maybe not *the* *best*.

>Then you'll have a good transformer.

Hey! I didn't pay a cent for this thing! It may not be a Peter Dahl
Hypersil® Megabuck thing, but it was free! If it manages to run a HeNe or
a PMT (which it will) it's already pure bonus. But probably a few more
watts can be coaxed out of it than that.

Not bad for a banged-up microwave by the side of the road, and half an
hour with a screwdriver.

Bruce
N6URH

1140. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: kd1hz@anomaly.ideamation.com
Message-ID: <519sk3$5v9@anomaly.ideamation.com>
Source record: 102520
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <32383D5A.5E58@bga.com>, Chris Broadbent <cfb@bga.com> wrote:

> BTW, my profession involves the development of
>device drivers & microcontrollers and work on new CPU designs.

Sorry, you must be lieing. According to Carl-The-Omniscent, the CW examination scares away the technical elite. The fact that you enjoy CW means that you absolutely, positively CANNOT be an engineer. If you were, you wouldn't like CW, and you'd think amateur radio consists of a "bunch of geeks who know less about RF than you've forgotten".

MD
--
--
-- "Guns don't kill people. I kill people." -- T-shirt slogan
--
-- If you don't like my opinions, that's just too damn bad.

1141. Re: Fast, FAST MONEY!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: Dom Robinson <McClane@festive.demon.co.uk>
Message-ID: <842575373snx@festive.demon.co.uk>
Source record: 102521
Cross-posted to: rec.collecting,alt.disney.secrets,rec.equestrian,rec.pets.dogs.behavior,rec.video.releases,alt.rec.camping,rec.radio.amateur.homebrew,re.radio.amateur.misc,rec.arts.animation,a.disney.disneyland

In article <AE5A686F966868C827@baator2.magic.ca>
mwalker@astral.magic.ca (Mike Walker) writes:
>In article <50s6rm$a97@news.ais.net>,
>carl@ais.net wrote:
>
>>The only way to effectively stop this chain-letter crap is to alert the
>>ISP from which it originates ... as follows:
>>
>>(mail/foward the SPAM to "abuse@<abuser's_ISP_domain>" and
>>"Postmaster@<abuser's_ISP_domain>) with a note like this:
>
>Well, there is also another approach! Discussion here indicates that
>electronic repsonses to their providers will likely not work, since many
>post from anon accounts or otherwise disgusise or avoid retribtion for
>their garbage. But they do POST THEIR REAL SNAIL MAIL ADDRESSES in order to
>get the thousands, perhaps millions (yeah, right!) of $$$ fools are going
>to send them.
>
>Now, I'm not saying I plan to do this myself, but what would happen if
>someone downloaded and printed out some of the that child porn I am told is
>lurking all over the internet, then put it in a CLEARLY MARKED envelope
>("Attn: Kiddie Porn") and sent it to each of the 5 names on the list?
>Perhaps with a nice note ("Here are the child sex photos you requested.
>Thank you for the really juicy ones you sent me, if you have any others
>featuring (you supply the smut), you know how to get hold of me. - Rocko").
>Do you think that would likely get someone's attention (esp. since several
>of these are in other coutries)? I bet the number of people posting this
>spam would drop very quickly!

Or just put their addresses on the Readers Digest mailing list :)

TTFN,
Dom

McClane The Dominator - Journalist and aortic-valve operation survivor...

Email.....mcclane@festive.demon.co.uk
Request Music and Video Charts.....charts-request@festive.demon.co.uk
---
Go to Dominator's Home Page for Dominator's Video Store, Music Charts,
Video Charts, the UK PAL Widescreen Video List, and for Laserdisc and
Video reviews at : http://www.festive.demon.co.uk

1142. new web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: "A.A.D.E." <aade@ix.netcom.com>
Message-ID: <3238F1A2.37ED@ix.netcom.com>
Source record: 102522

Check out my web page which is dedicated to homebrew (and promotes my couple of kits).
http://www.aade.com

Neil

1143. Re: DSP for sound cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199609130252.VAA06878@tri.net>
Source record: 102523

>In article <51189o$lo9@news1.total.net> hugo@infobahnos.com "H. Caron" writes:
>
>> Hi everyone,
>>
>> I 'think' I have seen somewhere, on this or other radio n.g., there
>> are sound card softwares (DOS or WIN 3.X) that permit to implement
>> some kind of DSP filtering of the audio spectrum, requiring only a
>> cable connection between rcver headset's output and card mike's input.
>>
>> Or was it just a daydream? Any sharewares, demos, beta release,
>> commercial products out there?

This is an evolving subject. I just bought DSP Blaster from K6STI (k6sti@N2.net) which does some filtering, noise reduction, graphics displays on the SoundBlaster cards only. Haven't tried it as I'm waiting on a new Pentium Pro and he has traditionally used a copy protect mechanism of writing a hidden file on the disk that makes it a bit hard to change from machine to machine. The manual looks good and he always seems to do good work so I'm optimistic. The down side is that, from looking on the WEB at some user contributed SoundBlaster info, Creative really does not make much data available on how to do anything original with their card.

The alternative it to pick up one of the cards based on the Analog Devices 2115 DSP chip. Cardinal, Wearnes, Orchid, etc had cards based on that series, but they seem to have disappeared from the computer market. I picked up one at Dayton for $25 in an OEM pack this year. AD had a very good evaluation board with lots of software for about $100, but suspect those are gone. You can do real DSP with those and it is unfortunate that the temporary phenomonen of the combination of consumer related (cheap) cards with cheap development software was not adopted quicker by the ham community.

Comer Communications has a complete DSP transceiver on the market and has been at Dayton the past two years. It uses a Wearnes soundcard and another PC card for the whole thing. It seemed to be priced at a level which was high in comparison to the low ham lines and did not really have great RX IP, NF, etc., but is worth a look. Try a WEB browser. I had thought of trying to buy just the DSP part.

Of course the moon bounce guys have several versions of signal processing, again available on the WEB.

It's doable, but challenging to get things together.

Lawrence E. Stoskopf, M.D.
N0UU

1144. ham homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: ya@snet.NET
Message-ID: <199609122029.QAA11219@mail.snet.net>
Source record: 102524

Put me on the mailing list.

1145. Minimize chip Count!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: dthimm@unix.newnorth
Message-ID: <518jjm$f7e@unix.newnorth.net>
Source record: 102525

NOW YOU CAN HAVE THEM TOO!

Discrete TTL/CMOS technology is old fashioned and cost you lots in terms of space and power.

The software and equipment needed to program your own PAL/GAL chips can cost in the thousands.

PAL/GAL technology can reduce chip count up to 90% and in many cases are faster than TTL/CMOS technology.

This saves you time, money and board space.

If you can describe it and it can be programmed, We can program it.

Custom logic chips are a lot cheaper than you think.

No order is too big or too small.

We specialize in providing quality fast turnaround to individuals, students, hobbiests, companys -- whatever the situation.

E-MAIL US TODAY with your logic description and we will send you a quote.

SHAPE SYSTEMS
dthimm@unix.newnorth.net

1146. How do I change a normal radio (lw,mw,fm,) into a shortwave one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-12 00:00:00 UTC
From: Peter Horn <Peter@cjhorn.demon.co.uk>
Message-ID: <OI5FAQAaYEOyEwAI@cjhorn.demon.co.uk>
Source record: 102526

Anyone know how to do this.

Thanx.
--
Peter Horn

1147. Re: Help!!! Phone # for Jan crystals .....?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Michael Tracy <mtracy@arrl.org>
Message-ID: <32398296.2579@arrl.org>
Source record: 102384

> Does anyone out there have the phone number for jan crystals?????

Jan's number is 800-526-9825, which also translates as 800-JAN-XTAL for
those who have trouble remembering numbers.

--
Best Regards, Michael Tracy, KC1SX, ARRL Technical Information Services
---
American Radio Relay League, Inc. Tel: 1-860-594-0200
225 Main Street Fax: 1-860-594-0259
Newington, CT 06111 Email: mtracy@arrl.org (internet)

1148. Re: DSP for sound cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: jlbarber@wolfenet.com
Message-ID: <51bo2b$jl8@ratty.wolfe.net>
Source record: 102385

In article <199609130252.VAA06878@tri.net>, stoskopf@tri.NETï¿½ says...

[snip]

>This is an evolving subject. I just bought DSP Blaster from K6STI
>(k6sti@N2.net) which does some filtering, noise reduction, graphics displays
>on the SoundBlaster cards only. Haven't tried it as I'm waiting on a new
>Pentium Pro and he has traditionally used a copy protect mechanism of
>writing a hidden file on the disk that makes it a bit hard to change from
>machine to machine. The manual looks good and he always seems to do good
>work so I'm optimistic. The down side is that, from looking on the WEB at
>some user contributed SoundBlaster info, Creative really does not make much
>data available on how to do anything original with their card.

[snip]

One thing to bear in mind is that if you're going to write for Windows,
it really doesn't matter *what* sound card you're using, if you do the
DSP routines in software, and just use the card for samples in -> samples
out. On a faster processor, there's no reason *not* to do it that way.

Not that I claim it's the best example, but my Win32 SSTV program
runs only 6 to 9% CPU utilization on a P90 when "sniffing" for an
SSTV signal in the noise. That's DSP and stat recog both running,
as well as a small spectral histogram window.

Of course, the quality and efficiency of the device driver make a
difference. The latest Win95 driver from Creative will give you
full duplex, and is very efficient and well-written. (For their
cards, of course..)

Anyone that's interested in creating some really unique 'amateur' apps
for Win32 could do worse than to investigate the low-level audio API.
It's not for the neophyte, but with a little sticktoitivness, you can
get it figured out.

Jim Barber, N7CXI

1149. Source for VERY TINY panel mounted pots?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDxoE0y.8yz@netcom.com>
Source record: 102386

I'm looking for a source (manufacturer or distributor) for very tiny panel mounted potentiometers. They would need to mount in a 3-1/6" hole (or thereabouts) and have a body size of 3/8" or less in diameter & depth. They're for use in trying to repair a SANTEC LS-202A hand-held.

Any leads appreciated!

73 Dave WB0GAZ dgf@netcom.com

1150. Swan 350 cw moniter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: williams michael j <mjwilli@ux1.cso.uiuc.edu>
Message-ID: <Pine.HPP.3.91.960913111448.10591A-100000@ux1.cso.uiuc.edu>
Source record: 102387

Does anyone have a schematic or know how Swan did the cw sidetone moniter
for the 350 and 500?

1151. Boatanchor newsgroup update

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <51ca0k$r48@newsgate.sps.mot.com>
Source record: 102388

The first CFV for this long-debated new newsgroup has been forwarded to the news.announce.newgroups moderator, and vote-taking will begin in a few days.

When you see the CFV for this new newsgroup, please take a moment to vote. A lot of people have spent a lot of time getting the proposal ready.

N6OTQ

1152. WTB: Schematic for Microwave Modules MMT 144/28 transverter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: "James R. Chastain" <chastain@compunet.net>
Message-ID: <01bba1a7$6301e6e0$c2479fcf@ns.compunet.net>
Source record: 102389
Cross-posted to: alt.ham-radio.atv,alt.ham-radio.eme,alt.ham-radio.exotic-modes,alt.ham-radio.fm,rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.swap,sci.electronics.misc,tnn.radi

Hi,
I am looking for a schematic/service manual for a Microwave
modules MMT 144/28 transverter. I recently had to sell my
primary VHF/UHF allmode and need to repair the xverter
to get back on. I would be happy to pay for reproduction
and shipping costs. Please E-mail chastain@compunet.net

Thanks, Rod. (KD0XX)

1153. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Garrie Jantzen <garriej@marshfield.coosbay.k12.or.us>
Message-ID: <51cav3$5vu@news.coos.or.us>
Source record: 102390
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

As long as CW is *allowed* (!) won't there always be other folks like yourself -- interested in homebrew CW? I mean, people spend beaucoup bucks to fly in balloons still! And ticket prices on steam railroads keep going up. There will always be an England and, whatever the FCC decides, I think there will always be CW

1154. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <51b2k5$ehr@newsbf02.news.aol.com>
Source record: 102391

In article <519qt7$d75@peabody.colorado.edu>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:

>
>Hey! I didn't pay a cent for this thing! It may not be a Peter Dahl
>Hypersil® Megabuck thing, but it was free! If it manages to run a HeNe
or
>a PMT (which it will) it's already pure bonus. But probably a few more
>watts can be coaxed out of it than that.
>
>Not bad for a banged-up microwave by the side of the road, and half an
>hour with a screwdriver.
>
>Bruce

I'm sorry, I thought it was for a SSB or CW PA. For your application it's a good deal.

What I was trying to say is voltage sag under load will be much more likely to limit the power than heating even if the magnetic shunts are knocked out, since the flux path, coupling, and wire guage are all selected for a different application.

Voltage stability with load changes are only a factor on CW or SSB, where the voltage sag causes envelope distortion. So please excuse my snide social commentary.

73 Tom

1155. Re: Help!!! Phone # for Jan crystals .....?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Sep13.114012.637@main03>
Source record: 102392

In article <01bba10e$71c0dea0$60c7d2cc@n8sqt.neo.lrun.com>, "Bob Recny"
<brecny@neo.lrun.com> writes:
> You might want to give International Crystal Mfg. a try. Their quality is
> much better than JAN (i.e. no drift) and they just announced a reduction in
> prices. I got a couple of crystals from them about 1.5 years ago and was
> pleased with the service. Their number is 800-725-1426.
>
> 73 de Bob
>
>
> vigilant <vigilant@cetlink.net> wrote in article
> <01bb7440.67619d00$d5681fce@vigilant>...
>> Does anyone out there have the phone number for jan crystals????? I found

Well If you still want JAN's number it's 1-800-JAN-XTAL.
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

1156. Re: How do I change a normal radio (lw,mw,fm,) into a shortwave one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDxotwE.6xB@netcom.com>
Source record: 102393

One fairly quick and reasonable way to do this is to build a "downconverter"
to convert the shortwave band of interest, say 5.7 to 6.4 MHz to 0.7 to 1.4MHz,
and feeding that to the AM radio's front end. You'd need a 5MHz local osc
and a mixer stage, and also a filter to remove AM radio stations on the
0.5 to 1.7MHz band from leaking thru. Also a filter to remove hetrodyne
images from around 3.6 to 4.5 MHz.

Otherwise, you'd probably be better off buying a shortwave set, than changing
the LC circuits in your AM radio's front end.

1157. F.S. HOKA CODE 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: sfritts@usit.net
Message-ID: <51ck6r$52g@news.usit.net>
Source record: 102394
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc, rec.radio.shortwave,rec.radio.swap

For Sale:
HOKA CODE 3 Decoder unit. The ULTIMATE decoder! This one gets it all on HF! With ALL options. Mint condition with org. box, manuals, software, Klingf. books.

450.00 or Best Offer
Need to sell this quick!

Email me as I do not check in too often

Steve sfritts@usit.net
423-525-0801

1158. Re: Boatanchor newsgroup update

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: wa5dxp@worldnet.att.net
Message-ID: <51clus$p8p@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 102395

Jim <jstrohm@texas.net> wrote:

>The first CFV for this long-debated new newsgroup has been forwarded to
>the news.announce.newgroups moderator, and vote-taking will begin in a
>few days.

What is a CFV, and where will we see it?

>When you see the CFV for this new newsgroup, please take a moment
>to vote.

Just where do you go to vote, in some newsgroup or here or where? How
about explaining the whole process for those not in the know.

Thanks.

.

>N6OTQ

1159. Re: WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.960913173603.5739H-100000@spork.callamer.com>
Source record: 102396

You might as well forget obtaining ceramic spacers but if you do, congratulations! A modern approach is to obtain some of the high pressure air hose material used in garages and machine shops. This material usually yellow and coiled in loops. Cut this material in six + inch lengths, drill a hole suitable for #12 wire and cut two slits from the end of the "spreader" into the drilled hole. Works better, lasts longer and is cheaper especially along the saltwater coasts! Cliff Buttschardt K7RR

On 12 Sep 1996, Gordon Symonds wrote:

> I need enough spreaders for a 1/4 wave open wire line at 80m. 6"
> spacing preferred, as that will give 600 ohm surge impedance with
> 12 ga wire.
>
> I have had varying opinions about how many I need, probably at least
> 30 for the 60+ ft feeder.
>
> This is for a 1927 transmitter project, thanks for any help.
>
>

1160. Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1309961922480001@ip133.pdx1.pacifier.com>
Source record: 102397

In a previous posting, someone claimed that JAN Crystals were of poor quality- and that one was better off buying from International Crystal.

Can anyone else confirm this? I was about to buy $150 or so of crystals from them for my Drake R4-C for shortwave and WARC bands.

Also, does International Crystal ship COD? JAN does not any more.

Lastly, the area code at JAN has changed to 941.

Thanks.

1161. Re: Ham Radio as an *ENJOYABLE* Hobby

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: w.bell@psyc.canterbury.ac.nz
Message-ID: <51a9n3$bs7@cantuc.csc.canterbury.ac.nz>
Source record: 102527
Cross-posted to: rec.radio.amateur.digital,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.policy,rec.ham-radio.swap,rec.ham-radio.packet

In article dick@merlin.libelle.com says...
>mpenner@cloud9.net wrote:
>> The primary goal of the group will be to
fill an existing void by
>> providing an enjoyable forum for the
discussion of technical, operating
>> and social topics of interest to radio
amateurs.
>
Yes, This is a more positive role for HF
people. The HF bands will soon be recovering
from the Southern winter so those signals
from the antipodies will be coming through.
Take a look for the home-stations, mobiles.
During the third weekend of October is JOTA,
where amateur radio combines with the
scouting troops and camps, so another
opportunity for some pleasant operations,
with the Worlds Youth - in scouting.
On one occassion I QSO'ed to Tatum Park,
near Mancester, UK. during the period. 73
Winton at ZL3AO.

1162. Re: Help!!! Phone # for Jan crystals .....?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Bob Recny <brecny@neo.lrun.com>
Message-ID: <01bba10e$71c0dea0$60c7d2cc@n8sqt.neo.lrun.com>
Source record: 102528

You might want to give International Crystal Mfg. a try. Their quality is much better than JAN (i.e. no drift) and they just announced a reduction in prices. I got a couple of crystals from them about 1.5 years ago and was pleased with the service. Their number is 800-725-1426.

73 de Bob

vigilant <vigilant@cetlink.net> wrote in article
<01bb7440.67619d00$d5681fce@vigilant>...
> Does anyone out there have the phone number for jan crystals????? I found

1163. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <323930C4.73DD@worldnet.att.net>
Source record: 102529

...snip...
> Hey! I didn't pay a cent for this thing! It may not be a Peter Dahl
> Hypersilï¿½ Megabuck thing, ...snip...
>
> Bruce
> N6URH

Ah Ha! Another fellow dumpster diver / homebrewer! ... They kid me at work, but have recovered some nice "goodies"! 73 Woody

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

1164. BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <51aimv$8ci@kanga.accessone.com>
Source record: 102530
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

www.hamradio-online.com Bulletin:

14 year old Subaru Takahashi is making a solo crossing of the Pacific Ocean from Japan to the United States - in a 30 foot yacht. According to Masa Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard since August 18th. He may be experiencing radio equipment problems or propagation problems.

Net Frequency: 21.437 MHz

Net Schedule
JST 07:00 - 08:00 Seagull Net (GMT 2200 - 2300)
JST 12:20 - 13:00 Okera Net (GMT 0320 - 0400)
JST 20:00 - 20:30 Okera Net (GMT 1100 - 1130)
Note: JST to GMT conversion performed by Ham Radio Online and unverified

Masa is calling him 10 minutes before each net starts. Please watch first if he is calling back. If you can hear him and if I can not copy him, call him and ask his location and condition.

We will post updates on this situation at http://www.hamradio-online.com (also accessible as http://206.13.40.11/).

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

1165. Re: Grid Dip Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <51ap8m$cl3@bucky.win.bright.net>
Source record: 102531

I have a Heathkit grid dipper with all the coils that I will sell you for $100. Goes to 250 mc. A 1 shape all the coils and plastic carrying case.
Norm N8RGR norsan@bright.net

1166. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Nicholas Negus <nrnegus@nrnegus.demon.co.uk>
Message-ID: <$kbiyOAh1TOyEwVV@nrnegus.demon.co.uk>
Source record: 102532

In article <Alan.Peake.218.008895C5@dstos3.dsto.gov.au>, Alan Peake
<Alan.Peake@dstos3.dsto.gov.au> writes
>
>>> I need a resistor of 10 Ohms in series with the anode supply to a tube taking
>>2A
>>> max. Hence the resistor needs to be 40 W. However, in the event of a tube
>arc,
>>I
>>> do not want the resistor to fuse, so it must take the full HT (5kV) for a
>>short time.
>
>>Sorry, I mean the resistor must dissipate 2.5 MW, not 500 kW!
>
>It will only dissipate this if your power supply can supply 5KV/10ohms = 500A
>
>If you limit the PSU current to 2A, then you need only dissipate 10KW. If it's
>only a short time (how short? mS? uS?) then you may be able to get away with a
>much lower power rating. The main worry that you may have is arcing between
>turns of the resistor element unless it is a composition type.
>
>Alan
>
Hi,
You can get power resistors with thermal fuses built in. Basically if
you exceed the power rating a sprung loaded soldered joint opens the
circuit. The gap is large enough not to arc with 5KV. They are available
from most good component suppliers.

Regards, Nick, G6AWT (UK).

--
Nicholas Negus

1167. Re: 2M linear PA problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-13 00:00:00 UTC
From: Nicholas Negus <nrnegus@nrnegus.demon.co.uk>
Message-ID: <3ETg6QAD6TOyEw2o@nrnegus.demon.co.uk>
Source record: 102533

In article <516fe8$kmp@erinews.ericsson.se>, christer.jogenborn@era.eric
sson.se writes
>Got a 'ex.linear' transistor final amp. for 144MHz.
>On SSB the PA sounds very bad, according to
>the guys on the band.
>It is a 12VDC two-transistor PA with a gasfet preamp.
>MIRAGE rated 160W output, but i'd rather say 125W
>at the moment.
>
>I want to get the PA into shape again, and need
>some hints on what-to-check, bias, current balance
>on the transistors etc..
>
>Chris SM0NCL, now QRP on 2M
>
>

Hi Chris,

Sounds like you might be over driving the PA input. I think this unit
only needs a maximum of 3 watts.

Regards, Nick, G6AWT (UK).

--
Nicholas Negus

1168. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDxpB68.9BD@netcom.com>
Source record: 102398
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Ed Mitchell (vbook@vbook.com) wrote:
: 14 year old Subaru Takahashi is making a solo crossing of the Pacific Ocean
: from Japan to the United States - in a 30 foot yacht. According to Masa
: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard since
: August 18th.

Most probably, Master Subaru sleeps with the fishes.
Talking to a dead man on ham radio--now that would be some DX!
But what a great QSL card . . .

1169. Western Connecticut Hamfest this Sunday!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <323A24DC.60C7@ix.netcom.com>
Source record: 102399
Cross-posted to: rec.radio.amateur.misc,rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.space

```
THE WESTERN CONNECTICUT HAMFEST
Sponsored by the Candlewood Amateur Radio Association

Just 14 miles from the NY/CT State line!

Sunday, Sept. 15, 1996 0900-1400
Edmond Town Hall Route 6, Newtown, CT
Tables inside Tailgating outside
ARRL Sanctioned Handicapped Access
Door Prizes Ample Parking
Gourmet Fare Rain or shine

Talk-in 147.12/.72 PL 141.3

General admission $4.00 at the door (what a deal!)

Tailgating $6.00, inside table reservations $10.00 each, (both
include 1 admission), mail to:
Candlewood Amateur Radio Association, PO BOX 3441, Danbury CT 06813

For more info, phone (203) 790 7041 or (203) 438 6782.

Hope to see you all there.
73 de KD1YV
Jim
```

1170. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep14.084115.17877@ke4zv.atl.ga.us>
Source record: 102400
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <517q5o$oa2@sjx-ixn3.ix.netcom.com> brucetw@ix.netcom.com writes:
[big snip]
>Gary,
>I was a bit puzzled by the focus of the survey. Why cw vs. no-cw as
>THE pressing issue to bring before WARC? Are we satisfied with the
>concept of incentive licensing, as administered by VECs, with multiple
>choice question pools that very young children can memorize? Is IT a
>world-wide issue? As I recall, incentive licensing was supposed to
>promote proficiency by dangling exclusive band segments as a carrot.
>Well, technology has changed a bit in the last couple of decades. I
>was "proficient" by the FCC's determination in cw, and knowledge of
>am, ssb, and fm theory, but I'm certainly notproficient in digital
>modes. And the insides of my current fm rigs don't resemble the old
>Motorola 41v boatanchor I used to use on the .34 -.94 repeaters from
>here to California. I try to keep current, but the educational
>channels tell me I'm not growing any new neurons.

Gee, 41V? That must have been some vibrator. I had a 40D myself.

Ted, the reason the Morse testing issue is central is that it is
the only requirement spelled out in the international regulations,
IE "send correctly by hand and receive by ear texts in the International
Code". There is no required form for other testing. The regulations
simply say that each national administration shall determine if the
applicant is competent to operate an amateur radio station. The means
of such determination is left up to individual administrations. Thus
there is nothing else to address at the WRC about testing other than
the Morse issue.

Other testing issues, license class distinctions, if any,
bandplans, etc are matters for each national administration
to address. We needn't concern ourselves with these issues
at the WRC.

There are other relevant issues which will be discussed at
the WRC, however. Notably the strong third party traffic
prohibition will be on the table as well as the language
limiting the content of amateur transmissions to "in plain
language and shall be limited to messages of a technical
nature relating to tests and to remarks of a personal
character for which, by reason of their unimportance,
recourse to the public telecommunications service is
not justified."

Those limits are generally considerably stronger than we enforce domestically. The plain language restriction has become vexing because it appears to eliminate the possibility of digital signatures to verify identity. There is no mention whatsoever of amateurs' public service and emergency roles in the international regulations. Amateur radio is defined only as a service for private technical investigation and self-training in the radio arts. It would be useful if we could get language inserted recognizing our role in public service and emergency communications. That would make the service's justification of spectral claims stronger. To do so, however, the third party prohibition must be stricken, and the content rule liberalized.

>IF we need to make class distinctions among hams, I think interest in
>modes, bands, activities, etc. should be explored as a criterion for a
>way of spreading out the congestion on the air. How about 3 basic
>classes of licenses (novice, tech, advanced, or whatever) with
>endorsements for cw, packet, ssb, EME, ...? The commercial licensing
>system uses endorsements.

The problem with that system is how do you deal with new modes? Remember we are a service for technical investigation and self training. If we can't experiment with a new mode until we are tested on it, who will write the test? If the new mode is just a gleam in the experimenter's eye, how can a test already be prepared? We need to retain the maximum possible flexibility here since it cuts to the very heart of what amateur radio is supposed to be about.

>I'd hope that we would forever stay away from anything that smells of
>type-accepted appliance operating as a distinction from our unique
>privilege of homebrewing. Also, years of experience or "service"
>doesn't make much sense as a criterion, and not just from the
>neuron-depletion effect. Just because I've driven a car for 35 years,
>that doesn't say anything about whether I'm a capable, courteous and
>responsible driver.

The one thing that makes amateur radio a unique service is the permission (encouragement actually) for us to experiment, build, modify, and repair radio equipment. That is central to the purpose of amateur radio. It must not be lost, because if it is, we're no different from CB or any other personal radio service. Our self-training charter means we are to use amateur radio as a vehicle for lifelong learning. So time in grade *should* equate to more knowledge. We currently don't do anything to encourage that, and I'm not sure if we can. You know the old adage, "You can lead a horse to water, but you can't make him drink." We can offer the opportunity for lifelong learning, but there's no practical way to require it.

There is no test for courtesy or responsibility. That is something you have to demonstrate every day. We have only peer pressure, and the increasingly less likely threat of enforcement action, to maintain

order. The one thing we do have is an insistence on amateurs using their true names (their call signs) on the air. This is essential. If, as on CB, they can hide behind a handle, people behave as if they were masked and robed Klansmen, free to play out any antisocial fantasy they like with little fear that it will have reprecussions on their ordinary lives. This is the thing which forces amateurs to self-police, IE police themselves, in their behavior on the air. The certain knowledge that other people know who they really are makes them behave more respectably than if they could consider themselves part of an anonymous masked mob.

This is the one good thing about the compulsion amateurs have for collecting postal cards, and the anal need to keep logs. It serves to reinforce the need to have correct identification for every station worked. While it was a pain, the relaxing of the requirement to keep a log was probably a mistake, and the removal of the requirement to give both the call sign of the station with which you are talking as well as your own during IDs is also probably a mistake. If you want to point to one thing that has caused a deterioration in decorum on the amateur bands, this would be it.

>I am afraid that the League is focusing on the minutae, with the cw
>issue at the forefront. Yes, it has to be addressed, because it is an
>international treaty stipulation. I'd like to see more thought put
>into how we can continue to cope with the pressures of accelerated
>growth in numbers of licensees competing for bandwidth, and the
>attendant need for more commercializaton to "keep our numbers up".
>The '99 Conference will produce answers; it's supposed to. Since it
>is, however, a conference, I think we need to bring up some real
>questions.

As I mentioned, WRC99 is not the proper forum for those sorts of things. Those are issues we have to address on a national level, and more appropriately, internally within the service when possible. We do need to maintain a solid growth rate, not only to provide the political muscle we need to keep our allocations, but also to keep the service's demographics healthy. We cannot afford to allow the service to stagnate and grow increasingly grey as it did in the period between the imposition of Incentive (to pass faster code tests) Licensing and the creation of the code test free Tech.

We have experienced a 33% increase in the number of amateurs in the last 5 years. That has made some amateurs uncomfortable. I have very little sympathy for them. If they had not been so pig headed about Morse testing all those years from 1968 to 1991, amateur growth could have been a nice steady 6% a year over two decades, we'd be about 1 million strong today, and the service would have much healthier demographics than it has had. The code test free Tech has begun to turn things around. The average age of amateurs has declined by 6 years over the last 5 years, but

it is still too high at 52. It should be about 42. Amateur radio
still needs another dose of strong medicine to unclog the pipes
and put things right.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1171. Crystal sets again... and the usual nostalgia &c

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Sep14.091558@nova.wright.edu>
Source record: 102401

Ah, crystal sets! I just finished fixing one up for my youngest. It's a modified version of the Modern Radio Labs #2 DX crystal set. Instead of a tapped coil, I gave the set a "slider." So far it has managed SW -- picked up some kind of Japanese program last night... And BBC is a piece of cake -- and a lot of local stations. Nice set up.

I've also started building another set for myself, using a modified version of the MRL #2 and a "Navy Loose Coupler" set up for selectivity/antenna matching. That one's gonna be a monster, 'cause the largest of the two coils is about 3 inches in diameter. One option that I'm leaving for myself is (a) switchable detector options and (b) rheostat control of bias voltage for a carborundum detector.

The beauty of crystal sets -- at least to me -- is their inherent simplicity and the pleasure of making a radio that works for free. They teach some interesting theory of L/C circuitry and coupling-vs-selectivity/sensitivity, and they allow the builder/user/youngster/curmudgeon-turned-nostalgic to relive a small chunk of the history of socio-scientific magic.

I also might add that Peter Jensen's (VK2AQJ/G4GZT) book _In Marconi's Footsteps: 1894-1920: Early Radio_ is a wonderfully well-written tour of the times and places of the beginnings of the entire electronics/communication revolution of which this computer connectivity is only a small but continuing part. Jensen shows pictures, schematics, drawings, details and construction hints of everything that means _real_ radio. Tube sets he covers briefly. Crystal sets, coherers, quenched and rotary sparks, antenna couplers, interrupters, and magnetic detectors he covers in detail. I liked the book so much -- borrowed a friend's copy first -- that I sprung the $39 for a special order through the local book store.

And there's always MRL Handbook #3, _Crystal Detectors_ with 32 different minerals -- beyond PbS Galena -- that make for interesting experiments with cats' whiskers and patient probing of rocky surfaces. Too bad ol' Elmer ain't around to see how much craziness radio loonies can get into... even this far past the first arcs and sparks of some 85 years ago.

73
Nils

WB8IJN &c

1172. Schemo wanted for R-174... still yet already even...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Sep14.092118@nova.wright.edu>
Source record: 102402

Still looking for a copy of the schemo for a R-174
military surplus receiver, circa 1950, manufactured
by Emerson Radio. I will gladly pay postage and copying
fees. If I can't come up with one here, my only hope is
to somehow make a copy of the one what's pasted to the
underside of the radio in question. That ain't a pretty
prospect, since these damn copy machines have a very
short focal length... like measured in Angstroms of
something.

73
Nils
WB8IJN &c
And no, I can't download picture files from web sites.
Whaddya think this is? The 21st Century?

1173. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: kc5egg@ix.netcom.com
Message-ID: <51efhs$dq5@sjx-ixn6.ix.netcom.com>
Source record: 102403
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <tgmDxpB68.9BD@netcom.com> tgm@netcom.com (Thomas G. McWilliams)
writes:
>
>Ed Mitchell (vbook@vbook.com) wrote:
>: 14 year old Subaru Takahashi is making a solo crossing of the
Pacific Ocean
>: from Japan to the United States - in a 30 foot yacht. According to
Masa
>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been
heard since
>: August 18th.
>
>Most probably, Master Subaru sleeps with the fishes.
>Talking to a dead man on ham radio--now that would be some DX!
>But what a great QSL card . . .
>

Boy Tom you are some piece of work; the guys asks for help and this is
what you come up with. What ever happened to the amateur service
creedo. You know Sakamoto san's family could just easily read this,
talk about ugly Americans. You sir are an embarassment to the hobby.

1174. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: carl@ais.net
Message-ID: <51efp2$6c4@news.ais.net>
Source record: 102404
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <517q5o$oa2@sjx-ixn3.ix.netcom.com>, brucetw@ix.netcom.com writes:
>
>I was a bit puzzled by the focus of the survey. Why cw vs. no-cw as
>THE pressing issue to bring before WARC?

Because the lack of growth, particularly in terms of the number of technically-inclined folks who are turned off/away by the CW requirement is the biggest threat to the future of ham radio.

>Are we satisfied with the
>concept of incentive licensing, as administered by VECs, with multiple
>choice question pools that very young children can memorize? Is IT a
>world-wide issue? As I recall, incentive licensing was supposed to
>promote proficiency by dangling exclusive band segments as a carrot.

No, I'm not ... and I don't think many are ... all the current scheme "promotes" (forces) is an increasing proficiency in CW "skills."

>Well, technology has changed a bit in the last couple of decades.

Technology per se HAS changed ... unfortunately, for the most part, ham radio technology HAS NOT. We're still using (and insisting on, and being driven by outdated regulations to use) outdated technologies.

>
>IF we need to make class distinctions among hams, I think interest in
>modes, bands, activities, etc. should be explored as a criterion for a
>way of spreading out the congestion on the air.

"Spreading out the congestion on the air" is NOT a legitimate reason for balkanizing the ham community ... if there's congestion, we need to exploit modern, technical solutions to increase our efficiency of spectral use to eliminate/control it ... not politically hamstring our ability to improve, explore, and experiment with new techniques.

>How about 3 basic
>classes of licenses (novice, tech, advanced, or whatever) with
>endorsements for cw, packet, ssb, EME, ...? The commercial licensing
>system uses endorsements.
>

More balkanizing ... I agree with Gary's recent post AGAINST anything but ONE license class. If people want some sort of proficiency endorsement certificate (another form of "wallpaper") that would be something that the ARRL could provide ... just like DXCC and the myriad

of other ego-gratification certificates that they currently offer.

>I'd hope that we would forever stay away from anything that smells of
>type-accepted appliance operating as a distinction from our unique
>privilege of homebrewing.

Agreed ... this will simply raise the cost of commercially-produced equipment DRAMATICALLY and limit the experimenter's freedom to experiment. We have far too many regulations that encompass the latter already.

>Also, years of experience or "service"
>doesn't make much sense as a criterion, and not just from the
>neuron-depletion effect. Just because I've driven a car for 35 years,
>that doesn't say anything about whether I'm a capable, courteous and
>responsible driver.
>

Neither does a mandatory CW test serve as a "lid filter" ... that's painfully obvious by listening to the bands ...

>I am afraid that the League is focusing on the minutae, with the cw
>issue at the forefront. Yes, it has to be addressed, because it is an
>international treaty stipulation.

I agree with the second statement, but not the first ... the CW issue is NOT "minutae" (sic) ... it is THE most important issue we need to address for the future of ham radio.

>I'd like to see more thought put
>into how we can continue to cope with the pressures of accelerated
>growth in numbers of licensees competing for bandwidth, and the
>attendant need for more commercializaton to "keep our numbers up".

This a technical issue which demands technical solutions, NOT political ones ...

>The '99 Conference will produce answers; it's supposed to. Since it
>is, however, a conference, I think we need to bring up some real
>questions.
>

Carl - wa6vse
carl@ais.net

1175. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: carl@ais.net
Message-ID: <51egr4$6c4@news.ais.net>
Source record: 102405
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <32383D5A.5E58@bga.com>, Chris Broadbent <cfb@bga.com> writes:
>(snipped the part about the tube CW tranmitter being built and how he's
> employed in the software/computer industry)
>
>This may single me out as arrogant or puritanical, but I do not consider wiring
>a module to a PSU as homebrew. Too much of the work has been done already.

I agree to an extent ... if it's all you say, it's simply "final assembly" and doesn't merit as much "credit" as "design-from-scratch" projects. We definitely need more of the latter, though there IS a lot of that going on ...

> If
>the entry point became nothing less than some digital rig, it'd be the end of
>real homebrew and we'd all become module pluggers and appliance users, without
>any real understanding of the foundations.

I don't understand why you assert this ... it's quite possible to start from scratch and design new and wonderful things quite digital ... you take a uP, some RAM/EPROM, some gates, PALs, etc. and build it up (wire-wrap or PCB) ... then you interface it to your PC and voila!

>We would encounter few of the real,
>physical difficulties. One could argue that the TX could still be developed
>and thence tied to the computer. But the price of the project would jump from
>a few tens of $'s to at least a few hundreds of $'s, with the complexity going
>up significantly - thus making the entry point much more expensive and more
>difficult.

Again, I find your argument unconvincing ... uPs are cheap ... I just eliminated over $30 in parts cost on a design I'm responsible for at work by ADDING two *two dollar* microcontrollers to replace some things that were originally designed in a rather backward fashion. (I "inherited" the poor design from a predecessor and was tasked with 1st making it work (which it didn't, now it does), then cost-reducing it (which I'm doing)).

>
>I recognise there are many occasions when using monolithic or integrated
>devices is mandatory. However, I think it is a poor starting point as no gut
>feel for the device's operation is aquired (IMO, of course). If you do have a
>gut feel for the underlying science, then I maintain you'll make much better
>use of the integrated devices.
>

Try building a UHF radio with some of the highly-integrated GaAs or silicon MIMIC "building blocks" that are available today, then tell me that ... if you don't have a "gut feel" for the underlying science, you'll develop/learn it fast, or you'll never get them to work.

Carl - wa6vse
carl@ais.net

1176. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: carl@ais.net
Message-ID: <51ehds$6c4@news.ais.net>
Source record: 102406
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <51cav3$5vu@news.coos.or.us>, Garrie Jantzen <garriej@marshfield.coosbay.k12.or.us> writes:
>As long as CW is *allowed* (!) won't there always be other folks like
>yourself -- interested in homebrew CW? I mean, people spend beaucoup
>bucks to fly in balloons still! And ticket prices on steam railroads keep
>going up. There will always be an England and, whatever the FCC decides,
>I think there will always be CW
>

Garrie,

Thanks for making that point again ... it's something the pro-CW folks choose to ignore.

I have NEVER, EVER, in over ten years of debating this issue, seen a no-code advocate actually advocate the *banning* of CW from the bands. Not once. (of course, now that I've said that, one of the pro-coders will probably start up a phony "ban the code" thread in an effort to taint the discussion with a bunch of bogus anti-no-code distortions).

Carl - wa6vse
carl@ais.net

1177. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <323abed1.36696011@news.syspac.com>
Source record: 102407
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

tgm@netcom.com (Thomas G. McWilliams) wrote:

>Ed Mitchell (vbook@vbook.com) wrote:
>: 14 year old Subaru Takahashi is making a solo crossing of the Pacific Ocean
>: from Japan to the United States - in a 30 foot yacht. According to Masa
>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard since
>: August 18th.
>
>Most probably, Master Subaru sleeps with the fishes.
>Talking to a dead man on ham radio--now that would be some DX!
>But what a great QSL card . . .
>

Well, he sailed into SF Bay Friday in good health and great spirits.

Congrats to him.

1178. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: cpierce@usit.net
Message-ID: <cpierce-1409961034210001@col-max29.usit.net>
Source record: 102408
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <51efhs$dq5@sjx-ixn6.ix.netcom.com>,
kc5egg@ix.netcom.com(Gerald Schmitt) wrote:

> In <tgmDxpB68.9BD@netcom.com> tgm@netcom.com (Thomas G. McWilliams)
> writes:
> >
> >Ed Mitchell (vbook@vbook.com) wrote:
> >: 14 year old Subaru Takahashi is making a solo crossing of the
> Pacific Ocean
> >: from Japan to the United States - in a 30 foot yacht. According to
> Masa
> >: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been
> heard since
> >: August 18th.
> >
> >Most probably, Master Subaru sleeps with the fishes.
> >Talking to a dead man on ham radio--now that would be some DX!
> >But what a great QSL card . . .
> >
>
> Boy Tom you are some piece of work; the guys asks for help and this is
> what you come up with. What ever happened to the amateur service
> creedo. You know Sakamoto san's family could just easily read this,
> talk about ugly Americans. You sir are an embarassment to the hobby.
>
>

AMEN

1179. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn53ljvf.l0o.mulveyr@ll.aa2ys.ampr.org>
Source record: 102409
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On 14 Sep 1996 14:30:20 GMT, Gerald Schmitt <kc5egg@ix.netcom.com> wrote:
>In <tgmDxpB68.9BD@netcom.com> tgm@netcom.com (Thomas G. McWilliams)
>writes:
>>
>>Ed Mitchell (vbook@vbook.com) wrote:
>>: 14 year old Subaru Takahashi is making a solo crossing of the
>Pacific Ocean
>>: from Japan to the United States - in a 30 foot yacht. According to
>Masa
>>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been
>heard since
>>: August 18th.
>>
>>Most probably, Master Subaru sleeps with the fishes.
>>Talking to a dead man on ham radio--now that would be some DX!
>>But what a great QSL card . . .
>>
>
>Boy Tom you are some piece of work; the guys asks for help and this is
>what you come up with. What ever happened to the amateur service
>creedo. You know Sakamoto san's family could just easily read this,
>talk about ugly Americans. You sir are an embarassment to the hobby.
>

It just goes to show that you can't escape from the morons, anywhere
you go.

On a more pleasant note, Takahasi arrived in SF bay yesterday afternoon.

--
My mailer has the unfortunate tendency to bounce 10,000 copies of any
junk mail I receive back to the sender. Be warned.

1180. Re: WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: JohnEly@ia.net
Message-ID: <51eps8$6lu@hera.ia.net>
Source record: 102410

Clifford Buttschardt <cbuttsch@slonet.org> wrote:

>You might as well forget obtaining ceramic spacers but if you do,
>congratulations! A modern approach is to obtain some of the high pressure
>air hose material used in garages and machine shops. This material
>usually yellow and coiled in loops. Cut this material in six + inch
>lengths, drill a hole suitable for #12 wire and cut two slits from the end
>of the "spreader" into the drilled hole. Works better, lasts longer and
>is cheaper especially along the saltwater coasts! Cliff Buttschardt K7RR

>On 12 Sep 1996, Gordon Symonds wrote:

>>
>> I need enough spreaders for a 1/4 wave open wire line at 80m. 6"
>> spacing preferred, as that will give 600 ohm surge impedance with
>> 12 ga wire.
>>
>> I have had varying opinions about how many I need, probably at least
>> 30 for the 60+ ft feeder.
>>
>> This is for a 1927 transmitter project, thanks for any help.
>>
>>
I was looking for ceramic spreaders about 25 years ago. At that time
a wrote a note in my antenna book. This information is 25 years old,
but who knows...

6-inch spreaders
Herman Schmidt #9626
$60.00 per 100
Dealer: Lowell Kangas, St. Louis
(314) 821-4050

If you are really lucky, maybe this will help.

73, John Ely W0GN

1181. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: flanders@groupz.net
Message-ID: <51erah$j28@news1.sunbelt.net>
Source record: 102411
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

carl@ais.net wrote:

>In <51cav3$5vu@news.coos.or.us>, Garrie Jantzen <garriej@marshfield.coosbay.k12.or.us>
writes:
>>As long as CW is *allowed* (!) won't there always be other folks like
>>yourself -- interested in homebrew CW? I mean, people spend beaucoup
>>bucks to fly in balloons still! And ticket prices on steam railroads keep
>>going up. There will always be an England and, whatever the FCC decides,
>>I think there will always be CW
>>

>Garrie,

>Thanks for making that point again ... it's something the pro-CW folks
>choose to ignore.

>I have NEVER, EVER, in over ten years of debating this issue, seen a
>no-code advocate actually advocate the *banning* of CW from the bands.
>Not once. (of course, now that I've said that, one of the pro-coders
>will probably start up a phony "ban the code" thread in an effort to
>taint the discussion with a bunch of bogus anti-no-code distortions).

>Carl - wa6vse
>carl@ais.net
==========
BUT - those sections of the band reserved for non-phone uses shrink as
more and more phone operators crowd the remainder. In the '50's, 75
meters was only 200 kHz, and there was no phone on 40 at all!

I suspect that in 20-30 years, there will be no parts of the band
reserved for non-phone usage. It will all then be by "gentlemens
agreement".

Jerry W4UKU flanders@groupz.net

1182. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: kd1hz@anomaly.ideamation.com
Message-ID: <51erf1$ffg@anomaly.ideamation.com>
Source record: 102412
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <51efp2$6c4@news.ais.net>, <carl@ais.net> wrote:

>Because the lack of growth, particularly in terms of the number of
>technically-inclined folks who are turned off/away by the CW requirement
>is the biggest threat to the future of ham radio.

There is no evidence to support this claim.

Do you have any evidence that shows the number of technically-inclined people getting involved in amateur radio has decreased? Then, do you have any evidence that has regressed out >all other factors<, such as the fact that people have less and less spare time for hobbies and leisure activities?

>Technology per se HAS changed ... unfortunately, for the most part, ham
>radio technology HAS NOT. We're still using (and insisting on, and
>being driven by outdated regulations to use) outdated technologies.

Poor us. We're not a consumer, mass-market-driven radio service. I'm sure Carl's employers are really disappointed they can't sell some hams on the latest wizz-bang radio setup.

>"Spreading out the congestion on the air" is NOT a legitimate reason for
>balkanizing the ham community ... if there's congestion, we need to
>exploit modern, technical solutions to increase our efficiency of
>spectral use to eliminate/control it ... not politically hamstring our
>ability to improve, explore, and experiment with new techniques.

Translated: buy our latest wizzz-bang techno-gadget.

>something that the ARRL could provide ... just like DXCC and the myriad
>of other ego-gratification certificates that they currently offer.

This, coming from the man who sez that amateurs are a "bunch of geeks that know less RF theory than I've forgotten on a single day."

>Neither does a mandatory CW test serve as a "lid filter" ... that's
>painfully obvious by listening to the bands ...

No filter is perfect. However, all I have to do is listen to 27mhz to know that the "CW filter" is working quite well, thank you.

>This a technical issue which demands technical solutions, NOT political
>ones ...

Problems within amateur radio are reflective of other societal problems,
and require societal solutions, not Mr. Gadget.

MD
--
--
-- "Guns don't kill people. I kill people." -- T-shirt slogan
--
-- If you don't like my opinions, that's just too damn bad.

1183. Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: author@poboxes.com
Message-ID: <51f9go$oft@hawk.branch.com>
Source record: 102413

Is there any practical use for a transformer that has one winding burned out? I was really wondering if it would work for an RF choke in the hot lead to a mobile radio. thanks for any info.

Ryan

1184. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: T E I X E I R A <teixeira@ccnet.com>
Message-ID: <51f451$rdp@ccnet2.ccnet.com>
Source record: 102414
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

He's parked in San Francisco Bay.

Don AC6TG

1185. The truth about Juno mail.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <323B40F6.6429@ccsnet.com>
Source record: 102415
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I hear packet stations pushing JUNO, read this:

At JUNO the customer philosophy appears to be "the customer comes last."
I had an account with them (kotzebue@juno.com) and as you will read
below I supported them strongly. However they have a rule if anyone at
all complains about you they will terminate your service. It does not
matter whether the complaint was justified or not or even if it had
anything whatever to do with your JUNO account, you will be terminated.
What is even worse I was terminated without ANY notice and they
were unresponsive to any EMAIL (except their automated replies). Also if
I tried their tech support and I was on hold for a long time and when
you do get through they did not followup (so I do not really know why my
account was cancelled or even if it is a technical problem, I am
surmising I was removed). Thus if you had set to receive all your Email
via that account, you are screwed as those that write you will have
their mail bounce back.

Even when JUNO works it take me several calls to avoid crashes, hangups etc.

Now I do have another JUNO account as their software was simple to
overcome and simply sign up another account. I was inconvienanced by the
termination but only a bit as I had two other Email accounts.

Here is what I told them when they said they had a complaint about them.
(I got NO response).

FIRST I am one of your biggest supporters. I have sent out messages to
over 50 friends who were interested in your service. The more users the more
revenue you gain from advertisers.

I send no internet users unsolicited messages from my Juno account.
I post to the internet via my Internet Service Provider, which is not
you.

If I have my address listed in a signature how does that violate any
terms of an agreement? You are well aware almost anyone will complain about
almost anything on the internet.

I only send messages to those that send me messages except in a few rare cases.
I will be mindful of your concerns but please do not defend those that would
make false and/or misleading claims.

As far as violating the terms of the agreement, I read the terms and the
only thing that comes close follows:

3.4. . You agree that you will not interfere with any other person's use and enjoyment of the Service or any other online service.

That sentence is impossible to comply with as written. If I post a message saying I do not like Nazis (which I did) that can be inferred as "intefering with someone's enjoyment of any other online service." Thus do expect all your users to have no opinions on anything? If you wish to deny me service based on that provision I will go from being your greatest advocate to a very unhappy former customer and just as I have not kept my pleasure of using Juno to myself, I will not keep my displeaure to myself either.

Burt Fisher

Here is the complaint they sent me which caused me to respond above:

On Tue, 06 Aug 1996 13:07:53 -0400 Juno Postmaster <postmaster@juno.com> writes:
>Dear Juno Member,
>
>We have received complaints from other Internet users regarding
>unsolicited messages that you sent them. While these messages were sent
>from another Internet service, your Juno address was used as the return
>address. As a result, messages in response to and complaining to these
>unsolicited message are sent over the Juno service, and are subject to
>the Terms of Service agreement which you accepted when creating your
>account.

>--Postmaster
>Juno Online Services, L.P.

Westholme Partners, L.P.
Address: 39th Floor, Tower 45
120 West 45th Street
New York, NY 10036

1186. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: Doug <doug@sunrise.alpinet.net>
Message-ID: <323B6BCA.6B11@sunrise.alpinet.net>
Source record: 102416
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

The largest deficiency in the Hobby today lies in the mindset of those who enter thinking Amateur Radio is a kind of "Advanced CB" world, and who bring with them the same whining and culturally bankrupt attitudes that prevail on 27 mhz. This thinking is furthered by the present perception that numbers alone will save us from being made fodder by the ever increasing demands of a profit driven Communications Industry.

Morse, while certainly an ancient form of communication, is essentially like any other language. It is easy to learn and can be picked up by children in a short time, why not the rest of the population? It strikes me that those who spend so much time complaining about the code would more efficiently use the oxygen and resources they consume on this earth by learning and teaching the code, therby ensuring it's future use in our hobby.

A Filter??? Maybe not, but detractors should spend some time on 30 meters listening to the new Hams and how hard they work at becoming proficient CW operators...it's heartening to hear.

Perhaps it would be better for all of us to heal the wounds that divide us and present a united front at Warc. Our enemies are many and their percieved spectrum needs large. I believe our entire hobby is at stake.

Doug, K7YD

1187. Looking for Old parallel printer cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <51fujo$5jj@newsbf02.news.aol.com>
Source record: 102417

Hi,
I am looking for anyone willing to part with their old parallel printer cards. These were the ones made about 3 years ago and used address &H378 or &H278 as the location.

I am interested in working ones but would consider broken or obsolete one.

If you know a source that would be a big help too!

Thanks
Paul
KJ4UO

1188. Need Help with building a discone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-14 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <323BA75C.3F62@hevanet.com>
Source record: 102418

I want to build a discone for my frg9600. I thought i'd make
it out of .2" dia aluminum rod that's in the junk box.

The disk and the cone designs are easily determined from
engineering handbooks. But they don't say much about what goes on
at the apex of the cone. Sounds like the cone should go to a point
if possible. But you have to stick a support pipe up the middle.

Anyone got ideas on how to configure the mechanical parts and
electrical connection where
the cone joins the disk? I'd like it to be strong enough to withstand
at least the first windstorm.

Oh, cheap materials is better...
thanks, miker

1189. Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDxr5uH.38D@netcom.com>
Source record: 102419

I am looking at schematic of a Japanese SSB transceiver. It has a type of balanced modulator I've never seen before. The audio from the mic is amplified once by a conventional class A transistor amp, then fed into an IC. The IC has a 5 MHz crystal. Based on the block diagram, the purpose of the IC is to take 300-2700 Hz audio and shift it to 4400-2000 Hz, before it is fed into a balanced modulator using four diodes.

Does anyone have an idea why they would shift and invert the audio passband before sending it to the balanced modulator? There are easier ways of getting the opposite sideband (move the BFO crystal relative to the filter) and I can't imagine why they'd want to shift the audio up, except maybe to improve opposite sideband supression (it's a very simple 4 pole crystal ladder filter). Could the sideband inversion just be an artifact of the intended frequency shift? One clue is they move the BFO (by changing load on the bfo crystal) about 3800 Hz when going between TX and RX modes. The audio processor chip I'm referring to is only in the TX audio path - the RX audio path is completely conventional (it's a transceiver).

The chip doing the magic is a M64021, and I have no other specs on it.

Any comments?

73 Dave WB0GAZ dgf@netcom.com

1190. Re: BULLETIN: ALL SAFE! 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <51fqtu$c61@kanga.accessone.com>
Source record: 102420
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <tgmDxpB68.9BD@netcom.com>, tgm@netcom.com says...
>
>Ed Mitchell (vbook@vbook.com) wrote:
>: 14 year old Subaru Takahashi is making a solo crossing of the Pacific Ocean
>: from Japan to the United States - in a 30 foot yacht. According to Masa
>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard since
>: August 18th.
>
>Most probably, Master Subaru sleeps with the fishes.
>Talking to a dead man on ham radio--now that would be some DX!
>But what a great QSL card . . .
>

Subaru sailed into port late Saturday afternoon, at San Francisco CA. He had
suffered generator power failures that cut off his radio communications.

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

1191. Re: WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <323BB50E.3C9C@fyi.net>
Source record: 102421

Gordon Symonds wrote:
>
> I need enough spreaders for a 1/4 wave open wire line at 80m. 6"
> spacing preferred, as that will give 600 ohm surge impedance with
> 12 ga wire.
>
> I have had varying opinions about how many I need, probably at least
> 30 for the 60+ ft feeder.
>
> This is for a 1927 transmitter project, thanks for any help.

Farm supply stores....3 foot lengths of fiberglass rod.. 3/8" dia.
Used for spreaders for electric fence. There are bags of clips
avaliable to hold the wire...or drill holes etc. At least they
are the right color..... K2RK

1192. 9H1CD - SUBSCRIBE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: henrygs@vol.NET.mt
Message-ID: <323BA893.E0F@dream.vol.net.mt>
Source record: 102422

```
add ham-homebrew henrygs@dream.vol.net.mt
```

1193. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: T E I X E I R A <teixeira@ccnet.com>
Message-ID: <51gbjm$mbu@ccnet2.ccnet.com>
Source record: 102423
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>: 14 year old Subaru Takahashi is making a solo crossing of the Pacific Ocean
>: from Japan to the United States - in a 30 foot yacht. According to Masa
>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard since
>: August 18th.

>Most probably, Master Subaru sleeps with the fishes.
>Talking to a dead man on ham radio--now that would be some DX!
>But what a great QSL card . . .
>
My previous post was no joke........he arrived in San Francisco, his boat is in Tiburon.

Don
AC6TG

1194. Re: WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: flanders@groupz.net
Message-ID: <51hfpt$d3r@news1.sunbelt.net>
Source record: 102424

>Gordon Symonds wrote:
>>
>> I need enough spreaders for a 1/4 wave open wire line at 80m. 6"
>> spacing preferred, as that will give 600 ohm surge impedance with
>> 12 ga wire.
>>
>> I have had varying opinions about how many I need, probably at least
>> 30 for the 60+ ft feeder.
>>
>> This is for a 1927 transmitter project, thanks for any help.
==========

If you want to be authentic, make a 1927 antenna for that 1927 transmitter: Make the spacers from a hardwood like oak, and boil the wood pieces in paraffin to waterproof them.

I am trusting my memory from reading '30's ARRL handbooks in the '50's on this, but I believe most "ladder-line" spacers in 1927 were wood.

Probably hardwood dowels from the hardware store, and paraffin block from the grocery store (still used in home "canning") would do the job for you.

Jerry W4UKU

1195. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: carl@ais.net
Message-ID: <51hgp7$pjm@news.ais.net>
Source record: 102425
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <51erf1$ffg@anomaly.ideamation.com>, kd1hz@anomaly.ideamation.com (Michael P. Deignan) writes:
> (Carl wrote:)
>>Technology per se HAS changed ... unfortunately, for the most part, ham
>>radio technology HAS NOT. We're still using (and insisting on, and
>>being driven by outdated regulations to use) outdated technologies.
>
>Poor us. We're not a consumer, mass-market-driven radio service. I'm
>sure Carl's employers are really disappointed they can't sell some hams
>on the latest wizz-bang radio setup.
>

Carl's employer wouldn't even take a first look at the ham market, let
alone a second look ... if they're not *sure* they can sell *millions*
of a product, they have zero interest in desigining/making it.
Making products for the ham market is a "cottage industry" at best.

>
>>"Spreading out the congestion on the air" is NOT a legitimate reason for
>>balkanizing the ham community ... if there's congestion, we need to
>>exploit modern, technical solutions to increase our efficiency of
>>spectral use to eliminate/control it ... not politically hamstring our
>>ability to improve, explore, and experiment with new techniques.
>
>Translated: buy our latest wizzz-bang techno-gadget.
>

CORRECT TRANSLATION: Adapt with the times or become extinct.

Carl - wa6vse
carl@ais.net

1196. Re: Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <51hjnt$quf@hpscit.sc.hp.com>
Source record: 102426

In article <dgfDxr5uH.38D@netcom.com>, David Feldman <dgf@netcom.com> wrote:
>I am looking at schematic of a Japanese SSB transceiver. It has a type of
>balanced modulator I've never seen before. The audio from the mic is
>amplified once by a conventional class A transistor amp, then fed into
>an IC. The IC has a 5 MHz crystal. Based on the block diagram, the
>purpose of the IC is to take 300-2700 Hz audio and shift it to 4400-2000
>Hz, before it is fed into a balanced modulator using four diodes.
>
>Does anyone have an idea why they would shift and invert the audio
>passband before sending it to the balanced modulator? There are easier

This is just a guess, but they may be using an asymmetrical SSB
filter, in which case you can't simply shift the BFO, you have to
flip the sidebands elsewhere.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1197. Re: Key Input Specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: "Paul Christenson [N3EOP]" <paulc@cyclades.com>
Message-ID: <323C570B.69CBCF90@cyclades.com>
Source record: 102427
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Rick Miller wrote:

> Can someone tell me what open-circuit voltage and closed-circuit
> current the device attatched to the "key" input of a rig is supposed
> to be able to handle? If 5 Volts and 25 mA is sufficient, I'll be a
> happy camper!

That depends on the rig. There are no standards; not even polarity.
I've had tube rigs that had nearly a hundred volts across the key
contacts. An HT may have only one or two volts at a couple mA.

--
+---+ .
| Technical Support Engineer, Cyclades Corporation |
| 800/88-CYCLADES (882-9252) or (510)770-9727, x258 |
| Maker of High Performance Multiport Serial Cards |
+---+

1198. Transverter Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: jmooney@voicenet.com
Message-ID: <51hs8v$18u@goodnews.voicenet.com>
Source record: 102428

Does anyone have any or know where I can get schematics for building transverters for 6m, 2m, and 440 for use with an HF rig (Kenwood TS-511s). Any help in this area would be greatly appreciated. If anyone has plans I am willing to pay for photocopies and postage!

Please contact me via e-mail at: jmooney@voicenet.com

73's
Jim N3SIR

1199. evidently JAN crystals AOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: and@pacifier.com
Message-ID: <199609152216.PAA17451@mail.pacifier.com>
Source record: 102429

Got alot of mail regarding question about JAN crystal quality.

Evidently, lots of people have had excellent results with JAN.

I imagine problems with drift were the result of lousy circuit design and not the crystal.

Maybe they were using a 1n4007 diode in the osc for the ubiquitous ARRL patented gate diode clamp. :) :)

1200. Hamtronics VHF/UHF transverters any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <323CFAA5.7035@mwt.net>
Source record: 102430

Anybody out there build (or buy) and use the Hamtronics VHF and UHF transmit and receive transverters? Do they work well? They seem quite reasonably priced. Any comparison to other company's transverters? I'm active on 6M and during the VHF/UHF contests I always get asked to try 2M/222/432. No gear (SSB) for these bands. Myself and KB9IQR plan to work the June VHF QSO Party from EN67 each year and I'm sure people would like to get this rare grid on bands other than 6M. All info greatly appreciated.
-Scott- N0EDV

1201. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: carl@ais.net
Message-ID: <51hgfl$pjm@news.ais.net>
Source record: 102431
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <51erah$j28@news1.sunbelt.net>, flanders@groupz.net (Jerry Flanders) writes:
>BUT - those sections of the band reserved for non-phone uses shrink as
>more and more phone operators crowd the remainder. In the '50's, 75
>meters was only 200 kHz, and there was no phone on 40 at all!
>

HELLO!!! WAKE UP!!! YOU OVERSLEPT!!! THIS IS NOT THE '50S!!!!!!!!!!!!

Times have changed ... that happens ... it's part of life.
Times will continue to change ... if you're not prepared to deal with
that, you're in for continuing dissappointment.

>I suspect that in 20-30 years, there will be no parts of the band
>reserved for non-phone usage. It will all then be by "gentlemens
>agreement".

Realistically, in 20-30 years, there will not BE any ham bands if we
don't modernize and grow ... the spectrum is too valuable for other uses
to devote so much of it to 150 year old nostalgia "technology."

Hams USED to be the INVENTORS, the VISIONARIES in the radio
communications field ... always ready to invent or adopt new things to
communicate better ... NOT ANY MORE ... today's hams are stagnated in
the technology of the 1950s (or earlier) and bitch and moan and whine
any time someone proposes the use of something new and better.

If you're not prepared to be a part of the solution, please at least try
not to be a part of the problem ... get out of the way ... stop being
such obstructionists ... let the visionaries, the younger people (in age
or spirit, or both, and the newcomers lead the way to the future.

Carl - wa6vse
carl@ais.net

1202. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: "Paul Christenson [N3EOP]" <paulc@cyclades.com>
Message-ID: <323C55AF.252D363@cyclades.com>
Source record: 102432
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Doug wrote:

> Morse, while certainly an ancient form of communication, is
> essentially like any other language. It is easy to learn and can be
> picked up by children in a short time, why not the rest of the
> population?

If I'm going to "learn" any other languages, it's going to be something a heck of a lot more useful; something like Japanese or Spanish.

> It strikes me that those who spend so much time
> complaining about the code would more efficiently use the oxygen and
> resources they consume on this earth by learning and teaching the
> code, therby ensuring it's future use in our hobby.

One question: Why should we ensure its continued use? It's slow, and not terribly efficient as far as wpm per kHz go. (20 wpm is less than 2 char/sec; 10 bits/sec if you encode it in a 5 bit system like Baudot. That should need at most 10 Hz of bandwith. CW needs a few hundred Hz. I can get ten times that throughput, error free, using 300 baud packet on HF, with not much more bandwidth.)

I don't know of anyone complaining about the USE of CW on the bands; they are complaining about the REQUIREMENT of having to become proficient at a higher-than-minimum speed in a mode they have absolutely no desire to operate.

I have a degree in Electrical Engineering, specializing in digital communications and computer science. While my ham ticket was useful in pursuing my degree, I had no need for knowing Morse (except for getting my Tech ticket 10 years ago). Even now, the only use that I have for getting a higher class license is to shut up those people whose only argument is that I'm simply trying to get out of learning the code.

> A Filter??? Maybe not,

Maybe??? Take a listen on 20m. EVERY (legal) user of that band with a US callsign passed a minimum of a 13 wpm code test. It's worse than the CB bands.

I think that the price of the radios makes a better filter than any kind of CW exam.

> but detractors should spend some time on 30
> meters listening to the new Hams and how hard they work at becoming

> proficient CW operators...it's heartening to hear.

More power to them. Nobody is proposing that CW operation be banned, or
even discouraged.

--
+--+ .
| Technical Support Engineer, Cyclades Corporation |
| 800/88-CYCLADES (882-9252) or (510)770-9727, x258 |
| Maker of High Performance Multiport Serial Cards |
+--+

1203. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: carl@ais.net
Message-ID: <51hh6g$pjm@news.ais.net>
Source record: 102433
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <323B6BCA.6B11@sunrise.alpinet.net>, Doug <doug@sunrise.alpinet.net> writes:
>The largest deficiency in the Hobby today lies in the mindset of those
>who enter thinking Amateur Radio is a kind of "Advanced CB" world, and
>who bring with them the same whining and culturally bankrupt attitudes
>that prevail on 27 mhz. This thinking is furthered by the present
>perception that numbers alone will save us from being made fodder by
>the ever increasing demands of a profit driven Communications Industry.
>

Not numbers alone ... but technical progress ... more efficient use of
our spectrum by larger numbers of hams, performing more useful public
service work and doing more experimentation and development of new
technologies ... those are the things that will save ham radio ...

>Morse, while certainly an ancient form of communication, is essentially
>like any other language. It is easy to learn and can be picked up by
>children in a short time, why not the rest of the population?

With this argument, you could just as well substitute "Nursery Rhymes"
for "Morse" and it would fit just fine. Would that make a test in
Nursery Rhymes a reasonable testing requirement to obtain a license
permitting access to HF spectrum???

>It
>strikes me that those who spend so much time complaining about the code
>would more efficiently use the oxygen and resources they consume on this
>earth by learning and teaching the code, therby ensuring it's future use
>in our hobby.
>

We couldn't care less if "Morse's future is ensured" ... nobody else in
the world does either, except for a few thousands of backward hams,
clinging to antiquated technologies like some sort for religious icons.

>A Filter??? Maybe not, but detractors should spend some time on 30
>meters listening to the new Hams and how hard they work at becoming
>proficient CW operators...it's heartening to hear.
>

If someone WANTS to learn Morse, fine ... otherwise, there's not one
iota of useful purpose in forcing them to learn it ... and there's
significant harm in banishing them for not learning it ...

>Perhaps it would be better for all of us to heal the wounds that divide
>us and present a united front at Warc. Our enemies are many and their
>percieved spectrum needs large. I believe our entire hobby is at stake.
>

That's EXACTLY why we feel so strongly that THE MORSE REQUIREMENT MUST
GO!

Carl - wa6vse
carl@ais.net

1204. Re: Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: Rocci <rocci@worldnet.att.net>
Message-ID: <323CA0A5.9@worldnet.att.net>
Source record: 102434

Rocci wrote:
the original audio passband has been shifted up 4700 Hz

I should have typed "shifted up 1700 Hz".

Joe
WA3CMQ

1205. can Drake one-up Japanese $5000 computers (radios?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: and@pacifier.com
Message-ID: <19960915194915.aaaa000lu@babyblue.cs.yale.edu>
Source record: 102435

Was going to put in order to JAN Crystals for about $150 of range crystals for R4-C: two for each WARC band, and one each for the major SW broadcasting bands.

However, I heard that you guys still sell these. Is this true? I though I had heard before that you no longer did this.

Also, do you know anything about proposal from Network Sciences to start manufacturing filters for Drake (and Collins) again? They put out a survey to see if there was interest and I responded in affirmative.
--------------more importantly:

Here have homebuilt rcvr I call R4-DMOS. Uses same premix scheme as R4-C, but has Makhinson Front End and DMOS commutating mixer. Provides 112 db dynamic range with preamp *on*. Has synchronous sample-and-hold AM demod that doubles as product detector for cw and ssb.

Also uses variable varactor tuned IF amp/IF filter in distributed topology, which replaces $100's of filters.

A hybrid DDS/PLL ultra low noise synth is in the making for the rcvr. Just need to make uP controller for the hardware.

If I can build such a rcvr for a few hundred dollars, why can't you guys????

You could capitalize on the fact that most
rf designers would be embarrassed to be on the design team of one of those $5000 Japanese rigs that has poorer performance than some of the circuits in the 1970's "Solid State Design for the Radio Amateur" book.

If Drake would make such a xcvr/rcvr I would buy it. It wouldn't be a question of which disributor has the better price, etc etc Or who can spend the most advertising dollars- it would be clear techological superiority,. and everyone except the most green CBers turned no-coders would tell the difference.

I hope you pass this email to your higher-ups.

Thanks, Rob.

1206. RF Tight Enclosures FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: lsmith <lsmith@icenter.net>
Message-ID: <323CA8E6.214D@icenter.net>
Source record: 102436

Last Fleamarket I found a fellow selling a box of Hammond 5900 cast aluminum rf tight enclosures, model #160. I recognized them for what they were, and was certain that someone would find them very useful for homebrewing gear.
They are approximately 4.5 x 7.125 x 2 inches. All of the units are used, and have about 6 1/16 dia holes drilled in the bottom. Most have an alternator noise suppressor circuit built into the enclosure (they are free, you're paying for the box).

I was able to buy these as a lot for $10 each. If you have a need for an RF tight enclosure for VHF/UHF circuits, this is the time to get a few and stock-pile them. My price is the same as I paid, plus whatever it takes to mail them to you. Since I only rarely check into the homebrew page, please contact me directly via e-mail.
73 de J. Lee Smith VE4ANC
<lsmith@icenter.net>

1207. Re: Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: bob.albert@ledge.com
Message-ID: <8C861A5.01B500299E.uuout@ledge.com>
Source record: 102437

You might open the transformer and repair it; I have done that a number of times. The result is as good as new...

73 DE K6DDX

1208. Re: Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: Rocci <rocci@worldnet.att.net>
Message-ID: <323C9F2A.56D6@worldnet.att.net>
Source record: 102438

David Feldman wrote:
>
> I am looking at schematic of a Japanese SSB transceiver. It has a type of
> balanced modulator I've never seen before. The audio from the mic is
> amplified once by a conventional class A transistor amp, then fed into
> an IC. The IC has a 5 MHz crystal. Based on the block diagram, the
> purpose of the IC is to take 300-2700 Hz audio and shift it to 4400-2000
> Hz, before it is fed into a balanced modulator using four diodes.
>
If this is what it seems, it's pretty clever. Seems that the 300-2700 hz
audio is mixed with a 4700HZ signal to get a difference product of
4400-2000 HZ...the original audio passband has been shifted up 4700 Hz
and frequency inverted. The crystal filter used for sideband suppression
now can be very simple, since its job is much easier. The upper and
lower sidebands are now 4000 Hz apart at their closest points, instead
of 600 Hz. A simple and relatively sloppy filter can easily filter out
the unwanted sideband. The audio inversion is easily fixed by shifting
the operating frequency to the opposite side of carrier relative to
where it originally was...hence the 3800 Hz carrier shift on transmit.

Joe
WA3CMQ

1209. Need info on FM antena

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: slnfn@cc.usu.edu
Message-ID: <1996Sep15.223630.85010@cc.usu.edu>
Source record: 102439

Hi all.

I don't usually follow this group, but am in need of some quick information. I have a stereo reciever that is badly in need of an FM antena. Being that I'm a poor college student, I don't have the money to run out and get a good commercial one. I hope that mabye someone out there will take pity on me and tell me an easy way to build a makeshift antena that will give me pretty good reception until I can get a good one?

Thanks for your help, in advance.

1210. Best Turnkey Package

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: Tenley Shewmake <omb00642@mail.wvnet.edu>
Message-ID: <19960915.190737.247379.NETNEWS@WVNVM.WVNET.EDU>
Source record: 102440

To all,

We are looking for a simple rugged, TURNKEY, resellable, FCC approved device for transmitting serial data to a palm top PC from our weatherstation.

Range: 1 mile max

Problems: EMI, other nearby communication devices, this is a little outside our field (custom weatherstations), 12v power supply

What's available? Who can we talk to?

Thanks in advance for any information.

Tenley Shewmake omb00642@mail.wvnet.edu

1211. FS BAUER 1 KW BC TX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: DEE ALMQUIST <SOUNDNMIND@rica.net>
Message-ID: <51i13e$hu0@clark.zippo.com>
Source record: 102441

Hello all

I have decided to find a home for this 6' monster or I will part him out within month. It is presently under canvas on my back deck and I wont have anywhere to store it for the winter. Have to have $400. and you be close by to PU and carry away.

All is there, Bauer FJ-1000B uses pr 4-400s for modulators and pr 4-400 PAs. Everything is common parts and available to restore for 160m. Presently crystaled on 1490kc, but will drive with Heath or Johnson vfo. Osc 6AG7, buff 807 pushing 4-400 in par. Speech transf input to 807s driving 4-400 in pp.

Problem: Yep, one main problem; the HV trans has shorted primary. However the modulation trans is new as well as power supply oil filter caps.

One saving grace in weight. The cabinet is aluminum with steel in bottom where transf and heavy stuff go. All trnas and heavy stuff is out (all wires marked to put back) so is easy to carry in van or large pu.

Contact Dee Almquist of SOUND IN MIND http://home.rica.net/soundnmind or soundnmind@rica.net or Ph:540-249-3161 fax:540-249-5064 voice mail 800-755-2365

I'm near Waynesboro, Va. off I-64 & I-81

Dee

1212. FS WRL CHAMP 300/350 PARTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: DEE ALMQUIST <SOUNDNMIND@rica.net>
Message-ID: <51i3qj$icq@clark.zippo.com>
Source record: 102442

Hello all

Sorry for the double post on the Bauer.

I have whats left of a Globe Champ 300/350. for parts.Here are few items:

HV power transformer (checked ok) clean $ 35.

LV power transf. (checked ok) clean $ 35.

2 ea 4.5 henry chokes out of the HV 200ma $10ea

Tube sockets for AX9909 $ 5.ea

Lamp holder top ft panel with new bulb (for the VFO) $ 5.

Main tune cap (EFJ) good $10.

And lots of other details

Sorry no modulation transformer.

Contact Dee, W4PNT

soundnmind@rica.net http://home.rica.net/soundnmind

1213. FS BAUER BC 1 KW TX NEEDS HOME

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: DEE ALMQUIST <SOUNDNMIND@rica.net>
Message-ID: <51i1kd$hug@clark.zippo.com>
Source record: 102443

Hope this get to list.

I have Bauer FB 1000J complete broadcast tx for sale in good restoreable condition. Will easily drive with Johnson or Heath VFO. Common equipment inside with all tubes(4-400s). YOU PU
ANY INTEREST??

Dee Almquist
soundnmind@rica.net
Central western part of Virginia Nr I-81 & I-64
Ph: voice mail 800-755-2365 fax: 540-249-5064 shack:540-249-3161

1214. ARRIVED! (was BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <51fila$3ha@news.Hawaii.Edu>
Source record: 102444
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Thomas G. McWilliams <tgm@netcom.com> wrote:
>Ed Mitchell (vbook@vbook.com) wrote:

>: 14 year old Subaru Takahashi is making a solo crossing of the Pacific Ocean
>: from Japan to the United States - in a 30 foot yacht. According to Masa
>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard since
>: August 18th.

>Most probably, Master Subaru sleeps with the fishes.
>Talking to a dead man on ham radio--now that would be some DX!
>But what a great QSL card . . .

If it had been your son on that boat, Tom, would you have still written
those same words?

Happily, young Subaru sailed into San Francisco yesterday. Engine
trouble prevented him from charging his batteries, thus the reason
for no communications.

Seek professional help, Tom.

Jeff KH2PZ / KH6

1215. Re: Do we build? was(Re: ARRL SURVEY IGNORES 7 OF 8 WRC-99 ISSUES!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-15 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <51fh7h$1pj@news.Hawaii.Edu>
Source record: 102445
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

<garriej@marshfield.coosbay.k12.or.us> writes:
>As long as CW is *allowed* (!) won't there always be other folks like
>yourself -- interested in homebrew CW?

Hi Garrie,
The reason I mentioned homebrewing is that Carl claimed CW ops
know nothing of how their radios work. He's convinced himself that
those who favor CW are appliance operators. Then he uses this
false belief as a basis for the purging of the CW tests, thinking
that CW is somehow holding us back technologically. He never considers
the fact that many of us have found our niche and are happy using the
present modes available to us.

Of course, if the tests are eliminated, watch his company's sales of HF
equipment soar!

Jeff KH2PZ (using homebrew CW gear - I *do* know how my radios work!)

1216. Re: A not so obvious resistor question.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: garyk9gs@solaria.sol.net
Message-ID: <51in5o$8bh@hummin.sol.net>
Source record: 102446

W8JI Tom%1:2619/211.9 (W8JI..Tom%1:2619/211.9) wrote:

: Still do. I get them from Allen Bradly and Stack Pole.

Not for much longer!

: Now think of this..... Inductance when used as a parasitic suppressor.
: The only real low inductance resistor is a carbon comp type, and almost no
: one makes them except Allen Bradly. I specify them for parasitic
: suppressors AND small energy absorbing applications....but *not* in
: applications where resistance drift is critical or long term excessive
: temperature operation is expected.

I saw something come across my desk about a month ago. Allen Bradley will
no longer be manufacturing carbon composition resistors. As far as I
know, they are the last manufacturer to make CC resistors, at least in the
1/4 to 10 Watt power range. There may still be someone making the big
'uns somewhere.

--
73,
Gary K9GS

____
/ K9GS |_______________________________
/ FP/K9GS, TO5M |Society of Midwest Contesters |_____________________
(| garyk9gs@solaria.sol.net |Secretary/Treasurer/
\ Gary Schwartz | K9GS@WA9KEC.WI.USA.NOAM | Greater Milwaukee/
___________________| PacketCluster: NB9C | DX Association (
(_________________________________| GMDXA \
KNOW CODE ! (_________________________\

1217. JRC 5F65R tube info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: Mark G Robinson <robotech@ihug.co.nz>
Message-ID: <323DFAE5.768D@ihug.co.nz>
Source record: 102447

Hi folks,

The above says it all. JRC claim they didn't make it although I have a tube and a socket from different sources and they are both clearly labelled JRC.

It looks like a 500W plate dissipation tetrode. all the connections are concentric so it may go to a respectable frequency. The socket doesn't look as though it is suited for VHF or above though.

All assistance greatly appreciated.

Best regards to all

Mark G Robinson | ZL2TOD@ZL1AB | +64-9-846-3296
robotech@ihug.co.nz | Box 8770, Auckland 1035, New Zealand

1218. Re: Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <323D7CFB.6BEF@erols.com>
Source record: 102448

I'm just speculating as to what that modulator circuit might be like...

If complexity and expense were no object, why not run the audio through an audio band pass filter and then through an A/D sampler (aka mixer) to put the signal at 4000 to 7100 Hz, or something like that. Then, using more filtering (switched capacitor?) and the phasing method of SSB, one could make a nice, low distortion signal. Could this be what those clever Japanese were doing?

73,

Jake Brodsky, mailto:frussle@erols.com
PP-ASEL IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

1219. CW debate

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9608168428.AA842897766@mails.imed.com>
Source record: 102449

Once again. Please let's move the no-code/code debate back to ham.policy!!! This is all interesting but the *WRONG* place.

BTW Chris asked:

If the technical requirements of the license were dropped, how long would it be before the FCC started mandating emmision tests on homebrew equipment?

The answer to this question is 19 (?) years ago!! Read part 97 and you will see that about that time frame part 97 got added constraints on spurious emmisions. It's funny that there were no quantitative requirements on harmonics/etc prior to that time. I do recall in the early 70's reading about folks getting nasty-grams from the FCC for not suppressing harmonics adequately.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston),TX

1220. Heath HW8 mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: "Richard B. Joerger" <joerger@rd1.racal.com>
Message-ID: <323D86AA.1FD2@rd1.racal.com>
Source record: 102450
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

Greetings All.

At this weeks Melbourne Hamfest (Fl) I picked up a Heath HW8 QRP rig.
Great condition and it works, but --- it seems a bit deaf.

I recall seeing a compendium of mods for this radio but can't find it.
Can anyone point me in the right direction?

TIA

Rich Joerger
WB4EHG
pepper@icanect.net
joerger@rd1.racal.com

1221. Re: Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDxtwwv.L9L@netcom.com>
Source record: 102451

In article <323D7CFB.6BEF@erols.com> Jake Brodsky <frussle@erols.com> writes:
>I'm just speculating as to what that modulator circuit might be like...
>
>If complexity and expense were no object, why not run the audio through
>an audio band pass filter and then through an A/D sampler (aka mixer)
>to put the signal at 4000 to 7100 Hz, or something like that. Then,
>using more filtering (switched capacitor?) and the phasing method of
>SSB, one could make a nice, low distortion signal. Could this be what
>those clever Japanese were doing?

I suspect it's some of this... The radio is a 144 MHz SSB HT, and based
on my friend's evaluation in Japan, he reported that the transmitted audio
quality was considered unusually good (describing it as a "human voice",
as opposed to a "robot voice" which afflicts most SSB transmissions). I
suspect the primary goal was to improve opposite sideband supression, however,
it also might have the effect of reducing group delay distortion through
the SSB filter (a simple 4-pole job). In any event, the interesting thing
is that the audio processing is done with a single chip and just a few external
components.

73 Dave WB0GAZ dgf@netcom.com

1222. Re: WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <51k5nb$8nr@ka4ybr.netmha.com>
Source record: 102452

In article <323BB50E.3C9C@fyi.net>, Robert Morris <robrk@fyi.net> wrote:
>Gordon Symonds wrote:
>>
>> I need enough spreaders for a 1/4 wave open wire line at 80m. 6"
>> spacing preferred, as that will give 600 ohm surge impedance with
>> 12 ga wire.
>
>Farm supply stores....3 foot lengths of fiberglass rod.. 3/8" dia.

Bamboo chopsticks.Cut, drill, dip in spar varnish.
Most any asian food store.
Clamp bundle in drill press vise befor you unwrap it
and drill a bunch at once.

-bob
WB4MNF

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

1223. Re: Hamtronics VHF/UHF transverters any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: jvoigt@kern.osmre.gov
Message-ID: <51jn4d$t4s@gargantubrain.osmre.gov>
Source record: 102453

In article <323CFAA5.7035@mwt.net>, acepilot@mwt.net says...
>
>Anybody out there build (or buy) and use the Hamtronics VHF and UHF
>transmit and receive transverters? Do they work well? They seem quite
>reasonably priced.

Hi,

A couple of years ago I purchased the 220 MHz, as well as the 440 Mhz exciter kits from Hamtronics (can't remember model #s). They were relatively easy to assemble, but I think somewhat overpriced. The 440 version worked fairly well, however, I would definitely recommend the TXCO or crystal oven option, since it is nor exceptionally stable through even small temperature changes. The Tx audio quality is acceptable, but not great. Nice compact design :)

The 220 MHz version is another story though. Although similar in design to the aforementioned model, it has been nothing but trouble. It was crystalled to work on 224.30, which it does, however, it has a spur of almost equal magnitude on 448.60. Thinking it may have been a simple, common, or at least previously reported problem, I called Hamtronics' tech support line for assistance. The tech with whom I spoke, was rather disinterested and basically stated that, since it was a kit, I had obviously constructed it wrong and it wasn't their problem. I then asked assistance from a friend who is an experienced Motorola technician, and he was equally stumped. He received basically the same response from Hamtronics. At this point: <$100 kit is useless.

The bottom line is: if you buy it assembled, it probably will work fine. If you assemble it maybe - maybe not, but don't expect helpful, friendly support, you're on your own. IMHO: Proceed with caution or go elsewhere.

Sorry about the long reply ;)

73,

John, K9GBO

1224. HELP**** Microwave Modules MMT 144/28****Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: "James R. Chastain" <chastain@compunet.net>
Message-ID: <01bba3fb$13add9e0$cc479fcf@ns.compunet.net>
Source record: 102454
Cross-posted to: alt.ham-radio.atv,alt.ham-radio.eme,alt.ham-radio.exotic-modes,alt.ham-radio.fm,rec.radio,rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.swap,sci.electronics.mis

Hi,
I am looking for a schematic/service manual for a Microwave
modules MMT 144/28 transverter. I recently had to sell my
primary VHF/UHF allmode and need to repair the xverter
to get back on. I would be happy to pay for reproduction
and shipping costs. Please E-mail chastain@compunet.net

Thanks, Rod. (KD0XX)

1225. Re: Hamtronics VHF/UHF transverters any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: jonj@pcix.com
Message-ID: <323d91c4.6196938@news.idt.net>
Source record: 102455

On Sun, 15 Sep 1996 23:58:45 -0700, scott <acepilot@mwt.net> wrote:

>Anybody out there build (or buy) and use the Hamtronics VHF and UHF
>transmit and receive transverters? Do they work well? They seem quite
>reasonably priced. Any comparison to other company's transverters? I'm
>active on 6M and during the VHF/UHF contests I always get asked to try
>2M/222/432. No gear (SSB) for these bands. Myself and KB9IQR plan to
>work the June VHF QSO Party from EN67 each year and I'm sure people would
>like to get this rare grid on bands other than 6M. All info greatly
>appreciated.
>-Scott- N0EDV
About two years ago I bought the Hamtronics rec and trans converter
kits for 2 meters. They went together very easy and worked the first
time I fired them up. No spurs and all within spec. I found the cost
of the kits to be very reasonable. The transverter is mainly used as
an I.F. for 10ghz but they worked just fine as intended.
Just my own experience....

Jon...WS1K...

1226. Re: evidently JAN crystals AOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <51k63i$1q8@li.oro.net>
Source record: 102456

and@pacifier.com shared these priceless pearls of wisdom:

->Got alot of mail regarding question about JAN crystal quality.

I've been using JAN crystals both personally and professionally for
twenty-five years, even back when they called themselves Bob Whan and
Company. Their current crystal engineer (Bill McCoy) knows as much about
crystals (and can explain it in plain Engineering English) as any person
I've ever met.

Good folks!!

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

1227. Re: Need info on FM antena

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960916155759.12056B-100000@primeline.net>
Source record: 102457

On 15 Sep 1996 slnfn@cc.usu.edu wrote:

> Hi all.
> I don't usually follow this group, but am in need of some quick
> information. I have a stereo reciever that is badly in need of an FM antena.
> Being that I'm a poor college student, I don't have the money to run out and
> get a good commercial one. I hope that mabye someone out there will take pity
> on me and tell me an easy way to build a makeshift antena that will give me
> pretty good reception until I can get a good one?
>
> Thanks for your help, in advance.
>

Get about 3 meters(9 ft) of 300 Ohm tv twinlead

cut it into 2 1.5 Meter lengths (4.5 ft)

strip the ends of both pieces 3/8 inch.

join the ends of one piece.

cut the center of the piece with the joined ends.

strip those wire back 1/4 inch

connect each wire to the each wire on the end of the other
length of wire.

connect other end to reciever.

thumbtack antenna to wall

your 300 Ohm folded dipole should look like this:

```
_____________________________________________________
/ \
\_______________________ _________________________/
| |
| |
| |
| |
Connect these
leads to your reciever
Use Balun if necessary
```

Gary Tait , VE3VBF

1228. Re: Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <51ipca$8fl@nadine.teleport.com>
Source record: 102458

In article <51f9go$oft@hawk.branch.com>, author@poboxes.com (Ryan) wrote:
>Is there any practical use for a transformer that has one winding
>burned out? I was really wondering if it would work for an RF choke
>in the hot lead to a mobile radio. thanks for any info.
>
>Ryan

If the remaining winding is rated for the current the radio will draw, it should make a good filter, but its upper frequency would be limited. I'd guess that a typical power transformer would take care of stuff into the low HF range. It should do a good job of attenuating spikes from the ignition system.

If the secondary is shot, you could rewind it. It's not hard to do, and you could use it for a 12 volt supply, battery charger, or whatever depending on its size and your needs.

Roy Lewallen, W7EL

1229. Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDxuJJA.1J7@netcom.com>
Source record: 102459

I'm trying to find a catalog vendor by the name of "Farnell". Does anyone have their catalog? What is their phone number?

Thanx,

73 Dave WB0GAZ dgf@netcom.com

1230. New Web Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <51kr4q$ou6@news1.mnsinc.com>
Source record: 102460
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.packet

Hi - visit my new Web Page at
http://www.mnsinc.com/bry/

Featuring:
MEGALIST + HAM RADIO + HOCKEY = Bry's Page!

LOTS of useful information about USA & UK sources of amateur radio & shortwave radio equipment, parts, kits, manuals, xtals, valves/tubes, repairs, modifications etc., and TONS of radio links to SHortwave sites, ham radio sites, Christian & Messianic Jewish sites, and a whole load of really good ICE HOCKEY and ROLLER HOCKEY sites. MANY HOT LINKS!

UK to USA English Dictionary. Information about POW-WOW and getting subscribed to the yoth-hockey mailing list, FREE E-MAIL services etc. etc. Something for everyone here!

Give it a try - you'll be glad you did!

Bry

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1231. HF Amp Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: Kory Hamzeh <kory@avatar.com>
Message-ID: <Pine.BSI.3.91.960916122407.10650B-100000@avatar.avatar.com>
Source record: 102461
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Someone recently requested some info about HF amp kit manufacturer. I missed most of the replies because I was away and we have a very short expiration period here.

I would appreciate any information anyone can send me about kits.

Thanks,
Kory
AC6RN

1232. In search of project radios. Tube and early solid state.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <51kg4t$a0h@ka4ybr.netmha.com>
Source record: 102462
Cross-posted to:
rec.radio.swap,rec.radio.shortwave,rec.radio.amateur.misc,alt.radio.pirate,rec.radio.amateur.homebrew,rec.radio.cb

Hi-

I'm looking for some radio gear for winter projects.

In the vacuum tube arena:
Geloso (anything)
TMC (Technical Material Corporation) GPR-90 and SBE-2
Any homebuilt ham or shortwave gear.

Solid state stuff:
ICIR, Cubic, Stoner, Alda, Atlas, Astro, any other early solid state
(Hammerlund, National, etc. also)
Any homebuilt or shortwave gear.

I prefer radios in need of work and priced accordingly but will
look at anything (especially Geloso and TMC!)

Have cash, radios, and datacom gear to trade.

-bob
WB4MNF
404-888-0389

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

1233. Re: HF Amp Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <323E189F.2484@magg.net>
Source record: 102463
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Kory Hamzeh wrote:
>
> Someone recently requested some info about HF amp kit manufacturer. I
> missed most of the replies because I was away and we have a very short
> expiration period here.
>
> I would appreciate any information anyone can send me about kits.
>
> Thanks,
> Kory
> AC6RNHi Kory,

I did not see the original post but Communications Concepts (QST
advertiser) has a number of Motorola based HF kits.

73, Dale WA2YPY

1234. A Visual perception test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: ssrmrouh@Reading.ac.uk
Message-ID: <51k4dg$bps@susscsc1.reading.ac.uk>
Source record: 102464

Dear fellow,
As a part of a research programme carried out in the Computational Vision Group at the Dept of Computer Science, University of Reading, UK, a visual perception test is being circulated via Internet, the result of which will be used in my thesis (and be sent to you if you so wish). The test contains a number of images which you are requested to interpret. I would be grateful if you could spent a short time (less than 10 min) to fill in the form/questionnaire for this test which is provided at my Web page at the following URL:
http://www.reading.ac.uk/~ssrmrouh/surv_tst/HTML/psy_tst1.html

Thanks in advance,

Behrouz M-Rouhani,
Research student in CAD-based vision, Dept of Computer Science, Reading Univ., UK

1235. FS:12V Pwr Plug:Ken, Icom,Yae,Alinco

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: n2cjj@undefined
Message-ID: <1996Sep16.201242.2088632@undefined>
Source record: 102465

I have found a source for those DC power cord plugs. The ones I've got
have 6 pins, male plastic with metal female inserts.

These plugs fit most 12VDC HF radios:
Icom 735 and alike, newer Yaesu and Alinco DX70.
Kenwood TS-120, 130, 140..430, 440, 450..850..TS50, 60, 660, 670..and alike.

Make your own power cord yourself, YOUR WAY!
Crimp or soldered, long or short, heavy gauge, purple with polka dots...

I'm offering the 6 position plug with 6 inserts for $4 each,
or a deal 3 for $10. All prices include postage in the US.

To order, kindly send a check to:

R. Langston
286 Hudson Street
Cornwall-on-Hudson, N.Y. 12520

You can also email me for info at: n2cjj@ibm.net

It's a great deal if you use one rig at home, in the car and at work and
are stuck dragging one power cord all over...

I still can't believe AES and others get $30 for a power cord.

1236. Re: Why we build - Homebrew advantages of CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-16 00:00:00 UTC
From: Chris Broadbent <cfb@bga.com>
Message-ID: <323DBD8C.180C@bga.com>
Source record: 102466

mack@mails.imed.COM wrote:
>
> Once again. Please let's move the no-code/code debate back to
> ham.policy!!! This is all interesting but the *WRONG* place.

Indeed. My article spoke of my support for CW in the context of why and what to homebrew. Some have skewed the argument into something else.

>
> BTW Chris asked:
>
> If the technical requirements of the license were dropped, how long
> would it be before the FCC started mandating emmision tests on
> homebrew equipment?
>
> The answer to this question is 19 (?) years ago!! Read part 97 and
> you will see that about that time frame part 97 got added constraints
> on spurious emmisions. It's funny that there were no quantitative
> requirements on harmonics/etc prior to that time. I do recall in the
> early 70's reading about folks getting nasty-grams from the FCC for
> not suppressing harmonics adequately.
>
> ...<SNIP>

There is some confusion here (perhaps on my part). IFAIK, there is no requirement for me to take my homebrew TX down to an FCC test site and have its emmisions checked. Of course, that does not mean I don't have to meet the emmisions standards.

WRT the ease/cheapness of including a microcontroller on the TX - nevertheless, you have increased the complication substantially. How easy is it to implement a digital encoding scheme in addition to the extra HW design and construction? What of the potential interference of the 40W emmisions right next to the digital electronics? Again, this has made the low level homebrew entry point substantially more difficult. If you were to say, "use an off-the-shelf controller board and/or already written software", we're back to the modular approach and increasing cost.

WRT CW, it seems to me some people spend more time worrying about the CW test than it would take to study and do it. Unlike what someone else said, it is nowhere near as difficult as learning another language. And many, in their zeal to hammer the requirement, lost site of the context in which I framed my argument for the test (ie, the ease of homebrewing a CW TX).

I still maintain there is no easier low level homebrew entry point than a CW TX. Just do the CW test - it's easy (easier than trying to get it

eliminated). Complaining that you're being forced to learn something is, IMO, immature. Anway, if the CW test is too much bother, I imagine that homebrew design and implementation would seem a terrible waste of time when one can go and buy a radio.

The throughput efficiency of CW is not of great relevance, it is more the bandwidth PER USER that is of importance (unless one propose that we be forced to use concentrators or have strict time limits). CW uses very little in the way of spectrum. Anyway, I'll bet most who complain are interested less in efficient digital modes than in simple bandwidth consuming phone (I have no proof, but it seems logical, given their reluctance to learn something as simple as Morse). I bet most homebrewers are more interested in getting on with it than they are in bellyaching about the unfairness of the CW requirement. To borrow a phrase from somewhere, "Just Do It".

If the complainers get their wish, next it'll be all those "irrelevant and discouraging" technical requirements on the chopping block, watch and see. That'd be bad news for homebrewers, IMO.

Cheers,

Chris.

1237. Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199609172326.UAA19297@netra01.origin.com.br>
Source record: 102285

David Feldman wrote:
>
> I am looking at schematic of a Japanese SSB transceiver. It has a type of
> balanced modulator I've never seen before. The audio from the mic is
> amplified once by a conventional class A transistor amp, then fed into
> an IC. The IC has a 5 MHz crystal. Based on the block diagram, the
> purpose of the IC is to take 300-2700 Hz audio and shift it to 4400-2000
> Hz, before it is fed into a balanced modulator using four diodes.

Well sir, I have an Elektrisk Bureau HF exciter (from Norway), dated 1973
that generates
AM-USB, USB and CAM using a similar aproach:

1) The mic amplifier have a "several" dB per octave low-pass filter at
2.600Hz.
2) This signal is applied to a balanced modulator which have a 20KHz
carrier.
3) The "SSB" filter is a 19.7KHz low pass filter that just lets pass the
20KHz LSB signal.
3) As professional xmtr like this, it has only USB/AM-USB at the output.
The four PLLs
sum/differences places the audio signal on it's spectral USB position.

To have LSB, what I did: another balanced modulator, with a 3.0KHz carrier
and a
cascade of 2 op-amp filter, in a 7th order filter each, cut-toff abt
2.6KHz. So I got
at this audio baseband the audio spectrum inverted - that's my LSB
solution. The only
problem I have is that I need to set the exciter 3KHz lower in frequency
when I want to
transmit in LSB. But the audio quality is impressive! Don't forget that my
original low-
pass filter in the transmitter helps to remove the 3300...5900Hz
sideband...

Best Regards:
Marcus Ramos, PY3CRX
mramos@originet.com.br

1238. Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@hertz.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.960917153004.4444D-100000@hertz.elee.calpoly.edu>
Source record: 102286

Does anyone know a parts/chip source for a sync AM detector? I am trying to build one but I don't have any leads. Cal.

1239. Video Modulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: bchadwi@oreida.COM
Message-ID: <323EA8B7.2452@oreida.com>
Source record: 102287

I was told that I can use one of my old UHF rigs to
do ATV. Does anyone have the scehmatic for the modulation
component that I would need to add to get my voice and video
on the signal?

Bruce, KB7CFL
bchadwi@bsu.net

1240. Re: Looking for Icom 22S Packet mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960917225642.23245D-100000@ban.libertel.montreal.qc.ca>
Source record: 102288
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

On Tue, 17 Sep 1996, Pete Rossi wrote:

> I have an ICOM IC-22S that I would like to modify for operation on the
> packet frequencies. I have seen reference to a mod for this.. involves
> changes to the synthesizer (new crystal? retuning?) to cover the lower
> frequencies with 20 KHz spacing.
>

Find a copy of 73 for October 1989. On page 31 there's an article
entitled "Put your IC-22S on Packet" by Michael S. Dooley. Maybe
a local ham club has back issues. Or try 73; they might have back issues
and if not, I think they will photocopy the article (1page) for a fee.

Michael VE2BVW

1241. Re: Why we build - Homebr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8C88393.0367000822.uuout@sourcebbs.com>
Source record: 102289

CB>-WRT CW, it seems to me some people spend more time worrying about the CW
>-test than it would take to study and do it. Unlike what someone else said,

CB>-I still maintain there is no easier low level homebrew entry point than a
>-CW TX. Just do the CW test - it's easy (easier than trying to get it

CB>-The throughput efficiency of CW is not of great relevance, it is more the
>-bandwidth PER USER that is of importance (unless one propose that we be

>-somewhere, "Just Do It".

CB>-If the complainers get their wish, next it'll be all those "irrelevant and
>-discouraging" technical requirements on the chopping block, watch and see.
>-That'd be bad news for homebrewers, IMO.

Hi Chris,
Amen
Amen
Amen
Amen
Amen
73 de KE4QOK
Bob

* SLMR 2.1a * 7 11, if you're not robbin us, we're robbin you

1242. Re: Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: Richard Stearn <rstearn@mltsa.mlm.lucent.com>
Message-ID: <323E7E19.41C67EA6@mltsa.mlm.lucent.com>
Source record: 102290

David Feldman wrote:
>
> I'm trying to find a catalog vendor by the name of "Farnell". Does anyone
> have their catalog? What is their phone number?
>
> Thanx,
>
> 73 Dave WB0GAZ dgf@netcom.com

Try

http://www.farnell.co.uk/

--
Regards
Richard

1243. Surplus FT-243 crystals and FM Moitor rec.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: chasteen@juno.COM
Message-ID: <19960917.123446.9022.3.chasteen@juno.com>
Source record: 102291

Hello Home Brewers

I need some help.
I have a box of crystals .. 25 kHZ difference between crystals,
starting at 5700 KHz to 8625 KHz. What can they be used for
or modified for The crystals are in FT 243 holders

Also have an FM Monitor Receiver Knight model 221A
Freq dial from 152- 175 MHz

Any help will be appreciated

john

1244. WTB: Eprom 27C011 for project and repairs.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: mays@indigo
Message-ID: <51ndn1$4b1@mark.ucdavis.edu>
Source record: 102292

Hello there,
I'm looking to buy any 27C011 eproms you may have laying around for my
projects and repairs to a small board computer/controllers I have in use.
I'd be willing to pay any reasonable price or trade for something you
might want. Please email me at your conv.
thanks much
skip may
mays@indigo.ucdavis.edu

1245. Re: Heath HW8 mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: bertb@netjava.com
Message-ID: <51mk2c$qdl@news.sockets.net>
Source record: 102293
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment

"Richard B. Joerger" <joerger@rd1.racal.com> wrote:

>I recall seeing a compendium of mods for this radio but can't find it.
>Can anyone point me in the right direction?

Hi Richard, here's some stuff that may help.

---------->8 Snip 8<-----------
From netcomsv!decwrl!spool.mu.edu!agate!uclink.berkeley.edu!michaeld
Tue Aug 3 17:57:07 PDT 1993
Article: 7788 of alt.radio.scanner
Path:
netcom.com!netcomsv!decwrl!spool.mu.edu!agate!uclink.berkeley.edu!michaeld
From: michaeld@uclink.berkeley.edu ((Mikey Likes It) S. Dahl)
Newsgroups: alt.radio.scanner
Subject: Ya Want Mods...Go get 'Em!
Date: 27 Jul 1993 01:14:58 GMT
Organization: University of California, Berkeley
Lines: 114
Distribution: world
Message-ID: <231vii$gnm@agate.berkeley.edu>
NNTP-Posting-Host: uclink.berkeley.edu

Article 40797 of rec.radio.amateur.misc:
Newsgroups: rec.radio.amateur.misc
Path:
agate!howland.reston.ans.net!darwin.sura.net!rsg1.er.usgs.gov!resdgs1.er..usgs..gov!tbodoh
From: tbodoh@resdgs1.er.usgs.gov (Tom Bodoh)
Subject: Re: FTP Archive for radio mods
Message-ID: <1993Jun3.182401.394@rsg1.er.usgs.gov>
Sender: news@rsg1.er.usgs.gov
Organization: U.S. Geological Survey, Reston VA
References: <davep-030693102559@nirvana.llnl.gov>
Distribution: usa
Date: Thu, 3 Jun 1993 18:24:01 GMT
Lines: 84

In article <davep-030693102559@nirvana.llnl.gov>, davep@llnl.gov (Dave
Parker) writes:
|> I'm trying to find an archive of Ham/Scanner mods via FTP. I used to get
|> them from kilroy.jpl.nasa.gov, but it does not seem to work now, and I
|> tried all the sites in the FAQ, with no luck finding mods. HELP!
|>
|> I just wanted to find any info for a DJ560 (Alinco) for a friend.
|>

|> Thanks in advance for any help.
|>
|> Dave
|>
|>
|> **
|> Dave Parker
|> davep@llnl.gov
|> KD6RRS
|> **

--
I got the following list off of one of the ham FTP servers;

ftp.cs.buffalo.edu 128.205.32.9
ucsd.edu 128.54.16.1 /hamradio
nic.funet.fi 128.214.6.100 /pub/ham
csseq.cs.tamu.edu 128.194.2.20 /ham-radio
suntan.tandem.com 130.252.10.8 /hamradio
col.hp.com 15.255.240.16 /packet
talos.cs.buffalo.edu 128.205.32.9 /pub/ham-radio
bubba.business.uwo.ca 129.100.22.42 /hamster/ham
/hamster/tcpip
/hamster/mods
/hamster/view
vax.cs.pitt.edu 130.49.2.1 /pub/arrl8
/pub/ka9q
/pub/ncpa
/pub/tnc2
brolga.cc.uq.oz.au 130.102.128.5 /pub/ka9q
tomcat.gsfc.nasa.gov 128.183.10.100 /public
helios.tn.cornell.edu 128.84.241.2 /pub
wuarchive.wustl.edu 128.252.135.4
/mirrors/msdos/hamradio
/mirrors/msdos/packet

/mirrors/msdos/ka9q-tcpip
/mirrors/cpm/hamradio
/mirrors/cpm/packet
/mirrors/misc/hamradio
/mirrors/misc/packet

/mirrors/misc/ka9q-tcpip
gatekeeper.dec.com 16.1.0.2 /pub/net/ka9q
sun.soe.clarkson.edu 128.153.12.3 /pub/ka9q
sics.se 192.16.123.90 /archive/packet
/pub/packet-incoming
sabrina.dei.unipd.it 147.162.2.106 /pub/hamradio
uhunix2.uhcc.Hawaii.Edu 128.171.44.7 /incoming/ham-radio
caticsuf.cati.csufresno.edu 129.8.100.15 /pub/ham-radio
ftp.waseda.ac.jp 133.9.1.32 /pub/toumon/ham-radio

garfield.catt.ncsu.edu 152.1.43.23 /pub/hamradio
plan9.njit.edu 128.235.1.10 /pub/hamradio
sunee.uwaterloo.ca 129.97.128.196 /pub/radio
grivel.une.edu.au 129.180.4.7 /pub/ham-radio
uxc.cso.uiuc.edu 128.174.5.50 /pub/ham-radio
iraun1.ira.uka.de 129.13.10.90 /pub/ham-radio
nic.switch.ch 130.59.1.40 /software/hamradio

/software/mac/ham-radio
iesd.auc.dk 130.225.48.4 /ham-radio
akutaktak.andrew.cmu.edu 128.2.35.1 /aw0g (softkiss-mac)
?????????? 129.69.162.1 /pub (login as ftp
pkt cluster,usa
callbook)
gandalf.umcs.maine.edu 130.111.112.21 /pub/ham-radio # ls -l
NO !)
rtfm.mit.edu 18.70.0.226
/pub/usenet/news.answers/radio
tamu.edu 128.194.15.32 /pc-sig
ftp.geo.brown.edu 128.148.116.19 /pub/hamradio

Also note that an excellent source is the QRL CD-ROM. I have one on
order
and it looks to be a superset of most of the FTP sites in addition to
a ham call database (with search engine), text from ham and other
radio
related newsgroups and a multitude of radio related stuff. Bye...

++
+ Tom Bodoh - Sr. systems software engineer +
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198 (605)
594-6830 +
+ Internet; bodoh@dgg.cr.usgs.gov (152.61.192.66) +
+ "Welcome back my friends to the show that never ends!" EL&P
+
++
^^
Many thanks to Tom for posting this previously, I have used this list
to great
effect, and have looked-up mods for others posting requests here...but
I've
got other things to do, so folks, go hunt 'em down. For whatever
reason,
archie dosen't report many of these locations, so this list is a
necessity.

Now maybe we will see a reduction in redundant requests for mods?
If you don't know what this list is for, and you have a real (not just
UUCP
dial-up) internet connection ask someone who knows about "anonymous
ftp"

Even if you only have a dial-up, most listservs honor e-mail requests
for
files--if you know just where they are directorywise.

Ciao,
Michael Dahl
Again, thanks Tom!
--------->8 Snip 8<---------

73 Bert

Bert Burland aka N5TOA / From The Texas Panhandle
EMail-(rf-baker@juno.com) Fido-NetMail-(Sysop@1:3825/24)

1246. boatanchors vote

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <51mq95$jkf@newsgate.sps.mot.com>
Source record: 102294

The first CFV for the boatanchors newsgroup has been issued.

Regardless of how you feel about this group, please take a moment
to locate the CFV and respond to it. It is titled:

CFV: rec.radio.amateur.boatanchors

and is on the following newsgroups:

news.announce.newgroups, news.groups, rec.radio.amateur.misc

Thank you

Jim Strohm N6OTQ

1247. Re: Best Turnkey Package

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: provero@connix.com
Message-ID: <51n9sb$j88@beast.connix.com>
Source record: 102295

In <19960915.190737.247379.NETNEWS@WVNVM.WVNET.EDU>, Tenley Shewmake
<omb00642@mail.wvnet.edu> writes:
>To all,
>
>We are looking for a simple rugged, TURNKEY, resellable, FCC approved device
>for transmitting serial data to a palm top PC from our weatherstation.
>
>Range: 1 mile max
>
>Problems: EMI, other nearby communication devices, this is a little
> outside our field (custom weatherstations), 12v power supply
>

Pacific Crest "Blue Bricks". 9600 bps, packet or transparent,
FCC approved. You'll need one at each end of the circiut.....

P.J. "Josh" Rovero email: provero@connix.com

1248. Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: bjrehm@most.fw.hac.com
Message-ID: <Dxw0up.1rp@most.fw.hac.com>
Source record: 102296
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

I am looking for design ideas, schematics, suggested sources, and performance reports for active antenna designs. I would like to build my own for home and mobile SWL use.

Thanks,

Brian

1249. HTX 202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: "J.Larry Taylor" <va3wjr@netrover.com>
Message-ID: <01bba4b7.bbf09fe0$2656bace@j.larryt>
Source record: 102297

Are there any mods for the Realistic HTX 202? I want to expand the recieve frequencies. Please e-mail answer if possible. Thanx!

1250. FM noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: curtm1@postoffice.ptd.net
Message-ID: <curtm1-1609962041080001@cs5-13.all.ptd.net>
Source record: 102467

Can someone please send me a schematic for a FM noise
filter?
Thanks!

1251. Re: WTB: 6" Ceramic Spreaders for Open Wire Line

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <51kqto$91p@dfw-ixnews9.ix.netcom.com>
Source record: 102468

>>>
>>> I need enough spreaders for a 1/4 wave open wire line at 80m. 6"
>>> spacing preferred, as that will give 600 ohm surge impedance with
>>> 12 ga wire.
I bought a bunch of junk from a old ham years ago, included was home made ladder line, using spreaders from tube and spool wiring, I remember the homes I grew up in used them. You may be able to find an old electrician or hardware store that still has them, I think they are only about 4 1/2 inches though.

If you use wood, which I use 1/4" dowels for my fan dipoles, I drill the holes about 1/4" from each end, then lash cotton string around the ends to keep them from splitting, soak the ends with white wood working glue and heat them in an oven to dry out the moister. Then I soak them in floor varnish.

Sparky KI5GY

1252. Lodestar Grid Dip Meter: Opinions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: David Keith <104573.2147@CompuServe.COM>
Message-ID: <51l0q4$r1k$1@mhafc.production.compuserve.com>
Source record: 102469
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

I would appreciate advice on the Lodestar DM-4061 Grid Dip Meter.
(Actually, it's transistor.) I'm looking for a meter to evaluate
antenna resonance and other tuned circuits. The choice seems to
be between this device and something on the used market.

Any advice?

Thanks, Dave KD7TT

1253. Looking for Icom 22S Packet mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: rossi@VFL.Paramax.COM
Message-ID: <1996Sep17.020157.10169@VFL.Paramax.COM>
Source record: 102470
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I have an ICOM IC-22S that I would like to modify for operation on the packet frequencies. I have seen reference to a mod for this.. involves changes to the synthesizer (new crystal? retuning?) to cover the lower frequencies with 20 KHz spacing.

Now that I need it, I can't find the details. Anyone know where this information might be. Anyone else who has done this mod?

Pete Rossi - WA3NNA
rossi@Paoli.ATM.LMCO.COM
Lockheed Martin (formerly Loral Defense Systems (formerly Unisys GSG))
Valley Forge Engineering Center - Paoli, Pennsylvania

1254. Re: More tubes & more transformers & more snide social commenta

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.091696.230124.93@treasure-d6.syix.com>
Source record: 102471

> Plate transformers are another matter, since it's
> dagnab hard to find that sort of stuff now. WHich means
> that I would have to do the flea market/surplus radio
> search. Here in the Dayton, OH area we have the always
> popular Mendelson's Surplus. Spend a couple days in there
> looking for stuff what ain't where the sign says it would
> be. ANd Midwest Surplus in Fairborn might have the stuff,
> since they have a big pile of transformers... and you
> can see what they are and don't have to wander around
> to find 'em.
>
> That and tapioca.
>
> 73
> Nils
> WB8IJN &c

It depends on your plate voltage. A dual primary transformer might work if you used the second primary as an output and either rectified it or ran it into a voltage multiplier of some sort. Damn, gotta use some of those modern rectifiers. Oh well, sure beats not getting a project done, then if you do find a plate transformer, just transplant it.

Bill Baka, Ideas on the fly, some good, some silly.

1255. Re: Cavity versus microprocessors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.091696.230116.69@treasure-d6.syix.com>
Source record: 102472

A digital solution to an analog problem is never a good idea. (Any Bob
> Pease, Pease's Porrige, fans out there?)
>
> KE1C Pat
You had to go and ask. I have some friends at National and we have been ragging on him for some time to get an e-mail address. His answer..."Why? I have enough mail already", or something close to that. Yeah, I read his column every month and I agree with him about 95% of the time. I'll get over to National and meet him face to face one of these days. I'm in the A.T.E. test business.

I just have to ask what crazed engineer thinks a processor will outperform a good tuned cavity. I have used cavities at UHF and I don't think digital has a prayer unless there is a cavity in front of it.

Bill Baka, no shortage of opinions .

1256. Re: evidently JAN crystals AOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1709960002290001@ip218.pdx2.pacifier.com>
Source record: 102473

In article <51k63i$1q8@li.oro.net>, rst-engr@oro.net wrote:

> and@pacifier.com shared these priceless pearls of wisdom:
>

Sounds like I offended you in some way from the previous facetious statement.
Sorry, but I never would have even brought up the subject if I hadn't
accidentaly seen other posts in this newsgroup blasting JAN for poor
quality.
Don't blame me for trying to get some other opinions. I was kind of
lukewarm on buying all those crystals anyway, since I have been thinking
of building a 500khz stepped synth instead of the crystals. Still, its
nice to have the rig working in the original manner. Again, sorry if I
offended you in some way. Rob.

> ->Got alot of mail regarding question about JAN crystal quality.
>
> I've been using JAN crystals both personally and professionally for
> twenty-five years, even back when they called themselves Bob Whan and
> Company. Their current crystal engineer (Bill McCoy) knows as much about
> crystals (and can explain it in plain Engineering English) as any person
> I've ever met.
>
> Good folks!!
>
> Jim
>
> Jim Weir VP Engineering | You bet your sweet patootie I speak for the
> RST Engineering | company. If I don't, ain't nobody gonna.
> Grass Valley CA 95945 |
> http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
> jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

1257. Re: Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <MwYzOCAhSpPyEwao@ifwtech.demon.co.uk>
Source record: 102474

David Feldman wrote:
>I'm trying to find a catalog vendor by the name of "Farnell". Does anyone
>have their catalog? What is their phone number?

In England it's: Farnell Components, Canal Road, Leeds LS12 2TU
Tel +44 113 263 6311
Fax +44 113 263 3411

Farnell also own Newark Electronics in the USA, and has just started to
sell Newark's product lines in Britain. Does anybody know if the two
companies are also integrating in the USA?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

1258. NEED: Icom 271 extended receive mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: David L Hamilton <dhamilton@greenapple.com>
Message-ID: <01bba493$80bc6a40$24a81fce@ne8h-system>
Source record: 102475

Any help or any leads to extended receive modification for the IC271 would
be appreciated.
NE8H
dhamilton@greenapple.com

1259. Ostarrichi 1996

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: Neubauer Andreas <de3dna@art.at>
Message-ID: <01bba483$760d6140$0b6464c9@holodeck>
Source record: 102476
Cross-posted to: de.comm.ham,fj.rec.ham,rec.ham-radio,rec.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc,relcom.radio.ham,uk.radio.amateur

Ham-meeting in Neuhofen/Ybbs, Austria from Fr. 4.10.96 to Sa. 5.10.96

"Ostarrichi Amateurfunktage in Neuhofen/Ybbs"

Location: Seminarhotel Kothm&#65533;hle

Exhibition:
* Amatuer radio - companies
* Self-made amateur devices
* Flea market (electronic and communication devices, etc.)
* Presentation of ATV, Packet Radio, SSTV, CW, ...
* Newcomer information
* Amateur radio related software
* Drive in contest (only an saturday 8:00 - 10:00 local time)

FREE ENTRANCE

Call our clubstation OE3XOA on 145.500 simplex or 438.900 -7.6 (TX)

For more informations send me an e-mail via

Internet: de3dna @ art.at
Packet radio: oe3dna @ oe3xbs.aut.eu

Hope to see you, Andy.

1260. Re: Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: flatos@mich.com
Message-ID: <51m3sh$bn9@news.mich.com>
Source record: 102477

In article <dgfDxuJJA.1J7@netcom.com>, dgf@netcom.com (David Feldman) wrote:
>I'm trying to find a catalog vendor by the name of "Farnell". Does anyone
>have their catalog? What is their phone number?

Tel 800-718-1997
Fax 800-718-1998

Frank Latos
Duo Systems Inc.
flatos@mich.com

1261. _In_Marconi's_Footsteps::_Early_Radio_ More info...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Sep17.114118@nova.wright.edu>
Source record: 102478

A couple group readers asked me for more information about Peter Jensen's book, _In Marconi's Footsteps: 1894-1920: Early Radio_. Well, here's the info from the inside front page:

ISBN: 0-86417-607-4. (No LoC number)
Publisher: Kangaroo Press Pty Ltd
Addresses: 3 Whitehall Road
Kenthurst NSW
2156 Australia
-----or----
P.O. Box 6125
Dural Delivery Center NSW
2158 Australia
Publication date: 1994.
Cost (US$): $39.95

In a family where the coffee table is used for something other than stacking the youngest son's school clothes, this book would probably qualify as "coffee table reading." I think that's mostly the fault of the design & page size (176 pages, 8.5x11 inches, cloth cover with dust jacket). However, the book is much more than a table covering itself. The information is well-researched and the writing is excellent. The photos often show "then & now" comparisons and the technical drawings are completed with care and attention to detail. If you're the kind of person who wants to know what it was like to play with coherers or Perikon detectors, this book is a good starting point. Once you've read it, you'll with that Modern Radio Labs still carried all the neat stuff that ol' Elmer Osterhoudt did when he was among the living. But then, MRL is still alive -- though under different management -- and there are lots of crystal set loonies out here in the space between terminals & modems.

73
Nils
WB8IJN &c

1262. ISSUE 2 OF ELECTRONICS ON THE WEB NOW OUT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: N Hampshire <nickh@emags.u-net.com>
Message-ID: <51mfr4$baa@nuntius.u-net.net>
Source record: 102479

Hi,

Issue 2 of the practical electronics webzine 'Electronics on the Web'
is now out.

You can find it at the following URL:

http://www.emags.com/electron.htm

We hope you find it interesting.

Nick Hampshire.

Editor

1263. Re: Strange balanced modulator design question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <51mqut$jcb@hpscit.sc.hp.com>
Source record: 102480

In article <dgfDxtwwv.L9L@netcom.com>, David Feldman <dgf@netcom.com> wrote:

>it also might have the effect of reducing group delay distortion through
>the SSB filter (a simple 4-pole job). In any event, the interesting thing
>is that the audio processing is done with a single chip and just a few external
>
>73 Dave WB0GAZ dgf@netcom.com

4 pole filters have *less* delay distortion than higher order
ones (6 or 8 poles).

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1264. Re: evidently JAN crystals AOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <51mevk$f0e@newsbf02.news.aol.com>
Source record: 102481

In article <and-1709960002290001@ip218.pdx2.pacifier.com>,
and@pacifier.com writes:

>
>Sounds like I offended you in some way from the previous facetious
statement.
>Sorry, but I never would have even brought up the subject if I hadn't
>accidentaly seen other posts in this newsgroup blasting JAN for poor
>quality.
>Don't blame me for trying to get some other opinions. I was kind of
>lukewarm on buying all those crystals anyway, since I have been thinking
>of building a 500khz stepped synth instead of the crystals. Still, its
>nice to have the rig working in the original manner. Again, sorry if I
>offended you in some way. Rob.

I for one have had very poor results with JAN crystals, but it was years
ago. I tried using them in a Marine and Two Way radios, they were more
often than not off frequency and drifted around. This wasn't a few
crystals, it was a lot of them and for common stuff like Micors.

I went to ICM, bigger bux$$$$, but they were much more stable and always
dead on.

Things can change over time but my experience, and the experience of other
people in the same line of work at that time, was the quality was not
there. I've never tried them since that time.

Obviously some other are still experiencing the same problems, and other
are not. Perhaps it depends on the end environment or the particular batch
of product.

73 Tom

1265. Re: Video Modulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: stevem@best.com
Message-ID: <51mp2m$kof@shellx.best.com>
Source record: 102482

In article <323EA8B7.2452@oreida.com>,
Bruce E. Chadwick <bchadwi@oreida.COM> wrote:
>I was told that I can use one of my old UHF rigs to
>do ATV. Does anyone have the scehmatic for the modulation
>component that I would need to add to get my voice and video
>on the signal?
>
>Bruce, KB7CFL
>bchadwi@bsu.net

This is kind of a broad question, not knowing what kind of UHF
rig you have, but anyway, there were some ideas in the very old
'70s vintage ARRL VHF/UHF manuals that talked about high level
AM video modulation of older FM rigs. You might start there.
You should know that what you will end up with is double sideband
video, approx 9MHz wide, on the UHF band unless you do some
vestigial sideband filtering at the output of your TX.
Make sure you are not going to bother anyone, or do the filtering.

I have found that the cleanest way to generate VSB-AM TV is
to get a CATV headend modulator ($20 at hamfests) and drive
an upconverter or modified transmit converter to the desired
output frequncy. Make sure any power amplifiers you use
after the upconverter are true class A. Not the amateur market
junk that use class C transistors with Mickey Mouse bias or
you will have double sideband again!

Good Luck,

Steve Muther WF6R
stevem@w6yx.stanford.edu
stevem@best.com

1266. Re: New Web Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-17 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <323F2073.167E@pactitle.com>
Source record: 102483
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.packet

I'll have to check it out.
Dave Booth kc6wfs dm40rk
http://www.geocities.com/Hollywood/5860

Bry wrote:

>
> Hi - visit my new Web Page at
> http://www.mnsinc.com/bry/
>
> Featuring:
> MEGALIST + HAM RADIO + HOCKEY = Bry's Page!
>
> LOTS of useful information about USA & UK sources of amateur radio & shortwave
> radio equipment, parts, kits, manuals, xtals, valves/tubes, repairs,
> modifications etc., and TONS of radio links to SHortwave sites, ham radio
> sites, Christian & Messianic Jewish sites, and a whole load of really good ICE
> HOCKEY and ROLLER HOCKEY sites. MANY HOT LINKS!
>
> UK to USA English Dictionary. Information about POW-WOW and getting subscribed
> to the yoth-hockey mailing list, FREE E-MAIL services etc. etc. Something for
> everyone here!
>
> Give it a try - you'll be glad you did!
>
> Bry
>
> Brian Carling, AF4K / G3XLQ
> bry@mnsinc.com
> http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

--
Dave Booth

1267. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <51nmgv$4mm@cc.iu.net>
Source record: 102298
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

In <323508F5.2A39@mis.net>, Ed Ellers <edellers@mis.net> writes:
>Robert Bissett wrote:
>
>> Haven't you noticed that most all auto radios have am stereo? Both of
>> our cars have them and I have one for my bench radio that's at least
>> 10 years old. Works fine on the few am stereo stations here.
>
>Many (but not all) *factory* car radios these days have AM stereo, but
>it's a very rare feature on aftermarket radios.

i don't know if it's standard these days. got a new car last year and it
didn't have AM stereo offered as a factory option at all.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

1268. Lodestar Grid Dip Meter: Opinions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: David Keith <104573.2147@CompuServe.COM>
Message-ID: <51nn7n$b0i$1@mhafc.production.compuserve.com>
Source record: 102299
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.equipment

Has anyone used a Lodestar DM-4061 grid dip meter?
I'd appreciate comments on this and other meters.

Thanks,

Dave KD7TT

1269. re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: markl@dove.net.au
Message-ID: <843037943mnewsmarkl@dove.net.au>
Source record: 102300
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

>
>
> brucetw@ix.netcom.com wrote:
> >
> > gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
> >
> > ...<SNIP>
> >
> > >I think you see CW transmitters as the most common because that's all
> > >you do, so your vision is a bit myopic on the subject of home constructed
> > >equipment (or you may be insisting on a purist definition of homebrew which
> > >doesn't admit anything but an original design by the home constructor). If
> > >you were active on other modes, you might find that there is quite a bit of
> > >building going on for them as well. Probably only at microwave, and for ATV,
> > >is homebrew the majority course, but it is alive and well on most of the
> > >other modes, not just among CW operators.
> >
> > ...<SNIP>
> >
> > >Gary
> > ...<SNIP>

> [Lots Cut out }
>
> The CW requirement caused me to enter the field, for I am interested in its
> homebrew aspects. With the CW requirement, I know there are others out there
> with whom I'll be able to communicate using my homebrew CW TX. There is no
> simpler, low level, entry point than a CW TX.
>
> Cheers,
>
> Chris (KC5VQL)
> .

Have I misunderstood? Are you suggesting that the fact that you had to do a Morse code exam caused you to enter the hobby? I guess what you meant is that your interest in homebrew CW got you interested.

Having a Morse exam does not mean that there will be Morse operators out there - many people forget Morse soon after passing the test. It is the fact that some people LIKE Morse that ensures there are Morse operators, not the exam.

The reason for including a topic in a licence examination should not be based on a person's, or group of people's personal interests. It should be based on what the licencee is REQUIRED to do, or continue to know, AFTER the exam has been passed.

To illustrate my point, if an amateur uses a transmitter outside of the band, or builds and operates a piece of equipment which splatters over the band, there are provisions to penalise the amateur by fines and/or loss of licence. Thus, it is appropriate to have regulations and radio theory examined.

Now, what can happen to an amateur who uses Morse code poorly (slowly with lots of errors)? Are there licence implications? Can the licencee be fined or have the licence revoked? If the answer is no, then there was no point in examining the person in the first place.

A licence exam is used to define what a person should know and be able to do and is the benchmark for determining if the licencee is a fit person to hold the licence. This does not mean that the person cannot or will not forget what was examined, but it does mean that the licencee cannot use the excuse of ignorance if a breach occurs.

If it isn't important enough to have a penalty for non-compliance, then it isn't important enough to examine in the first place.

Mark.

1270. Re: Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: ylo@mango.mef.ki.se
Message-ID: <51oaf9$ltl@news.kth.se>
Source record: 102301

Cal Eustaquio (ceustaqu@hertz.elee.calpoly.edu) wrote:
: Does anyone know a parts/chip source for a sync AM detector? I am trying
: to build one but I don't have any leads. Cal.

There was a nice description in QEX, Sept. 1992 issue by Mike Gruber which might be fairly easy to build. It used a Sony AM-stereo chip CX857 and the phase shift network from Sony too, I guess from ICF-SW2010. At that time each of these was about $20.

Ylo Mets

1271. micro atv transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: andyp@es.co.nz
Message-ID: <51og2j$1ig@Chaos.es.co.nz>
Source record: 102302

i am looking for a current schematic diagram for a micro atv transmitter operating on 434mhz and/or 922mhz, suitable for my rc helicopter project

1272. more Jan crystal stupidity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1809960302130001@ip158.pdx1.pacifier.com>
Source record: 102303

Sounds like I dug up a can of worms regarding JAN crystal quality. Now half and half saying either product is crap or quartz blanks polished by God himself.

When I talked to rep told them they should get on internet and defend their own fucking product. I'm thinking of sending them a bill for customer surveying rendered.

I've spent a month asking for catalogs, info, seeing negative sfuff on this newsgroup, getting hate mail from some ham yahoo, and trying to fax in order, and finally finding although its plainly in catalog, they dont ship COD.

Does anyone wonder why the Japanese have so much success in electronics?

1273. Re: Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1809960328450001@ip150.pdx1.pacifier.com>
Source record: 102304

In article
<Pine.ULT.3.91.960917153004.4444D-100000@hertz.elee.calpoly.edu>, Cal
Eustaquio <ceustaqu@hertz.elee.calpoly.edu> wrote:

> Does anyone know a parts/chip source for a sync AM detector? I am trying
> to build one but I don't have any leads. Cal.

You can use the Nat Semi LM1821 or LM1823 Synchronous Video Detector as a complete AM synch detector, although its not 100% optimal for this application. Chips contain vy sensitive IF amp, limiter, DBM, osc, phase shifter, etc. Parts are avail via NTE replacement also, so you don't have to neccessarily call Nat Semi if you're in big hurry. However, their sampling dept will gladly send you one for free, and as last resort, contact linear marketing, they generally will send to experimenters even if you don't have some big lie about being a design manager working on the latest HDTV revolution. :)

As the final last resort, contact Mr. Martin Giles who I hope still is Apps Director, and tell him "Mr. LM1893" sent you. Ha, ha, that should get you something- maybe disconnected. :)

Tell him all the ham circuits contain that wimpy Signetics NE602 IC and that you suspect its a piece of crap that Philips is expending their old Germanium wafer stock on.

Seriously, if you want a true super high performance design, send me a fax number and I will send you my synch sample and hold AM demodulator schematic using the SD5002 DMOS switches, VXO, MC1590 IF amp, 74ACxx DMOS drivers, ec.

1274. Re: Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1809960248110001@ip158.pdx1.pacifier.com>
Source record: 102305

In article
<Pine.ULT.3.91.960917153004.4444D-100000@hertz.elee.calpoly.edu>, Cal
Eustaquio <ceustaqu@hertz.elee.calpoly.edu> wrote:

> Does anyone know a parts/chip source for a sync AM detector? I am trying
> to build one but I don't have any leads. Cal.

Can use several of the Nat Semi synch video detectors for this, although
won't get ultimate performance. Couple are avail via NTE replacement, not
interested in rooting thru books, but think LM1821 was the earlier and
LM1823 the later. Can make almost complete circuit since contains high
gain IF, osc, DMB, phase shifter, etc.

If you can email me a fax number I can send you schematic for synch sample
and hold AM detector using DMOS switches, VXO, and MC1590 carrier amp,
that offers ultimate performance, way beyond one from old QST using NE602
and Signetics IF IC. I'm sure the old Signetics marketing people won't be
pleased, but whenever you see a 602, you can guarantee no-one has given
much thought to high performance.

1275. Re: Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1809960423480001@ip140.pdx1.pacifier.com>
Source record: 102306

In article
<Pine.ULT.3.91.960917153004.4444D-100000@hertz.elee.calpoly.edu>, Cal
Eustaquio <ceustaqu@hertz.elee.calpoly.edu> wrote:

> Does anyone know a parts/chip source for a sync AM detector? I am trying
> to build one but I don't have any leads. Cal.

You can use the Nat Semi LM1821 or LM1823 Synchronous Video Detector as a complete AM synch detector, although its not 100% optimal for this application. Chips contain vy sensitive IF amp, limiter, DBM, osc, phase shifter, etc. Parts are avail via NTE replacement also, so you don't have to neccessarily call Nat Semi if you're in big hurry. However, their sampling dept will gladly send you one for free, and as last resort, contact linear marketing, they generally will send to experimenters even if you don't have some big lie about being a design manager working on the latest HDTV revolution. :)

As the final last resort, contact Mr. Martin Giles who I hope still is Apps Director, and tell him "Mr. LM1893" sent you. Ha, ha, that should get you something- maybe disconnected. :)

Tell him all the ham circuits contain that wimpy Signetics NE602 IC and that you suspect its a piece of crap that Philips is expending their old Germanium wafer stock on.

Seriously, if you want a true super high performance design, send me a fax number and I will send you my synch sample and hold AM demodulator schematic using the SD5002 DMOS switches, VXO, MC1590 IF amp, 74ACxx DMOS drivers, ec.

1276. Re: In search of project radios. Tube and early solid state.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <51ons6$3on@news1.mnsinc.com>
Source record: 102307
Cross-posted to:
rec.radio.swap,rec.radio.shortwave,rec.radio.amateur.misc,alt.radio.pirate,rec.radio.amateur.homebrew,rec.radio.cb

rmd@ka4ybr.netmha.com (Bob Duckworth) whistled a happy tune like:

|Hi-

|I'm looking for some radio gear for winter projects.

|In the vacuum tube arena:
|Geloso (anything)
|TMC (Technical Material Corporation) GPR-90 and SBE-2
|Any homebuilt ham or shortwave gear.

|Solid state stuff:
|ICIR, Cubic, Stoner, Alda, Atlas, Astro, any other early solid state
|(Hammerlund, National, etc. also)
|Any homebuilt or shortwave gear.

|I prefer radios in need of work and priced accordingly but will
|look at anything (especially Geloso and TMC!)

|Have cash, radios, and datacom gear to trade.

|-bob
|WB4MNF
|404-888-0389

|--
|Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
|bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
|Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
|Fax or email your list for a fast cash offer. Watch for listserv catalog.

Bob - you might want to check some of the SURPLUS resources in megalist.txt
available here at my Web-site!

73 - AF4K

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1277. video modulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199609181249.JAA29905@netra01.origin.com.br>
Source record: 102308

Bruce E. Chadwick <bchadwi@oreida.COM> wrote:
>I was told that I can use one of my old UHF rigs to
>do ATV. Does anyone have the scehmatic for the modulation
>component that I would need to add to get my voice and video
>on the signal?
>
>Bruce, KB7CFL
>bchadwi@bsu.net

Well Bruce, may be U use any kind of high-level modulator
(at the vy. last PA amp and it's driver) that U find at some ARRL
handbooks (some use to have a 80mW 440MHz ATV exciter) but
remember that U will have a DSB signal: more bandwidht and power
waste.
I use to my tests a Jerrold CATV modulator, model S-450-M, that
can be set to generate a 445.25MHz video carrier on its standard
form. Mine is modified to extend this range a little bit higher since this
"agile" exciter is sometimes used as a IF modulator to 1296 and 2304
transverters. It's output level is about +55dBmV/75 ohm. The big
advantage is that this rig have a SAW filter that limits the video to
it's upper sideband. And it's spurious are avereage -60dBc!
So Ur UHF rig will be only the PA. And may be adapted to a kind
of class A amplifier, all amplification stages involved.

Regards ES GL.
Marcus, PY3CRX - Sao Paulo - Brasil
(mramos@originet.com.br)

1278. amplificateur HF regulation of power

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: maillet@ensm-douai.fr
Message-ID: <51os0u$3r3@netserver.univ-lille1.fr>
Source record: 102309

hi, i whant to make a regulation of power for amplificateur HF.
if introduce in primary voltage in transformateur THT
a variable transfo. (slide regulator)
it's correct or is undesirable for a tube ?
tnx fer advise.

1279. Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <51p2v7$6qt@mgate.arrl.org>
Source record: 102310
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

markl@dove.net.au (Mark Little) wrote:

>> The CW requirement caused me to enter the field, for I am interested >> in its homebrew aspects. With the CW requirement, I kno=
w there are >> others out there with whom I'll be able to communicate using my >>
>>homebrew CW TX. There is no simpler, low level,=
entry point than a CW >>TX.

> Have I misunderstood? Are you suggesting that the fact that you had to > do a Morse code exam caused you to enter the hobby? I gue=
ss what you
> meant is that your interest in homebrew CW got you interested.

Speaking for myself, if I hadn't been required to pass a 5 wpm, then 13
wpm Morse exam, I never would have known that I like Morse Code. FWIW.

> The reason for including a topic in a licence examination should not be > based on a person's, or group of people's personal inter=
ests. It should > be based on what the licencee is REQUIRED to do, or continue to know, > AFTER the exam has been passed.

I passed an exam that covered phone operating priveleges and digital
operating and theory. I am not REQUIRED to use these modes.

> To illustrate my point, if an amateur uses a transmitter outside of the > band, or builds and operates a piece of equipment which =
splatters over > the band, there are provisions to penalise the amateur by fines and/or > loss of licence. Thus, it is appropriate t=
o have regulations and radio > theory examined.

> Now, what can happen to an amateur who uses Morse code poorly (slowly > with lots of errors)? Are there licence implications? Can =
the licencee > be fined or have the licence revoked? If the answer is no, then there > > was no point in examining the person in the=
first place.

I recall questions about Q signals on the tests. There is no penalty if
I do not use them correctly. Yet I do not believe you are proposing that
those questions be deleted.

Perhaps better questions to ask and answer is: "Is Morse Code still
relevant to the Amateur Radio Service? If so, should we retain testing
as a requirement for some or all amateur priveleges. Should we keep it
as a requirement in its present form? Why, or why not."

It is my personal opinion that Morse Code is important to the Amateur Radio Service for a number of reasons. The most important is that it is apparently important to a significant number (significant is not necessarily defined as a majority) of us. The alternatives proposed are important to a significant number of us, too, so those who are proposing solutions that do not consider the needs or wishes of others with alternative views are proposing solutions that are more divisive than useful.

Let's take followups to .policy, where they are more appropriate to the charter of the group.

73 from ARRL HQ,
Ed Hare, KA1CV
ARRL Laboratory Supervisor

1280. Needed: Manual for Heathkit SB-110 6 Meter Rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: basil@turn.com
Message-ID: <MPG.ca9d9dd90d0ba06989680@news.gte.net>
Source record: 102311
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap

I need a manual for an old Heathkit SB-110 6 Meter Rig. This is an old tube rig, and is currently in non-working, but otherwise good, condition. I am willing to pay copy and postal charges. The more info I get on this radio, the better, so if you have articles or other writings about the Heathkit SB-110, I would be interested in those also.

Thank you in advance for your help.

Basil (Darin) Arrick, KB5KHR
basil@turn.com

1281. Needed/Wanted: Vacuum tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: basil@turn.com
Message-ID: <MPG.ca9dbf15340ddfb989681@news.gte.net>
Source record: 102312
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap

I need a bunch of vacuum tubes for a couple of radios that I am working on: a Collins KWM-2A and a Heathkit SB-110 6 Meter Rig. Some of the tubes that I need are as follows:

6U8A (Qty: 3)\
6EB8 \
6EA8 ---- These are "must haves"
6DC6 /
6AZ8 (Qty: 2)/

12AT7 (Qty: 2)
12AX7
6BN8 (Qty: 2)
6AZ8 (Qty: 2)
6146B (Qty: 5)
6CL6

If you have any of these tubes, let me know. I would prefer to purchase them all from one person, if possible, but I will purchase them from different places, if needed. If I could pick them up (local to Dallas/Ft. Worth, Texas, area), that would be a _HUGE_ plus. I will pay shipping costs.

Thank you in advance for your help.

Basil (Darin) Arrick, KB5KHR
basil@turn.com

1282. Re: Need info on FM antena

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: psoper@encore.com
Message-ID: <Dxxu7I.p0@encore.com>
Source record: 102313
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

slnfn@cc.usu.edu writes:

> I don't usually follow this group, but am in need of some quick
>information. I have a stereo reciever that is badly in need of an FM antena.
>Being that I'm a poor college student, I don't have the money to run out and
>get a good commercial one. I hope that mabye someone out there will take pity
>on me and tell me an easy way to build a makeshift antena that will give me
>pretty good reception until I can get a good one?

Go to Radio Shack and get one of their FM antennas made out of
300 ohm "twin lead". It's made of flat cable around 1/3 inch wide that forms
a "T" with the top around five feet across. You hook the bottom end of
the "T" to your radio and tack top to your ceiling so it is broadside to
your favorite radio station (in either direction). Very cheap.
The next step would be to get some more twinlead like the antenna
is made out of and extend the bottom of the "T" so you can put the top
as high as possible. If you could arrange for it to be above an outside
window (hopefully with a wooden frame) and get it "way up there" the
results will be worth it. Alternatively putting it up a staircase wall,
up inside an attic, etc would improve performance.

But you may mean that you need something VERY cheap :-) In this case go in
with friends who also need antennas and share the cost of some twinlead
to make the RS type antenna like this:

```
<------ 57 1/4 inch --------->
------------------------------
x x
-------------y y--------------
| |
| |
| |
| |
| |

\/\/\

| |
| |
z z
```

The top of the "T" should be 57.25 inches long for the middle of the
FM band. You simply strip and tie the two wires at each end of the T
top together at the "x" points, then cut one side in the middle and
tie the lower part of the T into place at the two "y" points. The

"z" wires go to your radio. You can study the antenna at Radio shack to see what I'm describing. This type of antenna is called a folded dipole.

If your radio lacks a pair of screws for attaching a balanced antenna but instead only has a round coax socket you'll have to buy or scrounge a 300 ohm to 75 ohm transformer that matches the socket directly or with a short length of coax. Most parent's homes have one or two 300 to 75 ohm baluns in the bottom kitchen drawer :-) If you find a tubular looking thing around 1/2 inch diameter and two inches long with a threaded socket on one end and a little piece of twinlead coming out the other, that's your man. Or the ideal would be the little oblong plastic type with two screws and a round plug that slips over a coax socket directly (RS should have these).

Regards,
Pete
KS4XG

1283. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <51pd6m$lcj@villa.fc.net>
Source record: 102314

In Article <519qt7$d75@peabody.colorado.edu>, through puissant locution, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) soliloquized:
>In article <518bd1$d5o@newsbf02.news.aol.com>,
>W8JI Tom <w8jitom@aol.com> wrote:
>>In article <32361A9E.6D7A@whitemtns.com>, "August H. Johnson"
>><kg7bz@whitemtns.com> writes:
>>>Just knock out the two shunts in the magnetic circuit to remove the
>>>current limiting on the microwave transformer. The shunts are the
>>>two metal blocks that are between the primary and secondary windings.
>>>These work in the same way that the shunts do in a neon-sign
>>>transformer to make a current-limited transformer.
>
>You're right. There were two such blocks, and they knocked out fine with a
>hammer. Too bad neon sign transformers are potted; this one was
>open-frame, and you can see (and get to) what's happening.
>
>>Then you'll have a good transformer.
>
>Hey! I didn't pay a cent for this thing! It may not be a Peter Dahl
>Hypersil® Megabuck thing, but it was free! If it manages to run a HeNe or
>a PMT (which it will) it's already pure bonus. But probably a few more
>watts can be coaxed out of it than that.

Greetings. I have a vague memory of uWave Xformers being butchered into a 120V:120V isolation Xformer... they cut two Xformers and welded the primaries...

If you find a uWave and by chance want to use it to nuke your lunch but need to fix it first, see Sam G's excellent uWave repair guides (extensive) at URL:

http://www.paranoia.com/~filipg/HTML/REPAIR/

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

1284. Re: Looking for Icom 22S Packet mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDxxoAC.GFw@netcom.com>
Source record: 102315
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <1996Sep17.020157.10169@VFL.Paramax.COM> rossi@VFL.Paramax.COM (Pete Rossi) writes:
-I have an ICOM IC-22S that I would like to modify for operation on the
-packet frequencies.

From a previous post by n5jlq:

Replace the 7.68 MHz crystal with a 5.12 MHz one. This moves the band
to 145.00-146.94 with a 10KHz step (and changes the offset to 400KHz -
not useful for repeaters anymore).

The diode formula is 100 * (f-145) + 61

145.01: D5 D4 D3 D2 D1
145.03: D6
145.05: D6 D1
145.07: D6 D2
145.09: D6 D2 D1

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

1285. Re: Improved AM stereo mod for your AM/FM stereo tuner, using SRF42

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: Tom Morse <tommorse@hooked.net>
Message-ID: <324019B9.6CE6@hooked.net>
Source record: 102316
Cross-posted to: rec.radio.shortwave,rec.audio.misc,rec.radio.amateur.homebrew

Bill Newkirk wrote:

>
> i don't know if it's standard these days. got a new car last year and it
> didn't have AM stereo offered as a factory option at all.
>
> Bill Newkirk WB9IVR The Space Coast Amateur Technical Group

For some reason they almost never mention that it exists. My sister bought a new Mark VIII and it had AM stereo, but nothing on the brochure or owners manual mentioned it.

Tom KE6DIO

1286. Kenwood TS-700A Power Supply problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: "Dennis Breeden"
Message-ID: <51pink$krl@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 102317

I have a Kenwood TS700A 2 Meter all mode tranciever. It has the TS700S power supplied installed. It was completely dead but the following has been done but all is suspect. Q1-10 have been replaced as well as C1, C2, C16, C7, C9, C8 and C5. The +9V is fine but the +20V only is at +17V on AC and +13V on DC. Voltage on AC drops on transmit. Any suggesting on troubleshooting appciated. Thanks D. Pat Breeden, WB3KUM

1287. what is the "call" channel?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: domin@exis.net
Message-ID: <51pmi5$csb@Grouper.Exis.Net>
Source record: 102318

At the risk of looking stupid I must ask this question. I have a Kenwood 732 transceiver and it refers to the call channel in the instruction booklet but for the life of me I don't know what that means. could someone out there tell me

Thanks

Danny

1288. Re: what is the "call" channel?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDxy4r0.LDI@netcom.com>
Source record: 102319

In article <51pmi5$csb@Grouper.Exis.Net> domin@exis.net (Danny) writes:
>At the risk of looking stupid I must ask this question. I have a
>Kenwood 732 transceiver and it refers to the call channel in the
>instruction booklet but for the life of me I don't know what that
>means. could someone out there tell me

It's usually a programmed frequency, often that can be scanned "in the
background" while listening elsewhere (i.e., the radio occasionally
polls the "call channel" a few times per second looking for activity).

In Japan where all operations are 144-146 MHz simplex, the call channel
seems to be by default 145.000 MHz.

73 Dave WB0GAZ dgf@netcom.com

1289. Re: Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: uncle@net1.nw.com.au
Message-ID: <32404e76.28331193@news.wt.com.au>
Source record: 102320

>You might open the transformer and repair it; I have done that a number
>of times. The result is as good as new...

Even more of a piss-off point, some of the smaller
(like 100ma) types have a fuse built into them,
usually INSIDE the windings, meaning right up
against the core. So if the primary reads open,
count the turns when taking it apart. Might
merely need chucking out the fuse and putting
it all back together - good as new.

Uncle Brian VK6BQN

- -
"The avoidance of taxes is the only intellectual pursuit that
still carries any reward" - John Maynard Keynes

1290. Re: Looking for Old parallel printer cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: adair@csee.usf.edu
Message-ID: <51pq4t$r6b@news.usf.edu>
Source record: 102321

In article <51fujo$5jj@newsbf02.news.aol.com>, PDRUNEN <pdrunen@aol.com> wrote:
>Hi,
>I am looking for anyone willing to part with their old parallel printer
>cards. These were the ones made about 3 years ago and used address &H378
>or &H278 as the location.

Funny, these sound the same as the ones made about 15 years ago...

--
Jonathan E. Adair KF4LFG adair@csee.usf.edu http://marathon.csee.usf.edu/adair/
PGP Key 617E4D49 Fingerprint: 12 54 48 F3 EA B4 E7 9C F9 85 CD F5 17 60 B3 76
Harry Browne for President - Campaign@HarryBrowne96.org - www.HarryBrowne96.org
The Libertarian Party -- America's third largest! - LPHQ@digex.net - www.lp.org

1291. Midwest Mobil Shootout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: "C. J. Hawley" <c-hawley@uiuc.edu>
Message-ID: <324080A0.7283@uiuc.edu>
Source record: 102322

```
>From - Wed Sep 18 12:53:46 1996
Path: vixen.cso.uiuc.edu!usenet
From: "C. J. Hawley" <c-hawley@uiuc.edu>
Newsgroups: rec.radio.amateur.antenna
Subject: Midwest Mobile Shootout
Date: Wed, 18 Sep 1996 12:50:16 -0500
Organization: University of Illinois at Urbana-Champaign
Lines: 149
Message-ID: <32403658.222E@uiuc.edu>
NNTP-Posting-Host: antwerp-16.slip.uiuc.edu
Mime-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
X-Mailer: Mozilla 3.0 (Win95; I)
CC: hires@rust.net

MIDWEST MOBILE MANIA!

The September 17 shootout was held at Mounds State Park in Anderson,
Indiana and was attended by 27 hams. A total of 13 mobile ham stations
were tested, some with several different types of antennas.

The measuring equipment consists of a two turn, 3 foot dia. "magnetic"
loop tuned to 3.875 MHz. The loop was grounded to the park water system
which eliminates the previously noted sensitivity to passers-by. The
received signal is rectified by a 1N34 into a small ceramic capacitor.
The resulting DC voltage is read by a 3 1/2 digit meter on the 1.999V
range.
The mobile vehicle was approximately 75 yards from the loop during the
test. Each vehicle was driven to place the antenna system directly over
the same spot (vehicle facing away from the receiving loop), and all
other vehicles were moved to a parking lot some 1000 yards distant and
the antennas dismantled (not resonant on 3.875).
The mobiles were restricted to 100 watts (measured with a Bird meter)
and a less than 6 foot mast under the coil (or resonant part of the
antenna). The resulting antenna had to be street legal (less than 13
feet and 6 inches tall from the ground) and reasonable to be driven at
highway speed.
We were mostly interested in what works better than what and not in who
"wins", but the spirit of competition was present (naturally).
The strongest mobile antenna system read .404 Volts with 100 watts and
read about .250 with 50 watts giving some sense of scale to the
readings. So someone (using 100 watts) with a .250 would be losing about
half his power compared to the best system measured (to something or
somewhere with respect to the receiving loop 75 yards to the rear of the
```

vehicle). We have noted in previous shootouts that the readings were nearly linearly proportional with power from 100 to 10 watts.

The results are as follows (I'm dropping the decimal point in listing the numbers). Unless noted otherwise, the bugcatchers had 5 to 6 foot, 1 inch dia. masts under the coils, some copper pipe and some stainless steel (not a significant difference here, but the four highest guys were with copper masts). The capacity hats were several feet above the coils unless noted. I'm listing the results by decreasing score for the first antenna tested by each participant.

TOM, W8NSF 404 center loaded bugcatcher style with two small foot long stingers at top of the whip arranged in a V (adjustable angle between them).

JIM, KJ9T 395 center loaded bugcatcher style with three film reel cap hats distributed along the whip.

JOHN, N8IYN 386 center loaded bugcatcher style, no hat, 3.5 in dia coil wound with #10 at 5tpi for 73 turns, approx 14-15 inches long (about 95 uH).

DICK, N9HLT 375 same system as N8IYN.
N9HLT 380 same system except 3 inch dia coil about 18 to 20 inches long, 95 turns of #10 at 5tpi, same inductance as the 3 1/2 inch dia coil.
N9HLT 401 shorter coil (that is, less inductance, about 75uH) with six, one foot long stingers half way up the whip arranged in a circle.

BILL, N4VMY 369 same as N9IYN

CHUCK, KE9UW 364 same as N9IYN (this is me)

GEORGE, K9PAW 360 center loaded bugcatcher style, aluminum mast, with 2 wire clover loops for cap hats.

BILL, KF8MV 318 center loaded bugcatcher with 2 inch copper mast under the coil with cap hat about 6 inches above the coil.

BOB, KA8DBJ 289 center loaded bugcatcher style with cap hat.

RON, KG8XM 285 center loaded bugcatcher style with cap hat.
KG8XM 315 screwdriver antenna (go figure...we think that the relatively poor scores for systems very similar to the best systems are due to less than optimum tuning for lowest SWR. All of the highest scores were with systems that had remotely tuned tuners essentially AT THE BASE of the antenna as opposed to matching coils at the base, etc. that may not be tuned perfectly to lowest SWR. We noted that a difference of only 5 watts (95 watts instead of 100 watts) resulted in a drop of 10 or so points or so in the reading. Nobody is saying that it matters to the guy you're talking to a couple hundred miles away, but for the purpose of finding out what antenna system component or configuration might be marginally better, it does. This particular screwdriver antenna has capacitor matching at the base and was carefully

adjusted for low SWR). Our remote tuners have a series capacitor to tune to resonance and either a tapped toroid (relays) at the input or a parallel capacitor to ground at the input of the tuner to adjust the match. The four highest score individuals have a parallel cap, the next two have a tapped toroid (T250A-25turns wound around twice with #10 teflon insul silver plated wire), and K9PAW has a parallel cap.

CHUCK, WD8PEI 280 screwdriver with two cap hats.

DAVID, N9TQA 191 screwdriver on a huge Winnebago (mounted pretty high up on the back window making for a short whip....he has a lot of longer whips but they are all bent). He uses closed circuit TV to adjust the screwdriver to the marks for each band.

BARRY, N9BS 125 Outbacker mounted on a 3 or 4 foot mast (Hmmmmm.)

That's about it.
Some other things were tried including a coil wound with litz wire which resulted in a reading of about 75% of what his solid wire (of the same diameter of wire as the litz) coil acheived (I coulda told him that but I feel better about SAYING THAT after I saw the results).
Also,a triangular mast (point up and next to the coil) fed in the center of the base (not any better than the single one inch mast).
Basically, we want to fine tune our systems and this shootout mostly showed us some ideas that do not work well and reinforced some that do. They are briefly that long masts are good (raising the coil up higher in the length of the antenna? or raising the coil up higher than the roof?).
Coils that are longer than they are wide are better than the high Q (twice as wide as long) profile (still searching for the optimum length to width ratio...somewhere between a center loading square coil and a helical wound antenna...the coil isn't a lumped element here...it's part of the radiator....what's best?).
Capacity hats do better, but not that much better if the coil is reasonably low loss (wire size and spacing, etc.).
Low loss remote tuners (capacitors, not roller inductors in series with the antenna) at the base of the antenna that acheive a low SWR between the xceiver (at the dash) and the antenna (at the rear or the car) are better.

The highest reading of the day was 414 with N9HLT using the six stinger cap hat at the very top of the whip and the shorter coil that gave him the 401. This setup was not very roadworthy however.

Hot Chili, Ritz crackers, peach cobbler with Lite Cool Whip, double fudge brownies, and a great moist cinnamon coffee cake were consumed in great quantities..... you're not surprised, are you?

We really don't think that we know enough about mobile antenna systems..... that's why we are doing this and why it is so interesting to us, so please comment (it's ok to be kind).

Ben, W9JQA intends to write this up in an article (with pictures) to send to QST to publish if they want it. I hope he does and they do.

BIG CHALLENGE!
Several of the guys (not me) suggested that we should get together with the west coast mobile guys. They (a couple of the best mobile systems from each group) could meet somewhere half way (Colorado?) and maybe the impartial club in that area could supervise a midwest meets west shootout (are there any mobiles in the east?).

73
Chuck, KE9UW

1292. Trident TR2400 scanner info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199609182238.TAA15543@netra01.origin.com.br>
Source record: 102323

Thanks for reding this:

I have a Trident TR2400 handheld scanner that have the following
problem:

- from 500KHz to 1.570GHz it's OK...
- when I set the frequency to 1.570.001 the sensibility falls about
35dB!
- I tried a "CPU reset" as sugested by a U.K. equipment providor,
reprogramed it (and works!) but the 1570 to 2060 MHz SHF band
still with problems.

It's a strange coincidence but one of the "reprograming" procedures
told me to enter some command (i'll not describe all) like this
7 <enter> 1570 <enter> 2060 <enter> 749.265 <up><up>....

It's more or less obvious that we're telling the CPU in wich frequency
range it should use an "up-convertion" procedure, plus any PIN diode
filter switching to allow this 1.57 to 2.06GHz reach the front end!

This equipment is the same Camnis HST-50 or so... please, any mainte-
nance manual, service manual, CPU procedures...will help.

This rig is to be used as a 902/1296 monitor to my homebrewings and
as a GOES/Meteosat receiver at 1691...this is my problem.

Thanks in advance es regards.

Marcus - PY3CRX - Sao Paulo - Brasil
(mramos@originet.com.br)

1293. Re: More tubes & more transformers & more snide social commentary

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960918222200.1004C-100000@ban.libertel.montreal.qc.ca>
Source record: 102324

On 18 Sep 1996, Filip M Gieszczykiewicz wrote:

^
> Greetings. I have a vague memory of uWave Xformers being butchered
> into a 120V:120V isolation Xformer... they cut two Xformers and
> welded the primaries...
>
> If you find a uWave and by chance want to use it to nuke your lunch
> but need to fix it first, see Sam G's excellent uWave repair
> guides (extensive) at URL:
>
> http://www.paranoia.com/~filipg/HTML/REPAIR/
>

Filip's web site is very well worth visiting. If you read sci.electronics.repair, even once, you're bound to see reference to it and for good reason. It is a source of truly useful information, and the site is Lynx friendly too! There is quite a bit about repairing various devices, along with some more general electronic information. It's the sort of site that deserves to be linked too, and if more people would look there first, we'd get fewer of those commony asked questions.

By the way, I seem to recall the idea of back to back microwave transformers as an isolation transformer was in Electronics Now (formerly Radio Electronics). I guess it gave some details to pad out the article, but the basic idea is right there. It was in recent years, though I don't remember what issue.

Michael VE2BVW

1294. 1 KW Tuner Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: Butch Magee <butch@apollo.wes.army.mil>
Message-ID: <32401B1D.2EE2@apollo.wes.army.mil>
Source record: 102325

Does anyone know where I might pick up the plans and part nos. for an antenna tuner similar to the old Johnson's? You know, two air-variable capaciters, 1 roller inductor a turns counter and NONE of this tapped inductors/etc..etc... I feel like building something and the old Johnsons' were so simple and so good!

Butch KF5DE

1295. * FS ** Heathkit FREQ. COUNTER IM2410 $139.00 U.S.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-18 00:00:00 UTC
From: rgerson@irus.rri.uwo.ca
Message-ID: <51p3of$t73@falcon.ccs.uwo.ca>
Source record: 102326

Heathkit KIT IM2410 Freq Counter (10-60 MHZ & 50-250 MHZ)

All parts: IC's, res/caps/case/display/etc, but no manual

reply to :
rgerson@irus.rri.uwo.ca
519-439-0116

1296. Re: F.S. HOKA CODE 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: 106345.2461@compuserve.com
Message-ID: <51pb8r$os4@hil-news-svc-6.compuserve.com>
Source record: 102327
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc, rec.radio.shortwave,rec.radio.swap

sfritts@usit.net (Steven Fritts) wrote:

>For Sale:
>HOKA CODE 3 Decoder unit. The ULTIMATE decoder! This one gets it all
>on HF! With ALL options. Mint condition with org. box, manuals,
>software, Klingf. books.

>450.00 or Best Offer
>Need to sell this quick!

>Email me as I do not check in too often

>Steve sfritts@usit.net
>423-525-0801

In what currency???

in $ i can get a new one here !

Kees

1297. Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDxysBI.vv@netcom.com>
Source record: 102328

An amplifier recently purchased arrived with an open filament 8877. Whether caused by mishap in transit or other means will probably be a mystery, but I'm now wondering what use (if any) can be made of such a tube? Any ideas?

73 Dave WB0GAZ dgf@netcom.com

1298. Re: 1 KW Tuner Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <3240DCD9.2A73@monmouth.com>
Source record: 102329

Butch Magee wrote:
>
> Does anyone know where I might pick up the plans and part nos. for an
> antenna tuner similar to the old Johnson's? You know, two air-variable
> capaciters, 1 roller inductor a turns counter and NONE of this tapped
> inductors/etc..etc... I feel like building something and the old
> Johnsons' were so simple and so good!
>
> Butch KF5DE

Butch, You may have some other tuner in mind rather than the Johnson. We have
two of the 1kw's here at AAR2usi-k2usa and they have split stator capacitors
and special tapped inductor with link coupling. Pretty hard to duplicate
with parts available today.
We especially prefer them to the pi arrangements you describe
because they are a bandpass type rather than a low pass. This has come in handy when we have
had two transmitters on in the same band as we did during the Desert Storm operation.
The ARRL handbook has designs for what you seek and I have seen ads in QST
for the roller inductors and other parts.

Bob ND2L

--
****
Bob Bissett rbissett@monmouth.com
****

1299. AM sync w. high integration IC's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1909960008080001@ip129.pdx1.pacifier.com>
Source record: 102330

[This is response to older post about AM sync detectors, so I posted it out of thread so more people will read it.]

You can use the National Semiconductor (video synchronous detectors) LM1821 or LM1823 as synchronous AM detectors. I've done it but it didn't seem like the ultimate performance, although I admit more work might make the difference, especially if you call up the apps eng dept there at National. They would probably also send samples if you cant get them thru normal sampling phone number or marketing. They're always looking for some new apps for those old state of the art video chips now that there is no longer any consumer electronics industry in the US. Also, NTE makes respacement part. Motivation is that these parts contain high gain IF, agc, phase shifter, etc, etc. for $5.

If you are interested in making the ultimate performance synch AM detector, send me a fax number and I will send you a copy of my Synchronous Sample-and-Hold AM demodulator using H-mode DMOS detector, VXO, MC1590 carrier amp, etc. I would have liked to make this a mag article, but motivation here is at nadir. You will have to design new VXO coil and varactor ckt if you need IF other than 9mhz. Whole ckt is actually alot simpler circuit than title suggests and fits in my rcvr in 3x4" brass box with internal "dead bug" construction. Thanks to U. Rohde for suggesting MOS S/H detector having much higher S/N ratio than conventional designs.

All I ask is that if this info gets into some writeup you include credits on schematic. Thanks.

1300. Re: Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-1909960234020001@ip137.pdx1.pacifier.com>
Source record: 102331

In article <dgfDxysBI.vv@netcom.com>, dgf@netcom.com (David Feldman) wrote:

> An amplifier recently purchased arrived with an open filament 8877. Whether
> caused by mishap in transit or other means will probably be a mystery, but
> I'm now wondering what use (if any) can be made of such a tube? Any ideas?
>
> 73 Dave WB0GAZ dgf@netcom.com

Have never seen it advertised, but these tubes could probably be recycled
if there was the $$ motivation. Call up Svetlana. They might have much
higher motivation for recycling. Doesn't seem like there is much interest
left in US in tube manufacture now that Russians and Chinese are getting
way up on the learning curve.

1301. Re: Best Turnkey Package

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: Dave Curtis <ng0x@ricochet.net>
Message-ID: <32412FB6.4437@ricochet.net>
Source record: 102332

Well, I've been playing with a ricochet modem for a few days. Using it right now
to read mail. FCC part 15 RF modem... 900 MHz I think... the bay area is
wired for internet access but you can use the peer to peer.
check out http://www.ricochet.net

73, Dave NG0X

Tenley Shewmake wrote:
>
> To all,
>
> We are looking for a simple rugged, TURNKEY, resellable, FCC approved device
> for transmitting serial data to a palm top PC from our weatherstation.
>
> Range: 1 mile max
>
> Problems: EMI, other nearby communication devices, this is a little
> outside our field (custom weatherstations), 12v power supply
>
> What's available? Who can we talk to?
>
> Thanks in advance for any information.
>
> Tenley Shewmake omb00642@mail.wvnet.edu

1302. Re: amplificateur HF regulation of power

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: "J. Mc Laughlin" <n8tt@tir.com>
Message-ID: <51rq6e$1i1@ramp2.tir.com>
Source record: 102333

maillet@ensm-douai.fr (Maillet Dominique) wrote:
>hi, i whant to make a regulation of power for amplificateur HF.
>if introduce in primary voltage in transformateur THT
>a variable transfo. (slide regulator)
>it's correct or is undesirable for a tube ?
>tnx fer advise.

I think that you wish to be able to change the output power of a tube HF power amplifier by changing the primary transformer voltage of the transformer that supplies the tube's high voltage (plate voltage). You ask if you might use an autotransformer between the power-line voltage and the transformer's primary.

You must not use this method if any filiment voltages are also supplied by the transformer!

Depending on the class of amplifier (C, AB, B), using this method to make small changes in output power is probably ok. However, large changes in plate voltage will change the amplifier's characteristics and may cause problems.

1303. Re: Surplus FT-243 crystals and FM Moitor rec.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <51rqlr$bv9@sf18.dseg.ti.com>
Source record: 102334

Any crystals in the 7000 to 7300 KHz range fall within the 40m band.

KC5NG

In article <19960917.123446.9022.3.chasteen@juno.com>, chasteen@juno.COM
says...
>
>Hello Home Brewers
>
>I need some help.
>I have a box of crystals .. 25 kHZ difference between crystals,
>starting at 5700 KHz to 8625 KHz. What can they be used for
>or modified for The crystals are in FT 243 holders
>
>Also have an FM Monitor Receiver Knight model 221A
>Freq dial from 152- 175 MHz
>
>Any help will be appreciated
>
>john

1304. What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: dgreiner@utep.edu
Message-ID: <51rab5$ni0@lex.zippo.com>
Source record: 102335

I'm sure this question has been asked, but whenever you look at ham
books from 15+ years ago, everyone has always got a heathkit
something. Whether it be a transmiters/receivers all the way down to
test equipment. So it raises the question, what ever happened to
the heathkit co.?? They obviously made money as well as building a
name for themselves. Hell I love the way heathkit equipment looks
(but than again I love the way all old eqipment looks ;>
If anyone nows the answer I'd be very interested in knowing it.
73,
-David-
KC5WDR

1305. Re: amplificateur HF regulation of power

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <51s0c7$ksj@newsbf02.news.aol.com>
Source record: 102336

In article <51os0u$3r3@netserver.univ-lille1.fr>, maillet@ensm-douai.fr (Maillet Dominique) writes:

>
>hi, i whant to make a regulation of power for amplificateur HF.
>if introduce in primary voltage in transformateur THT
>a variable transfo. (slide regulator)
>it's correct or is undesirable for a tube ?
>tnx fer advise.
>
>

If the problem is unstable voltage only when transmitting, then the slide transformer will make the problem worse.

If the problem is power mains that slowly change over a long time, or all the time are low or high, than a very BIG slide transformer will help.

The variable transformer must be very large, much over the size you think, or it makes on and off transmit voltage stability worse.

73 Tom

1306. FS: DC Pwr Plug: Ken, Icom,Yaesu,Alinco

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: n2cjj@LOCALNAME
Message-ID: <b19.9/21/95M52.758239@LOCALNAME>
Source record: 102337
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

I have found a source for those DC power cord plugs. The ones I've got
have 6 pins, male plastic with metal female (barbed) inserts.

The plug fits most 12VDC HF radios:
Icom 720, 735, 706.. and alike, newer Yaesu models and Alinco DX70.
Kenwood-TS120, 130, 140..430, 440, 450..850,..TS50,60, 660, 670...and alike.

Make your own power cord yourself, YOUR WAY!
Crimp or solder, long or short, heavy gauge wire, purple with polka-dots...

I'm offering the 6 position plug with 6 inserts for $4 each,
or a deal 3 for $10. All prices include postage in the US.

To order, kindly send a check to:

R. Langston
286 Hudson Street
Cornwall-on-Hudson, N.Y. 12520

You can also email me for info at: n2cjj@ibm.net

It's a great deal if you use one rig at home, in the car and at work and
are stuck dragging one power cord all over....

I still can't believe AES, HRO and others get $30 for a power cord. HiHi!
n2cjj@ibm.net

1307. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <3241A6A4.1D13@wenzel.com>
Source record: 102338
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

There are a couple of circuits in the antenna article in our technical library at www.wenzel.com

1308. Re: 1 KW Tuner Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: agray@voicenet.com
Message-ID: <3241526D.2B3F@voicenet.com>
Source record: 102339

Butch Magee wrote:
>
> Does anyone know where I might pick up the plans and part nos. for an
> antenna tuner similar to the old Johnson's? You know, two air-variable
> capaciters, 1 roller inductor a turns counter and NONE of this tapped
> inductors/etc..etc... I feel like building something and the old
> Johnsons' were so simple and so good!
>
> Butch KF5DE

Butch-

QST published an article entitled "Build a Dual-Differential Capacitor for Your Antenna-Tuning Network" in the October 1972 issue (page 22).

Essentially, this article describes how to get around the problem of locating the dual-differential cap used in the Matchbox design. It includes complete construction details [the rest of the components are pretty easy to fabricate] If you can't locate the article, let me know; I'll send you a copy.

Alan, W3BV

1309. Re: Surplus FT-243 crystals and FM Moitor rec.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: ccart@erols.com
Message-ID: <51s5gu$1f@test-sun.erols.com>
Source record: 102340

: In article <19960917.123446.9022.3.chasteen@juno.com>, chasteen@juno.COM
: says...
: >
: >Hello Home Brewers
: >
: >I need some help.
: >I have a box of crystals .. 25 kHZ difference between crystals,
: >starting at 5700 KHz to 8625 KHz. What can they be used for
: >or modified for The crystals are in FT 243 holders

The one between 7000 and 7300 would be of interest to those of use who
have old Hallicrafters HT-40's :) The cases on these can be taken
apart and new crytals put in them, although I have no idea who would
cut rocks for the 243 package any more. If you're looking to sell,
drop an email.

-- Christopher Cartwright, Tech. Engineer | ...our chief weapons are fear,
-- Voice 301.295.0809 N3XRV QRP-L #655 | fear and surprise, and nice
-- Mail dsc3cjc@imc220.med.navy.mil | red uniforms, oh damn!!
-- ccart@erols.com | -- Monty Python

1310. MITREK conversion to 10 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: rts7612@prdc.dukepower.com
Message-ID: <51s542$jjm@lal.interserv.com>
Source record: 102341

Has anyone converted a motorola mitrek radio to 10 meters? I have 3 basically new radios set up
for ~33MHZ operation and was wondering if anyone had info or could point me toward info on converting these radios. Thanks in advance!
Ray, KE4 OGG
Seneca SC

1311. Repairing Vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: upnorth@bconnex.net
Message-ID: <3241D8C4.7506@bconnex.net>
Source record: 102342

Has anyone out there ever successfullly "spliced" a vertical antenna?
I had to saw in half the wide aluminum section of an old Hy-Gain
mulitbander when moving some time ago. Now I'm intrested in using it
again. Can one improvies a kind of mechanical "collar" to put the
two
peiced back together. And would it electrically work?

73 de Geoff, VA3FQA
va3fqa@amsat.org

1312. RE: Filter k & q derivation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199609200025.TAA20811@tri.net>
Source record: 102343

Have been playing with some various XTAL filter designs. I have Zverev's excellent standard, but would like to do one with more poles than in his tables, especially the gaussian and gaussian to -12 dB. Anyone know how to calculate the k & q values? I suspect I'm looking at the method in his book and don't see it, but with a Pentium Pro 200 and Mathcad, suspect I have more firepower than he used for his derivations! (Not the equations)

FWIW, have had a good time running thru some old data from published articles, in HR, Liao's amplifier book, some old vertical formulas and seeing the problems with rounding or smoothing in graphs.

Lawrence E. Stoskopf, M.D.
N0UU

1313. Re: Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-19 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <3241ECFC.5FC8@monmouth.com>
Source record: 102344

David Feldman wrote:
>
> An amplifier recently purchased arrived with an open filament 8877. Whether
> caused by mishap in transit or other means will probably be a mystery, but
> I'm now wondering what use (if any) can be made of such a tube? Any ideas?
>
> 73 Dave WB0GAZ dgf@netcom.com

If it is a new US-made tube call or write the tube manufacturer.
They are always interested in these kind of things and may give
you credit towards a new one (at least you'll get some sympathy).

Bob ND2L
--
****
Bob Bissett rbissett@monmouth.com
****

1314. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <51sqci$174@crash.microserve.net>
Source record: 102345

Dave,

Too many HAMs quit building kits, Heathkit went out of business...

73 Steve N3FTI

In article <51rab5$ni0@lex.zippo.com>, dgreiner@utep.edu says...
>
>I'm sure this question has been asked, but whenever you look at ham
>books from 15+ years ago, everyone has always got a heathkit
>something. Whether it be a transmiters/receivers all the way down to
>test equipment. So it raises the question, what ever happened to
>the heathkit co.?? They obviously made money as well as building a
>name for themselves. Hell I love the way heathkit equipment looks
>(but than again I love the way all old eqipment looks ;>
>If anyone nows the answer I'd be very interested in knowing it.
>73,
>-David-
>KC5WDR

1315. Re: Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: carl@ais.net
Message-ID: <51sns7$5aa@news.ais.net>
Source record: 102346
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <51p2v7$6qt@mgate.arrl.org>, Ed Hare <ehare@arrl.org> writes:
>
>It is my personal opinion that Morse Code is important to the Amateur
>Radio Service for a number of reasons. The most important is that it is
>apparently important to a significant number (significant is not
>necessarily defined as a majority) of us. The alternatives proposed are
>important to a significant number of us, too, so those who are proposing
>solutions that do not consider the needs or wishes of others with
>alternative views are proposing solutions that are more divisive than
>useful.
>

So the code should be forced down everyone's throats, because SOME
SEGMENT of the ham community views it as "important" (to them).

That makes ZERO sense, Ed ... how would the CW folks like it if the
digital folks forced a test in coding software algorithms for DSP on
them? After all, those skills are *important* to a(n ever-growing)
group of hams ...

Sounds like a *practical* test to me ... write some software routines
that implement an FFT, a Hilbert transform, do some digital modulation
and demodulation, complex filtering, etc. ... maybe even implement
some convolutional codes and a Viterbi decoder or two ... Would the CW
folks find this an appropriate *pass/fail* test element? (If not, WHY?)

I would submit that jaming things that they don't consider relevant down
people's throats will *always* generate some "devisive" feelings on the
part of the "jamee" ... yet that's what the code folks have been doing
to everyone for years and years ... and we're sick and tired of it ...
to quote "Network" ... "We're mad as hell and we're not going to take it
any more!"

If that's "devisive," so be it ... I guess we need some "dividing" ...
it's not always bad to stir things up a bit ... unless all you care
about is maintaining the status quo at all costs ...

Carl - wa6vse
carl@ais.net

1316. Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDy0B0u.4L4@netcom.com>
Source record: 102347

I'm working on mounting several VHF radios into a ZERO/Halliburton type "suitcase" cabinet. I'd like to use urethane (expanding) foam to position the radios, instead of building some complicated metal structure (the radios are various ICOM IC-?02 series VHF/SSB rigs). Anyway, where do you buy the stuff? As I recall, it's two chemicals, and when you mix them, they make a foam that then hardens. You can form the stuff by pumping it into a heavy duty plastic bag, forming it around the equipment you want to package, and then let it harden. Then after it's hardened, you can cut it with a knife to make openings (for cables), adjustments, and such.

Anyway, is this stuff bought at hardware stores, paint stores, or where?

73 Dave WB0GAZ dgf@netcom.com

1317. Re: Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: robertm@haven.ios.com
Message-ID: <51suut$77f@news2.ios.com>
Source record: 102348

Ryan (author@poboxes.com) wrote: : Is there any practical use for a transformer that has one winding : burned out? I was really wondering if it would work for an RF choke : in the hot lead to a mobile radio. thanks for any info.

: Ryan
Ryan:
Other than taking the xformer apart and rewire it , just take the thing apart and use the wire for coils and antennas.
Bob WA2EAW

1318. Manual for Hewlett-Packard 415B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: cjdumar@westelcom.com
Message-ID: <51t91b$2rv@news.emi.com>
Source record: 102349

Hello there,

I am looking for a copy of the manual for the Hewlett-Packard 415B Square Law Meter. If you such a beast let me know also let me know what the xerox cost may be.

1319. Re: Repairing Vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <32422BD1.7F6B@monmouth.com>
Source record: 102350

upnorth@bconnex.net wrote:
>
> Has anyone out there ever successfullly "spliced" a vertical antenna?
> I had to saw in half the wide aluminum section of an old Hy-Gain
> mulitbander when moving some time ago. Now I'm intrested in using it
> again. Can one improvies a kind of mechanical "collar" to put the
> two
> peiced back together. And would it electrically work?
>
> 73 de Geoff, VA3FQA
> va3fqa@amsat.org

You'll have to get a piece about a foot long of aluminum tubing
that will fit over the cut one. A couple of saw cuts lengthwise
in the new piece ends and a couple of stainless hose clamps will do the
trick. Go down to your local electrical wiring supply house
and get a product called Alox or equivalent. It is a conductive compound
made for aluminum conductors and smear some on the parts before
assembly.
Stuff works great and also keeps out water from the joint . Have been
using it for many years. Two years ago we repaired a 30 year old log
periodic with the stuff and it brought it back to like new.

Bob ND2L op at K2USA/AAR2USI
****
Bob Bissett rbissett@monmouth.com
****

1320. Re: Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.091996.232709.87@treasure-d8.syix.com>
Source record: 102351

> Does anyone know a parts/chip source for a sync AM detector? I am trying
> to build one but I don't have any leads. Cal.

I have heard that Philips in Europe is big in this market, also worth a try are Motorola and Texas Instruments, plus a few lesser known manufacturers like Exar and Fujitsu (Japan). They exist, but you may have to go to a distributor and beg for one because they sure son't show up at Rat-Shack.
Bill

1321. re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: markl@dove.net.au
Message-ID: <843210464mnewsmarkl@dove.net.au>
Source record: 102352
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

>
>
> carl@ais.net wrote:
>
> >I have NEVER, EVER, in over ten years of debating this issue, seen a
> >no-code advocate actually advocate the *banning* of CW from the bands.
> >Not once. (of course, now that I've said that, one of the pro-coders
> >will probably start up a phony "ban the code" thread in an effort to
> >taint the discussion with a bunch of bogus anti-no-code distortions).
>
> >Carl - wa6vse
> >carl@ais.net
> ==
> BUT - those sections of the band reserved for non-phone uses shrink as
> more and more phone operators crowd the remainder. In the '50's, 75
> meters was only 200 kHz, and there was no phone on 40 at all!
>
> I suspect that in 20-30 years, there will be no parts of the band
> reserved for non-phone usage. It will all then be by "gentlemens
> agreement".
>
> Jerry W4UKU flanders@groupz.net
>
>
>

One point to bear in mind is that some countries only have "gentleman's agreements" about how the HF band works NOW. As long as the bandplan has the general agreement of amateurs, then it will be followed.

Mark.

1322. AM Synch det. sch. sent out

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: and@pacifier.com
Message-ID: <and-2009960055430001@ip138.pdx1.pacifier.com>
Source record: 102353

Got about dozen requests to previous post about offering to fax out schematic for my DMOS S/H Synch AM demod ckt.

Sorry if that one guy (name withheld) got about 15 aborted phonecalls, as I spent 2 hours tearing apart my XEROX fax machine and cleaning rollers, etc with alcohol (should have drank it instead).

Turns out I spent two hours screwing around trying to send out the first fax, not realizing the telephone line and phone line output connectors were reversed on back of fax machine. :) :)

Here have Power Mac clone worth more than my car, but is useless when trying fax out from hardcopy without scanner. Guess those days of cut-and-paste schematics are catching up to me.

As I was tired when first fax finally went out, tried to make cover letter to those whose fax number was obviously corporate #. Just sent single page drawing to the others. If you don't get your fax , email me again with more routing info, and I'll try to put together good cover page.

Rob.

1323. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: mreising@aol.com
Message-ID: <51tva8$eoj@newsbf02.news.aol.com>
Source record: 102354

You can find it in hardware stores in spray cans. Look for it where weatherstripping and insulation is sold. One of the brand names is Great Stuff Foam Sealant. It will take several cans to fill a suitcase, so buy plenty before you start, you don't want to have to redo it when you run short. 73 De Mark, WB9BVV

1324. Re: Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: hror1@pta6000.pld.com
Message-ID: <51ttfn$tb8@news1.pld.com>
Source record: 102355

> and@pacifier.com writes:
> In a previous posting, someone claimed that JAN Crystals were of poor
> quality- and that one was better off buying from International Crystal.
>
In the past I've used both. I've never had any problems with either. I generally lean toward Jan as they
are alot less expensive. Kendall Herrick KB0BUG

1325. Re: boatanchors vote

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: wa5dxp@worldnet.att.net
Message-ID: <51u48p$o7d@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 102356

Jim <jstrohm@texas.net> wrote:

>The first CFV for the boatanchors newsgroup has been issued.

>Regardless of how you feel about this group, please take a moment
>to locate the CFV and respond to it. It is titled:

> CFV: rec.radio.amateur.boatanchors

>and is on the following newsgroups:

> news.announce.newgroups, news.groups, rec.radio.amateur.misc
^^^^^^^^^^^^^^^^^^^^^^

Just wanted to tell you it is not on this newsgroup, no new stuff in
that group lately.

73,

1326. Re: what is the "call" channel?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960920112501.18792A-100000@primeline.net>
Source record: 102357

On Wed, 18 Sep 1996, David Feldman wrote:

> It's usually a programmed frequency, often that can be scanned "in the
> background" while listening elsewhere (i.e., the radio occasionally
> polls the "call channel" a few times per second looking for activity).
>
> In Japan where all operations are 144-146 MHz simplex, the call channel
> seems to be by default 145.000 MHz.
>
> 73 Dave WB0GAZ dgf@netcom.com

The Call memory may also refer to a memory channel,which is easy to access
with one button press (sometimes it may also be on the mic)

What WB0GAZ described is priority (which could be the same memory channel
os call).

Gary Tait , VE3VBF

1327. Re: HTX 202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960920113138.18792B-100000@primeline.net>
Source record: 102358

On Tue, 17 Sep 1996, J.Larry Taylor wrote:

> Are there any mods for the Realistic HTX 202? I want to expand the recieve
> frequencies. Please e-mail answer if possible. Thanx!

There are 2 solutions to your problem:

1: Buy a scanner to recieve frequencies the '202 doesn't cover

2: Buy /build a convertor the convert frequencies to frequncies th '202
DOES cover.

Sorry there is no direct method to make the '202 recieve "out of band"

Gary Tait , VE3VBF

1328. Frequency Standards (update)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <mBozWJADqrQyEwF5@ddwyer.demon.co.uk>
Source record: 102359

I am an OCXO designer, I have a quantity of unused oven Controlled
Crystal Oscillators (OCXOs) at 16.384MHz these units came on the market
very cheaply, no one else knew what they were;
I bought the lot.
Units are in metal boxes hermetically sealed with pins for PCB
mounting, I have an off air standard here and can calibrate ie ship with
information on what voltage to set to give frequency to +-0.1ppm when
you connect up.
This calibration should be good to better than 0.5ppm over the next few
years and 0.1ppm for a year or so.
Dimensions 75X50X30mm
These divide by 2 to the power 14 to give 1 kHz to function as the
reference for frequency synthesisers as used in instruments, radio,
cellular, TV Transmitters..
Oscillators are stable to 1 part in ten to the nine i.e. 0.001ppm.over
a wide temperature band.
Excellent spectral purity, measurement repeats to 0.0001ppm per
second.
Will operate over -40+70C
12 V supply 600mA on warm up. 1200mA when running@23C
Output 1.5 v Peak to Peak sinewave AC coupled, 50 ohms source
resistance.
Built in 8V reference so that fine frequency adjustment can be
carried out with external potentiometer.

These units are latest technology incorporating SC cut low ageing
crystals ageing rate reduces logarithmically and can be expected to
age no more than 0.5 ppm over the next 5 to 10 years, inital ageing
already complete as units are over 1 years old.
Units within +-0.01 ppm after 10 minutes perhaps better.

Sold at approx 10% of manufacturers price.

Supplied tested with connection diagram.
Plots of SSB noise measured on HP3048 available soon,
Simple synthesiser circuit diagram (using MC145151.2p) to convert to
10MHz for use as counter standard supplied if required.

1 off price from FP Ltd. $75. Post 1 or two units Swiftair registered
to US add $15 Please make $90 cheque or 55pounds sterling cheque to
Frequency Precision Ltd.
Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,

TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_Precision/

1329. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <51ufmr$p72@li.oro.net>
Source record: 102360

skerns@mail.talon.net (Steven Kerns) shared these priceless pearls of wisdom:
->Dave,
->Too many HAMs quit building kits, Heathkit went out of business...
->73 Steve N3FTI

->In article <51rab5$ni0@lex.zippo.com>, dgreiner@utep.edu says...
->>
->>I'm sure this question has been asked, but whenever you look at ham
->>books from 15+ years ago, everyone has always got a heathkit
->>something. Whether it be a transmiters/receivers all the way down to
->>test equipment. So it raises the question, what ever happened to
->>the heathkit co.??

Well...that's not exactly the reason. Heath was originally a homebuilt airplane designer that sold a few parts to build airplanes (Heath Parasol etc.). After WWII, Ed Heath found hundreds of thousands of oscilloscope tubes on the surplus market -- not the instruments, just the CRT. RCA at the time held the patent on virtually all vacuum tube circuitry, and every radio manufacturer in the world paid a royalty to RCA for the use of the vacuum tube patents.

Heath found, and truly so, that if you simply sold PARTS and not completed radios or instruments, then the final manufacturer of the "radio" was the one who owed RCA the patent money. RCA wasn't about to go out to Joe Belchfire's garage and ding him a dime for putting together an oscilloscope, so Heath started out life making low-cost test equipment kits.

Test equipment worked it's way into ham gear, then "hobbyist" equipment, and finally into mainstream electronics -- tv's, hi-fi, and so on. It is when Heath went up with a $100 kit against K-Mart with a $49.95 prebuilt stereo that they went belly-up.

Look at the last of the H'kit catalogs. Lots of computer, tv, stereo, and all the stuff you can buy down at Circuit City for half the price. Their ham and test equipment pages went down and down until they were little more than appendages of the catalog.

I feel honored in that Heath came out with an aircraft clock to compete with RST's clock about 6 months after we introduced our kit. I can only giggle that they used the SAME chip that I used in my clock and made the SAME inadvertent error in the circuit layout. Now I'm not saying that I was copied, but...{;-)

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

1330. Re: Manual for Hewlett-Packard 415B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-2009961312240001@brainiac.hi.com>
Source record: 102361

For original HP manuals at nominal prices try:

Ed Matsuda
P.O. Box 390613
San Diego, CA 92149
(619) 479-0225

Also check out http://www.paranoia.com/~filipg/HTML/REPAIR/F_Manuals.html

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1331. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: jimm@teleport.com
Message-ID: <51um6u$bek@nadine.teleport.com>
Source record: 102362
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

bjrehm@most.fw.hac.com (bjrehm) wrote:

>I am looking for design ideas, schematics, suggested sources, and
>performance reports for active antenna designs. I would like to
>build my own for home and mobile SWL use.

>Thanks,

>Brian

A good article appeared in Ham Radio Magazine, May 1986 on
active antenna preamps using VMOS FET's. I built some when
i was in an urban apartment situation and they worked exceedingly
well. Article author is R.W. Burhans, who seems to be an authority
on active antenna design, I have seen other articles by the author
in other more academic texts.

Jim McVein
jimm@teleport.com

1332. Re: Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDy1rCq.3o4@netcom.com>
Source record: 102363

In article <dgfDxysBI.vv@netcom.com> dgf@netcom.com (David Feldman) writes:
>An amplifier recently purchased arrived with an open filament 8877. Whether
>caused by mishap in transit or other means will probably be a mystery, but
>I'm now wondering what use (if any) can be made of such a tube? Any ideas?

The original shipper of the amplifier is assisting me with recovering from the mishap, but I thought I'd share the following info supplied by Cliff, K7RR, cbuttsch@slonet.org:

>Unfortunately, David, that happens rather often. Many of us have survived
>for years with 8877 tubes that have been discarded when the filament opens
>up. The cause usually is a bad spot weld on the filament support.....but
>then who cares about the theory when the tube is bad anyway. Mechanical
>shock will usually reconnect the filament but remains connected only as
>long as the voltage continues to be applied. So for the ham, beat on the
>fool thing until the filament connects by showing current and then operate
>until you must disconnect. Then repeat the next night! Cliff K7RR

(and...)

>I was delighted to relate how "us poor folk" get on two
>meters with a whapping signal. Be careful how you beat on the tube---high
>voltage of course. Cliff K7RR

Thanks, Cliff, for interesting info!

73 Dave WB0GAZ dgf@netcom.com

1333. Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199609202036.QAA23531@service1.cc.uky.edu>
Source record: 102364

>Date: Thu, 19 Sep 1996 05:23:42 GMT
>From: dgf@netcom.com (David Feldman)
>Subject: Use for open-filament 8877?
>
>An amplifier recently purchased arrived with an open filament 8877. Whether
>caused by mishap in transit or other means will probably be a mystery, but
>I'm now wondering what use (if any) can be made of such a tube? Any ideas?
>
>73 Dave WB0GAZ dgf@netcom.com
>
EIMAC rebuilds some tubes. I don't have the list of tubes that they
rebuild but at least the larger tubes such as the 3CX15,000A7 the
rebuilt one is about half the price. The part number is the
same except that it has an "R" after the normal part number.
I just checked a couple of weeks ago about this.

73 Bill wa4lav

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

1334. Re: Filter k & q derivation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <51v8kn$2v4@hpscit.sc.hp.com>
Source record: 102365

In article <199609200025.TAA20811@tri.net>,
Lawrence Stoskopf <stoskopf@tri.NET> wrote:
>Have been playing with some various XTAL filter designs. I have Zverev's
>excellent standard, but would like to do one with more poles than in his
>tables, especially the gaussian and gaussian to -12 dB. Anyone know how to
>calculate the k & q values? I suspect I'm looking at the method in his book

If, for the filter your want, you have the component values of
the low pass prototype, the k values are simply the reciprocal of
the geometric means of each pair of adjacent elements. The q
values are simply the loaded Q's of the end elements (X/Ro).
Compare the k and q values for a simple Butterworth with the
component values, and you'll see what I'm talking about.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1335. 900 mhz cordless microphone...build?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: anon@anonymous.com
Message-ID: <32442492.2226466@news1.on.sympatico.ca>
Source record: 102366

Does anyone know of a www site or an ftp site that has plans or
schematics for building a 900 mhz cordless micrphone?
Thanks.

1336. Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <51vdsc$b9p@herald.concentric.net>
Source record: 102367

HI! I have an application to track down a +5volt rail SHORT on
some computer equipment. I have a FLUKE model 77 DVM. Any ideas
on a good circuit to built up to to use as an add-on for this?
I'd like to hear your suggestions, rather then plunge head-first
into a pile of old ham mags.

Thanks,
Bill-WB9BBC

--
Wm Kresl
WB9BBC @KD9JK.WI.USA.NOAM
Delavan, WI USA

1337. Mid Atlantic VHF conf & Packrats Hamarama announcement

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Sep20.101552.645@main03>
Source record: 102368
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

*** Mid Atlantic VHF Conference ***

The 20th Annual Mid-Atlantic States VHF Conference sponsored by the Mt. Airy VHF Radio Club will be held on Saturday, 5 October at the Days Inn in Horsham PA. Technical presentations relating to VHF/UHF/SHF weak signal operating will begin at 9AM.

The Days Inn is located just north of exit 27 (Willow Grove exit) of the PA Turnpike, just north of Philadelphia, in Horsham, PA. Rooms at the Days Inn can be reserved by calling 215-674-2500. Mention Pack Rats for a discount. The Days Inn is filling up quickly, so reserve soon. Additional lodging is available in the Horsham area: Holiday Inn Trevose (215) 364-2000, Marriott Willow Grove (215) 830-0550, Hampton Inn Willow Grove (215) 659 - 3535, Warrington Inn (215) 343-0373.

*** HAMARAMA ***

On the following day, Sunday 6 Oct. the Packrats will have their annual hamfest at the Bucks County Drive In Theater, about 5 miles north of PA Tpk. exit 27 on Rte. 611. Talk-in on 146.52 simplex and the club repeater on 224.58.

Ron, WZ1V has placed the flyer for the events, including a preliminary list of presentations, on the N.E.W.S. Group web page:
http://uhavax.hartford.edu/~newsvhf/hamarama.html

For more information on the technical conference or a possible presentation slot, contact John Sortor, KB3XG, at 610-584-2489 or at JohnKB3XG@aol.com.

** Preliminary Conference Agenda **

SPEAKERS TOPICS

KD1DU, Del Schier - Introduction to 10 GHz Equipment and Operation

WB6JJN, Jim -Amateur Satellites:Modes, Bands,& Issues @ VHF thru Microwaves

AJ3K, Jim Rautio, Sonnet Software - 3-D Planer Electromagnetic Design

WA1YHO, Gary Dallas - Using YO & AO to Optimize a 6M Antenna System

N1DPM -Introduction to VHF/UHF Weak Signal Operating

Harvey Kaylie, Mini-Circuits Laboratories

WB2SON, Richard Fiore - American Technical Ceramics

W3ZZ, Gene Zimmerman - 40 Years of Contesting

Preliminary schedule of events:

Friday, October 4, 1996
5pm to 11pm - Out of town guests arrive, check in.
The 2 meeting rooms be used as a hospitality suite. The Pack Rats will provide snacks & beverages

Saturday, October 5, 1996

9am to 12pm Morning conference session.
12pm to 1pm Lunch break
1pm to 5pm Afternoon conference session.
5pm to 7pm Hospitality suite.
7pm to 9pm Dinner/Banquet
9pm to 11pm Hospitality suite.

Sunday, October 6, 1996

6am to 10am Check out
7am to 3pm Hamarama at the Bucks County Drive In

73!
W3IIT & AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

1338. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <51sur0$g7j@news.Hawaii.Edu>
Source record: 102369
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
> ...<SNIP>
>
>I think you see CW transmitters as the most common because that's all
>you do, so your vision is a bit myopic on the subject of home constructed
>equipment (or you may be insisting on a purist definition of homebrew which
>doesn't admit anything but an original design by the home constructor). If
>you were active on other modes, you might find that there is quite a bit of
>building going on for them as well. Probably only at microwave, and for ATV,
>is homebrew the majority course, but it is alive and well on most of the
>other modes, not just among CW operators.

You can quote sales figures of parts being sold but you can't conclude
the projects those components are supposed to go into are ever completed
or even started. Sales of parts doesn't give a very accurate account of
homebrewing. But, hearing comments of what folks are building naturally
enough does gives an account of the general trend in homebrewing.

Now, I think we're going to have to redefine "homebrewing" - I've got
an article here from QEX titled The Ultimate VFO (April 1996); the
circuit contains two major ICs, a clock module, a handful of resistors,
and a few push-button switches. Is snapping ICs into sockets considered
homebrew? I'll say "no", and call something like this a kit, instead.
I'll snap it together but won't make any claim that I homebrewed a
VFO. I've homebrewed VFOs before from scratch and this project won't
begin to come close to the detailed work that those necessitated. And
it won't be as rewarding, either.

Jeff KH2PZ / KH6

1339. AM Synch det. sch. sent out

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: And@idb.nl
Message-ID: <9A8E2735@idb.nl>
Source record: 102370

Message sender : and@pacifier.com

Got about dozen requests to previous post about offering to fax out schematic for my DMOS S/H Synch AM demod ckt.

Sorry if that one guy (name withheld) got about 15 aborted phonecalls, as I spent 2 hours tearing apart my XEROX fax machine and cleaning rollers, etc with alcohol (should have drank it instead).

Turns out I spent two hours screwing around trying to send out the first fax, not realizing the telephone line and phone line output connectors were reversed on back of fax machine. :) :)

Here have Power Mac clone worth more than my car, but is useless when trying fax out from hardcopy without scanner. Guess those days of cut-and-paste schematics are catching up to me.

As I was tired when first fax finally went out, tried to make cover letter to those whose fax number was obviously corporate #. Just sent single page drawing to the others. If you don't get your fax , email me again with more routing info, and I'll try to put together good cover page.

Rob.

1340. Re: Need Help with building a discone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: cg057@cvip.csufresno.edu
Message-ID: <51umvg$pfg@zimmer.CSUFresno.EDU>
Source record: 102371

In article <DxvJ0A.BvK@pe1chl.ampr.org>, rob@pe1chl.ampr.org says...
>
>In <323BA75C.3F62@hevanet.com> "miker in Tigard, OR."
<mreiney@hevanet.com> writes:
>
>>I want to build a discone for my frg9600. I thought i'd make
>>it out of .2" dia aluminum rod that's in the junk box.
>
>>The disk and the cone designs are easily determined from
>>engineering handbooks. But they don't say much about what goes on
>>at the apex of the cone. Sounds like the cone should go to a point
>>if possible. But you have to stick a support pipe up the middle.
>
>
There was a good article on building a discone antenna in the Sept. 87
issue of 73 magazine if you can find a copy, I can copy the article if
you need it. I built this design and it works great. It was fairly
inexpensive and used brass pipe fittings and brazing rods for elements.
No lathe required, just a decent drill press and taps. I spray painted
my antenna white after construction to weatherproof it as brazing rod
tends to rust over time.

Kim Gibson, N6JQG

1341. BEYOND TECHNOLOGY

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-20 00:00:00 UTC
From: GetFree@mail.com
Message-ID: <3243167D.BB6@mail.com>
Source record: 102372
Cross-posted to: rec.photo.technique.nature,rec.photo.technique.people,rec.radio.amateur.homebrew,rec.sport.baseball.college

Taking 5 minutes to read what follows can change your life :

I saw an article in an internet newsgroup telling me I could make $50,000 within a month for an investment of only $5.

I thought it was a huge joke. I spoke to my wife, attorney and friends about it, and they all agreed it was some kind of scam. I can't stand scams, because usually someone gets burned, and I didn't want it to be me. Of course, I rejected the idea at first. after a short period of about two weeks ,I thought : "I have already heard of such things. But on the Internet ?!?!? ". I decided that even if I had to throw $5 into the fire, I wouldn't mind it that much, and gave it a try .After all I needed a LOT more than five dollars.

Two weeks later, I began receiving money -- every day! I could not believe it! Soon, hundreds, and then thousands of dollars began to roll in. Within 4 weeks, I had received a total of $32,445! It came from everywhere in the world. My bank account has changed its "-" into a big "+" (++++)!!!,I bought myself a car and things I wanted for a long long time for my wife and kids!

If you follow the three steps below, there is no reason why the same shouldn't happen to you! This is a legitimate investment opportunity. You invest $5, and you receive a return on your investment. So does the next investor. NOT ILLEGAL, NOT A CHAIN LETTER- PERFECTLY LEGITIMATE.

If you are not interested, then don't participate, but please print this article and pass it on to someone who may be interested, so they can take advantage.

The procedure is simple: 1) Write your name and address, an e-mail address, and the name of the newsgroup where you learned of this on 5 sheets of paper. Below that, write the words, "Please add me to your list." Fold $1 note or bank draft or money order in each piece of paper and send them to the following 5 addresses.:

1. Oleg Gorbik,
10834-97 St.
Edmonton, AB, T5H 2M3 CANADA

2. Nir Levi,
PO BOX 342

Yavne, ISRAEL

3. Landon
#1 Lakeway Drive
Conroe, Tx 77304 USA

4. Olivier Arcadipane
237 rue Francois Andre
7390 Quaregnon BELGIUM

5. Beyond Technology
5641 Apgar Street
Houston, Texas 77032 USA

2) Now remove the top name from the list, and move the other four names up. In other words, #5 becomes #4 and so on. Put your name as the fifth one on the list. Use a simple text editor such as Notepad, in your "accessories" window (If you have MS-Windows),or DOS editor. In fact, any editor will do.

3) Post the article to at least 200 newsgroups. There are 17,000, so it shouldn't be hard to find that many. Try posting to as many newsgroups as you can, and the bigger the newsgroup is, the more people are to see your message!

You are now in the an order services business, and should start seeing returns within a week or two. Of course, the more newsgroups you post to, the greater your return is. If you wish to remain anonymous, you may use a psuedonym, call yourself "The Manager", "The Boss", whatever but make sure your address is correct.

Now, here is why the system works:

-Of every 200 posts I made, I received 5 responses. Yes, only 5. You make $5 for every 200 posts with your name at #5.

-Each person who sent you $1 now also makes 200 additional postings with your name at #4. ie. 1000 postings. On average therefore, 50 people will send you $1 with your name at #4. $50.

-Your 50 new agents make 200 postings each with your name at #3 or 10,000 postings. Average return 500 people = $500. They make 200 postings each with your name at #2=100,000 postings=5000 return at $1 each=$5000.

-Finally, 5,000 people make 200 postings with your name at #1 and you get a return of $50,000 before your name drops off the list. AND THATS IF EVERYONE DOWN THE LINE MAKES 200 POSTINGS! Total income in one cycle=$55,000.

From time to time, when you see your name no longer on the list, you take the latest posting that appears in the newsgroups, and send out another $5, and put your name at #5, and start posting again. Remember, 200 postings is only a guideline. the more you post, the greater the return.

Lets review why you should do this. THE ONLY COST IS $5. Anyone can afford $5 for such an effortless investment with such SPECTACULAR RETURNS.

Some people have said to me, "what happens if the scheme is played out and no one sends me any money? "Big Deal, so you lose $5-but what are the chances of that happening ?? Do you Realize that NOBODY cares for the LEGAL chance of winning such a BIG money as 50,000.00 $$$$???? and all for a microscopic investment of five separate dollars? just think of all of the new Internet users that join the net every day!!!

There are millions of internet users, and millions of new net surfers every month !!! This is the great plus of the Internet, people all over the world can hear you and listen carefully if you talk reasonably. Everyone will take that chance ! I agree, If it wasn't the Internet, and was a small circle of people, the chance wouldn't have been so small. the amount of money had to be 200 times bigger, and the chances were zero. It wouldn't succeed.

But here, on the Internet, it is a giant village, where new thousands of members join in every day ! you CAN'T lose !!!!

Remember- read the instructions carefully, and play fairly. That's the only way this will work. Get a printout so you can refer back to this article easily.

Try to keep a list of everyone that sends you money and always keep an eye on the postings to make sure everyone is playing fairly. You know where your name should be.

REMEMBER-HONESTY IS THE BEST POLICY. YOU DO NOT NEED TO CHEAT THIS IDEA TO MAKE MONEY!! BESIDES,NOT PLAYING THE GAME FAIRLY IS ILLEGAL.SO LET'S BE REASONABLE AND PLAY FAIRLY,SO WE CAN ALL ENJOY THE INTERNET GOLD MINE.

GOOD LUCK FOR YOU ALL, And remember, play fair and you'll win, I don't want to mention what might happen to those who won't. AND AGAIN,SEE YOU NEXT TIME WITH SOMETHING YOU WANTED FOR A LONG TIME !!!

1342. Re: grid leak ? part II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <521b20$2pa@news.calweb.com>
Source record: 102235

jwg6@cornell.edu (Joel Govostes) wrote:
>Forgot about my other question:
>
>When the tuned-circuit/antenna side of the grid-leak-capacitor is "+",
>then electrons rush from the grid onto the nearest side of the capacitor.
>Doesn't this make the grid itself less negative, and cause grid current to
>flow??
>
>The books say that such a detector produces little or no grid current.
>Seems to me that every other half-cycle of the input signal would cause
>grid current to flow (electrons being attracted to the grid itself).
>Thanks for any help on this, JWG

When the grid goes positive it collects electrons which then
makes the grid more negative. The result is the grid voltage follows
the peak positive value so the sum of the input and the negative
grid voltage is near zero.

The old tubes did not have a good vacuum and the grid leak had to
be selected to match the tube that was in use. They were some
times arranged as plug-in units.

Bill K7NOM

1343. Re: Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: orion@capital.net
Message-ID: <521e7i$1u8@Usenet.Logical.NET>
Source record: 102236
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

>In <51p2v7$6qt@mgate.arrl.org>, Ed Hare <ehare@arrl.org> writes:
>>
>>It is my personal opinion that Morse Code is important to the Amateur
>>Radio Service for a number of reasons. The most important is that it is
>>apparently important to a significant number (significant is not
>>necessarily defined as a majority) of us. The alternatives proposed are
>>important to a significant number of us, too, so those who are proposing
>>solutions that do not consider the needs or wishes of others with
>>alternative views are proposing solutions that are more divisive than
>>useful.
>>

>So the code should be forced down everyone's throats, because SOME
>SEGMENT of the ham community views it as "important" (to them).

>That makes ZERO sense, Ed ... how would the CW folks like it if the
>digital folks forced a test in coding software algorithms for DSP on
>them? After all, those skills are *important* to a(n ever-growing)
>group of hams ...

>Sounds like a *practical* test to me ... write some software routines
>that implement an FFT, a Hilbert transform, do some digital modulation
>and demodulation, complex filtering, etc. ... maybe even implement
>some convolutional codes and a Viterbi decoder or two ... Would the CW
>folks find this an appropriate *pass/fail* test element? (If not, WHY?)

>I would submit that jaming things that they don't consider relevant down
>people's throats will *always* generate some "devisive" feelings on the
>part of the "jamee" ... yet that's what the code folks have been doing
>to everyone for years and years ... and we're sick and tired of it ...
>to quote "Network" ... "We're mad as hell and we're not going to take it
>any more!"

>If that's "devisive," so be it ... I guess we need some "dividing" ...
>it's not always bad to stir things up a bit ... unless all you care
>about is maintaining the status quo at all costs ...

>Carl - wa6vse

Well said, Carl. I agree 100%. The trouble is though, things will
never change as long as the CW loving ARRL is running the show.BTW, I
resigned from that lofty organization last year just because of their
assinine stand on code requirements. And for the "Try CW, You'll
learn to love it!" group, I say "Nuts to you." I worked on that damn

Morse Code until it made me sick. It's still just noise to me. Now I'm forever locked out of the HF spectrum because of this discriminatory rule.
Butch N2YMJ

1344. Re: grid leak ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <521fa8$2ta@dfw-ixnews2.ix.netcom.com>
Source record: 102237

In <jwg6-2109961030350001@cu-dialup-1019.cit.cornell.edu>
jwg6@cornell.edu (Joel Govostes) writes:

<...questions about grid-leaks removed...>

I've always found grid-leak biasing a little mysterious myself, maybe due to the different explanations I've read, but I'll give it a try:

The reason a grid-leak detector detects is that it is operating near the plate-cutoff "knee" of its curve, so the positive half-cycles of the incoming signal produce a greater increase in plate current than the negative half-cycles decrease it, resulting in an output that more-or-less follows the modulation. The purpose of grid-leak biasing is to automatically bias the tube into the knee region. With a theoretically perfect diode such biasing wouldn't work -- the grid would bias itself to the level of the incoming signal and no more. However, due to the impact of electrons travelling to the plate upon the grid, grid current flows in a tube when the grid is still slightly negative WRT the cathode. This one-way current flow "ratchets up" the negative voltage on the grid condenser (keeping with the old terminology) until, with the reduced plate current and the increased grid-leak current caused by the higher negative grid bias, an equilibrium is reached. This point depends on the tube and the grid-leak resistance chosen. The time constant of the grid circuit is typically on the order of 100 uS (e.g. 50uuF, 2 Mohms), so the grid voltage can change fast enough to follow the signal modulation.

Hope this sheds more light than heat...

(BTW, there's a mailing list for tube homebrew called "glowbugs". Subscribe by sending the message "subscribe" to listproc@theporch.com and join in the fun.)

73,
Mike, KK6GM

1345. Gin-Pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Rocci <rocci@worldnet.att.net>
Message-ID: <324447AE.6170@worldnet.att.net>
Source record: 102238

Has anyone seen a published design for a decent gin-pole that can be constructed with commonly available tools and parts? If so, which publication, year month, etc.?

Joe
WA3CMQ

1346. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <520s30$h80@nadine.teleport.com>
Source record: 102239

In article <3243BAEF.54A6@worldnet.att.net>,
Woody White <woody.white@worldnet.att.net> wrote:
>If all else permits.... connect a current controlled DC power supply
>across the rail (to gnd). Apply as much current through the rail as it
>will tolerate without damage *a welder might be a bit unreasonable :-)*
>Meassure voltage drops along the rail and perhaps you can detect where
>along it's lenght the short is.
>my .02.... Woody
>
>
>William Kresl wrote:
>>
>> HI! I have an application to track down a +5volt rail SHORT on
>> some computer equipment. I have a FLUKE model 77 DVM. Any ideas
>> on a good circuit to built up to to use as an add-on for this?
>> I'd like to hear your suggestions, rather then plunge head-first
>> into a pile of old ham mags.

Before you connect the supply, blast the board with spray cold. (It's Freon in a can -- you can get it at an electronics supply store.) Spray the board until it's frosty. Then when you hook up the supply, look for the place the frost melts.

The method I've used with the most success with shorted ground and power supply planes is to drive the shorted areas with a signal generator at about 50 kHz, then sniff around with a physically small inductor of several hundred turns on a ferrite core hooked to a 'scope. The AC current will follow a more-or-less straight line from the signal generator to the short and back. At 50 kHz, the signal will penetrate outer planes reasonably well, so it works even for inner planes.

Roy Lewallen, W7EL

1347. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: jedent@phoenix.net
Message-ID: <jedent.46.001B5D73@phoenix.net>
Source record: 102240
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <51efhs$dq5@sjx-ixn6.ix.netcom.com> kc5egg@ix.netcom.com(Gerald Schmitt) writes:
>From: kc5egg@ix.netcom.com(Gerald Schmitt)
>Subject: Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks
>Date: 14 Sep 1996 14:30:20 GMT

>In <tgmDxpB68.9BD@netcom.com> tgm@netcom.com (Thomas G. McWilliams)
>writes:
>>
>>Ed Mitchell (vbook@vbook.com) wrote:
>>: 14 year old Subaru Takahashi is making a solo crossing of the
>Pacific Ocean
>>: from Japan to the United States - in a 30 foot yacht. According to
>Masa
>>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been
>heard since
>>: August 18th.
>>
>>Most probably, Master Subaru sleeps with the fishes.
>>Talking to a dead man on ham radio--now that would be some DX!
>>But what a great QSL card . . .
>>

>Boy Tom you are some piece of work; the guys asks for help and this is
>what you come up with. What ever happened to the amateur service
>creedo. You know Sakamoto san's family could just easily read this,
>talk about ugly Americans. You sir are an embarassment to the hobby.

The saying is "..takes all kinds" .Is'nt that a shame?

1348. Grid leak in simple rcvrs (???)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: jwg6@cornell.edu
Message-ID: <jwg6-2109961018530001@cu-dialup-1019.cit.cornell.edu>
Source record: 102241

I have a question about the grid-leak in a triode receiving tube such as was used back in the 20s/30s.

Say you have a triode and are using it as a detector. The antenna is coupled to a L/C variable tuned (parallel) circuit. This tuned circuit connects across the input of the triode, grid to cathode. Now the antique radio books show the connection to the GRID as interrupted by a grid-leak capacitor. Across the capacitor is connected a resistor of high value.

I don't understand how this detects. From what I can see, you want the grid voltage to vary at audio freqhencies, so that the plate current on the tube will also vary at audio frequencies. Then the output of the tube drives the headphones with the original AF modulation that was "riding" the carrier at the transmitter.

How does the grid-leak capacitor+resistor cause the grid voltage to vary in this way?

When the tuned-circuit/antenna side of the grid-leak capacitor is "+", then the grid-side of the capacitor is "-". (At this point electrons are being removed from the grid to the nearest side of the capacitor). So now the grid is more positive. The plate current increases.

During the next half-cycle (rf), the tuned-circuit/antenna side of the grid-leak capacitor is "-". Electrons leave the grid-side of the cap and are forced back onto the grid. Now the grid is more negative. Plate current decreases.

What does the grid-leak resistor do, in the meantime? When does the capacitor discharge across it, and how does this accomplish detection? Over a period of time it would seem that the grid would get more and more negative and eventually cut off plate current. How do you "know" when the grid-leak-capacitor will discharge thru the resistor???

Thanks for any help on this. It is very fundamental, but the books I've found don't explain very well what's going on, and how you can get away without using a grid bias battery. 73, JWG

1349. grid leak ? part II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: jwg6@cornell.edu
Message-ID: <jwg6-2109961030350001@cu-dialup-1019.cit.cornell.edu>
Source record: 102242

Forgot about my other question:

When the tuned-circuit/antenna side of the grid-leak-capacitor is "+",
then electrons rush from the grid onto the nearest side of the capacitor.
Doesn't this make the grid itself less negative, and cause grid current to
flow??

The books say that such a detector produces little or no grid current.
Seems to me that every other half-cycle of the input signal would cause
grid current to flow (electrons being attracted to the grid itself).
Thanks for any help on this, JWG

1350. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: pierretr@collegebdeb.qc.ca
Message-ID: <5211mo$fng@wagner.spc.videotron.ca>
Source record: 102243

In <51vdsc$b9p@herald.concentric.net>, wmkresl@townsquare.net (William Kresl) writes:
>HI! I have an application to track down a +5volt rail SHORT on
>some computer equipment. I have a FLUKE model 77 DVM. Any ideas
>on a good circuit to built up to to use as an add-on for this?
>I'd like to hear your suggestions, rather then plunge head-first
>into a pile of old ham mags.
>
>Thanks,
>Bill-WB9BBC
>
>
>
>--
>Wm Kresl
>WB9BBC @KD9JK.WI.USA.NOAM
>Delavan, WI USA

Computer power supplies can light up a car headlight without shutting down.

I would cut the 5 volt supply wire and insert that or a 12V 5A halogen bulb in series.
It will feed enough current into your short yo can

1- Feel around the board for an overheating chip and

2- mesure a few millivolts on your 5 volt shorted line:
when it says 0.00 milivolts you must not be very far from your short!

Pierre Tremblay VE2BRD
Professeur de Physique au college de Bois-de-Boulogne

President, le Club des utilisateurs d'IBM PC de Montreal

1351. New DX Web Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <32441852.54D7@ix.netcom.com>
Source record: 102244

Since Netcom gave me a free web page, -- I have made one!!
Devoted to DXing and contesting -- I hope you find it useful.

In addition to the usual, have included Q-Signals, Cw Abbreviations,
Tech and antenna data, DX Clubs, and info on the San Diego area if you
visit Southern california this year.

Comments and suggestions very welcome.

AC6V's DX Reference Pages at URL:

http://www.netcom.com/~ac6v/index.html

73 es Gd DX
Rod in San Diego
--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

1352. Zero Bias Schottky ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Simon Bosworth <simonb@primenet.com>
Message-ID: <324487EE.11CE@primenet.com>
Source record: 102245

I am looking for somewhere to get a zero bias schottky diode for a homebrew power meter. The RSGB microwave
handbook Vol 2 mentions an Alpha type DDC4562. Any ideas on where to find this part, (or equivalent) ?

Thanks,
Simon N0EPW

1353. Does anybody know what a D2824C is?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Dan Puckett <dpuckett@erinet.com>
Message-ID: <3244B3F9.296E@erinet.com>
Source record: 102246

I've been playing at converting a Rat Shack CB to 10 meters. The PLL in the synthesizer is marked D2824C with what looks like a manufacturer's logo that is a stylized "NPC". What is this little beast?

73 and thanks in advance,

Dan WD8AAU

1354. Re: ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960921123221.7934A-100000@ban.libertel.montreal.qc.ca>
Source record: 102247

On Sat, 21 Sep 1996, Rodney Isom wrote:

> I'm in the process of building the RF attenuator shown in the 1995
> ARRL handbook to use for foxhunting (the one made with double sided PC
> board and switches, not the active one).
>
>
> Also, the plans say to solder brass nuts inside the enclosure to screw
> the screws into. Is it critical that these are brass & not some other
> metal?

I think the reason that the nuts are listed as brass is because brass is easy to solder to. I don't have the article, but I assume the nuts are fixed in place for ease of assembly. If you can't solder them in place because they are made of something that can't be soldered to, then you'd have to use something like glue to hold the nuts in place, and that would not give a good electrical connection, which might be desired for shielding purposes.

If you have problems finding brass nuts (I've never looked for them), try a hobby shop. I've bought brass tubing and small pieces of brass sheet there for various homebrew purposes.

Michael VE2BVW

1355. FS:Heathkit Crystal Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: gregwj@cwo.com
Message-ID: <521pmm$27q@news.xmission.com>
Source record: 102248
Cross-posted to: rec.radio.amateur.homebrew,rec.ham-radio.swap,rec.radio.swap

Heathkit PN 404-284-1 and 404-283.Crystal Fileter assemblies plus swithces, caps and resistor as originallyinstalled. Just pulled from old SB-101 chassis.

Fifteen Dollars (US$) for the two and I pay shipping anywhere in US or Canada
Greg KB6WKW

1356. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: rs@ham.island.net
Message-ID: <qX1muD4w165w@ham.island.net>
Source record: 102249

dgreiner@utep.edu writes:

> I'm sure this question has been asked, but whenever you look at ham
> books from 15+ years ago, everyone has always got a heathkit
> something. Whether it be a transmiters/receivers all the way down to
> test equipment. So it raises the question, what ever happened to
> the heathkit co.?? They obviously made money as well as building a
> name for themselves. Hell I love the way heathkit equipment looks
> (but than again I love the way all old eqipment looks ;>
> If anyone nows the answer I'd be very interested in knowing it.

Well, they basically priced themselves out of the market. Why would you spend a lot of time building equipment that wasn't as good as stuff you could buy off the shelf for less?

The reason kits were made in the first place was because hams liked building them, and minus the labour of assembly, they could be sold cheaper than ready built items. (And hams were always...errr frugal)

By the 1970's there was no longer any financial advantage in kits.

> 73,
> -David-
> KC5WDR

rs@ham.island.net __|
Robert Smits _/. |\
(VE7HS) CQ CQ CQ !!! < (0)
_ /__ |
( ) <_______/
\ \/ __

1357. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <520vtb$nsn@news1.total.net>
Source record: 102250
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Oops! Sorry for the multi-posting... (and I won't repeat..) H.C.

1358. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDy57xE.CtB@netcom.com>
Source record: 102251

in <51vdsc$b9p@herald.concentric.net>, William Kresl wrote:
: HI! I have an application to track down a +5volt rail SHORT on
: some computer equipment. I have a FLUKE model 77 DVM. Any ideas
: on a good circuit to built up to to use as an add-on for this?
: I'd like to hear your suggestions, rather then plunge head-first
: into a pile of old ham mags.

There's audible millivolt meter designed for that purpose in
"Troubleshooting Analog Circuits" by Robert Pease. Figure 2.9.

A great book, too.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1359. Re: Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <3244355B.1ABE@tir.com>
Source record: 102252

My own experience with Jan crystals:

They failed to work in cold weather 100%.

They failed to work at all - 10%

I buy from Sentry Manufacturing. They work 100%... under all conditions I have exposed them to. That is just my experience, but that is the experience that counts for me.

Bill KU8H

1360. Serching for I/F details

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: dbseh@mbox.vol.it
Message-ID: <5208ii$eai@everest.vol.it>
Source record: 102253

I own an old ICOM IC-720 RTX that I want now to connect to my
computer. I have tried to find informations about the built-in
parallel I/F of 720A, but It was impossible for me to find something
useful over the internet.
The only clue I have is that it was published an article on QST
magazine (july 1984) by L. Studebaker titled "A simple, low cost
computer control for ICOM IC-720". I don't know if it is possible to
buy a so old back iusse of QST. Is there anyone who can help me?

Thank you in advance.

73 I8ZSE Giorgio

Giorgio L. Rutigliano
grutig.aica@iol.it

1361. sorry this is only a test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Andy and Sherry <n3whs@fast.net>
Message-ID: <01bba74f$09b2fa40$1bd993cd@andysher>
Source record: 102373

This is only a test. First time using internet 3.0 newsreader. I like it better then winvin.

1362. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <3243BAEF.54A6@worldnet.att.net>
Source record: 102374

If all else permits.... connect a current controlled DC power supply
across the rail (to gnd). Apply as much current through the rail as it
will tolerate without damage *a welder might be a bit unreasonable :-)*
Meassure voltage drops along the rail and perhaps you can detect where
along it's lenght the short is.
my .02.... Woody

William Kresl wrote:
>
> HI! I have an application to track down a +5volt rail SHORT on
> some computer equipment. I have a FLUKE model 77 DVM. Any ideas
> on a good circuit to built up to to use as an add-on for this?
> I'd like to hear your suggestions, rather then plunge head-first
> into a pile of old ham mags.
>
> Thanks,
> Bill-WB9BBC
>
> --
> Wm Kresl
> WB9BBC @KD9JK.WI.USA.NOAM
> Delavan, WI USA

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

1363. hamradio-online.com EXCLUSIVE: WA State Eases Proposed Radio Restrictions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <51vols$8ev@kanga.accessone.com>
Source record: 102375
Cross-posted to: rec.radio.amateur.misc,wash.general,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

We learned about 10 days ago of a proposed new law in the State of Washington that would have required certification of all mobile radio installations by the State Patrol. We contacted the State Patrol and our state representative, Brian Thomas. As a result, the proposed draft has been thrown out and the scheduled public hearing on the matter has been cancelled. Today the State Patrol has advised us of new wording for the proposed rule - wording that no longer appears to have an impact on Amateur Radio operations. You can read the complete story in an EXCLUSIVE story published at Ham Radio Online at http://www.hamradio-online.com

---

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

1364. ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: j.r.isom@ieee.org
Message-ID: <51vrla$lgr@camel3.mindspring.com>
Source record: 102376

I'm in the process of building the RF attenuator shown in the 1995 ARRL handbook to use for foxhunting (the one made with double sided PC board and switches, not the active one).

If anyone else has built this device, maybe you can answer a question for me. The instructions say to soak the switches in acetone to remove grease. Does this mean to actually immerse the whole switch in the acetone? If so, for how long?

Also, the plans say to solder brass nuts inside the enclosure to screw the screws into. Is it critical that these are brass & not some other metal?

I would appreciate any help.

Rodney Isom, KF4COV
j.r.isom@ieee.org
Birmingham, AL

1365. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <52060m$du9@news1.total.net>
Source record: 102377
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

jimm@teleport.com (Jim McVein) wrote:

>bjrehm@most.fw.hac.com (bjrehm) wrote:

>>I am looking for design ideas, schematics, suggested sources, and
>>performance reports for active antenna designs. I would like to
>>build my own for home and mobile SWL use.

>>Thanks,

>>Brian

>A good article appeared in Ham Radio Magazine, May 1986 on
>active antenna preamps using VMOS FET's. I built some when
>i was in an urban apartment situation and they worked exceedingly
>well. Article author is R.W. Burhans, who seems to be an authority
>on active antenna design, I have seen other articles by the author
>in other more academic texts.

>Jim McVein
>jimm@teleport.com

Brian,

Take a look at Radio Graffity's site http://espresso.ts.uvic.ca/
under the antenna heading. Easy to find and inexpensive parts.

Hope it helps,
H.C.

1366. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <5205pk$7d6@faith.total.net>
Source record: 102378
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

jimm@teleport.com (Jim McVein) wrote:

>bjrehm@most.fw.hac.com (bjrehm) wrote:

>>I am looking for design ideas, schematics, suggested sources, and
>>performance reports for active antenna designs. I would like to
>>build my own for home and mobile SWL use.

>>Thanks,

>>Brian

>A good article appeared in Ham Radio Magazine, May 1986 on
>active antenna preamps using VMOS FET's. I built some when
>i was in an urban apartment situation and they worked exceedingly
>well. Article author is R.W. Burhans, who seems to be an authority
>on active antenna design, I have seen other articles by the author
>in other more academic texts.

>Jim McVein
>jimm@teleport.com

Brian,

Take a look at Radio Graffity's site http://espresso.ts.uvic.ca/
under the antenna heading. Easy to find and inexpensive parts.

Hope it helps,
H.C.

1367. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <520684$e2n@news1.total.net>
Source record: 102379
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

jimm@teleport.com (Jim McVein) wrote:

>bjrehm@most.fw.hac.com (bjrehm) wrote:

>>I am looking for design ideas, schematics, suggested sources, and
>>performance reports for active antenna designs. I would like to
>>build my own for home and mobile SWL use.

>>Thanks,

>>Brian

>A good article appeared in Ham Radio Magazine, May 1986 on
>active antenna preamps using VMOS FET's. I built some when
>i was in an urban apartment situation and they worked exceedingly
>well. Article author is R.W. Burhans, who seems to be an authority
>on active antenna design, I have seen other articles by the author
>in other more academic texts.

>Jim McVein
>jimm@teleport.com

Brian,

Take a look at Radio Graffity's site http://espresso.ts.uvic.ca/
under the antenna heading. Easy to find and inexpensive parts.

Hope it helps,
H.C.

1368. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <520628$7fa@faith.total.net>
Source record: 102380
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

jimm@teleport.com (Jim McVein) wrote:

>bjrehm@most.fw.hac.com (bjrehm) wrote:

>>I am looking for design ideas, schematics, suggested sources, and
>>performance reports for active antenna designs. I would like to
>>build my own for home and mobile SWL use.

>>Thanks,

>>Brian

>A good article appeared in Ham Radio Magazine, May 1986 on
>active antenna preamps using VMOS FET's. I built some when
>i was in an urban apartment situation and they worked exceedingly
>well. Article author is R.W. Burhans, who seems to be an authority
>on active antenna design, I have seen other articles by the author
>in other more academic texts.

>Jim McVein
>jimm@teleport.com

Brian,

Take a look at Radio Graffity's site http://espresso.ts.uvic.ca/
under the antenna heading. Easy to find and inexpensive parts.

Hope it helps,
H.C.

1369. diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: Teun <pa3fvw@euronet.nl>
Message-ID: <32445268.77B8@euronet.nl>
Source record: 102381

Hi everybody,

I am looking for the equivalent type diode >>RLS 135<< in kenwood
ts 850 BAND PASS circuit.

Who can help me out.
73 Teun, Pa3fvw.

1370. cw crystals co.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: "L. Booth" <lbooth@comm.net>
Message-ID: <32442BEA.2281@comm.net>
Source record: 102382

I found out the other day that Bob Woods has shutdown CW Crystals. Does anyone know of another source of reasonably priced crystals for 7.000 to 7.070 mhz. I need a few to fire up my old HT40 station again. Woods was selling crystals for 4-6 bucks each cut to your frequency.

Big loss to homebrew and old gear folks I think.

1371. Re: grid leak ? part II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-21 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <521aod$2pa@news.calweb.com>
Source record: 102383

jwg6@cornell.edu (Joel Govostes) wrote:
>Forgot about my other question:
>
>When the tuned-circuit/antenna side of the grid-leak-capacitor is "+",
>then electrons rush from the grid onto the nearest side of the capacitor.
>Doesn't this make the grid itself less negative, and cause grid current to
>flow??
>
>The books say that such a detector produces little or no grid current.
>Seems to me that every other half-cycle of the input signal would cause
>grid current to flow (electrons being attracted to the grid itself).
>Thanks for any help on this, JWG

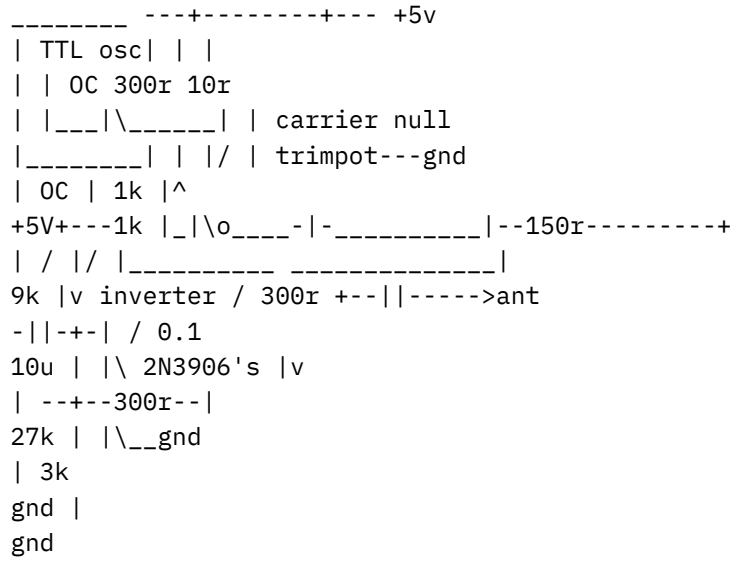
When the grid goes positive the grid collects electrons which then
makes the grid negative. The result is the grid voltage is amost
the same as the input peak voltage.

Also many of the old tubes did not have a good vacuum. There
was some grid current due to the gas. Because of this most grid
leak resistors were plug-in so the correct value could be used
to match the tube used.

1372. simple "SSB" QRP transmitter, about 50mW diagram in ASCII

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDy40p9.G4J@netcom.com>
Source record: 102254

QRP sideband (double sideband, "both USB and LSB recievers will hear it correctly") transmitter. Approx 50mW.



Being QRP, the wrong sideband isn't likely to QRM anyone, and harmonics too weak to worry about.
OC= open collector, like a 7407. One above is an inverter, the other is not. Cascade 2 inverters to create a non invert, use a 300 ohm (approx) on the output of the first of the inverter chain, use seperate inverter than the one driving the trimpot. Audio feeds the 10u cap on the first 2n3906 (pnp) transistor. You'll need a mic preamp. Adjust the carrier null trimpot to null out the carrier, listen on your SSB radio until the whistle (from the BFO beating with the carrier) goes away, too far and it comes back.

1373. Re: Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bobw@col.hp.com
Message-ID: <5226p2$4ji@nonews.col.hp.com>
Source record: 102255

and@pacifier.com wrote:
: In a previous posting, someone claimed that JAN Crystals were of poor
: quality- and that one was better off buying from International Crystal.

: Can anyone else confirm this? I was about to buy $150 or so of crystals
: from them for my Drake R4-C for shortwave and WARC bands.

: Also, does International Crystal ship COD? JAN does not any more.

: Lastly, the area code at JAN has changed to 941.

I've used both International and JAN. As reported, International
is usually more expensive. When it really counts (like a repeater
crystal, etc.) I would use International. When the application
is less critical (scanner, etc.) I use JAN. IMHO, for your
application, I'd save the money and use JAN.

Bob

1374. Re: Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <522eae$8e4@library.airnews.net>
Source record: 102256

wlfuqu00@service1.UKy.EDU (William L. Fuqua III) wrote:
> EIMAC rebuilds some tubes.

So does Econco and Freeland Products. But the 8877 uses an oxide-coated cathode, not a filament. I am unaware of any company who rebuilds a tube with a heater structure that small. It would probably cost as much to rebuild a tube that small as it would cost to replace it outright.

I have never seen an open heater in one of these tubes that had an intact seal; they've usually gone to air and been destroyed internally. You also rarely see an open filament unless a tube has gone to air because of a cracked seal. In either case they're non-rebuildable since the structures inside are destroyed in the "fire."

Just as an aside, rebuilding involves recarburizing a filament structure. Methane gas is introduced and the temperature of the filament is run very high. The surface of the filament is converted by this process to di-tungsten carbide which is both very fragile and a terrific electron emitter.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

1375. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <522eiq$ovd@herald.concentric.net>
Source record: 102257

WOW, great suggestions from you ALL! Thanks! Here's some additional info
that I left out regarding the shorted equipment VICTIM, which is a 2GIG
SCSI hard drive. I plugged it into my PACKET computer one day, and it SMOKED
the drive and shorted out the +5volt rail. I checked the voltage out of the
supply with a DVM and +5v/+12v checked OK. I suspect high ripple was the
culprit that killed the drive, tho I haven't checked it with a scope. I have
since replaced the computer case/power supply rather then wasting time
trying to debug an el-cheapo switching supply. System now works fine, drive
still dead. Due to the fine traces and sensitive nature of this drive, I am
leery of injecting BIG CURRENT into it. I DO want to make this drive WORK!

The SCSI drive is mostly surface mount devices on the underside of the PC
board, and I believe the smoke came from the top side (underneath the sealed
mechanical drive housing). I believe it was a 'smurf-mount' component that
died, smelling like a resitor. I hope NO active IC's were destroyed!

I especially liked the suggestion from Leo, PE1RHX, to use an AF amp and
inject an AF signal into the shorted rail and monitor along the rail with
a discarded cassette tape head til the sig stops (@short). This may be hard
to do on a multi-layer board with 'smurf-mount'. I may try it.

Well, I haven't tackled the trouble-shooting job yet...so please keep those
cards/letters and suggestions coming in. Best suggestions gets an honorable
mention and big thanks from ME, as well the satisfaction that YOU helped out
another ham in need. THAT plus $0.80 will get you a coffee ANYWHERE! Thanks!

Keep Suggesting,
Bill-WB9BBC

--
In article <51vdsc$b9p@herald.concentric.net>,
wmkresl@townsquare.net (William Kresl) wrote:
>HI! I have an application to track down a +5volt rail SHORT on
>some computer equipment. I have a FLUKE model 77 DVM. Any ideas
>on a good circuit to built up to to use as an add-on for this?
>I'd like to hear your suggestions, rather then plunge head-first
>into a pile of old ham mags.
>
>Thanks,
>Bill-WB9BBC
>
>
>

--
Wm Kresl

WB9BBC @KD9JK.WI.USA.NOAM
Delavan, WI USA

1376. looking for CELWAVE book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: Rob Hunt <rhunt@tpgi.com.au>
Message-ID: <01bba81d$98e84f20$2a141acb@default>
Source record: 102258

I am looking for a book put out by celwave called "LAND AND MARINE
TECHNICAL MANUAL"
IF ANY ONE HAS A COPY THEY WOULD LIKE TO GET RID OF PLS CONTACT ME
Thanks
Rob Hunt
rhunt@tpgi.com.au

1377. Re: Grid leak in simple rcvrs (???)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <523mh6$fe6@newsbf02.news.aol.com>
Source record: 102259

In article <jwg6-2109961018530001@cu-dialup-1019.cit.cornell.edu>,
jwg6@cornell.edu (Joel Govostes) writes:

>I have a question about the grid-leak in a triode receiving tube such as
>was used back in the 20s/30s.
>
>Say you have a triode and are using it as a detector. The antenna is
>coupled to a L/C variable tuned (parallel) circuit. This tuned circuit
>connects across the input of the triode, grid to cathode. Now the
antique
>radio books show the connection to the GRID as interrupted by a grid-leak
>capacitor. Across the capacitor is connected a resistor of high value.
>
>I don't understand how this detects.

The tube self biases itself. As the cathode emits electrons, some of them
hit the grid. The very high leak resistance allows the charge to build up,
until the tube is very close to cut-off. Then the cathode reduces electron
emission, and the system is "in balance".

The tube is hanging right on the edge of plate current cutoff, in a very
non-linear region of operation. Any slight positive grid voltage through
the low RF impedance grid capacitor rapidly increases plate current, while
any negative voltage rapidly drives the tube into cut-off.

This is what you want, because the tube acts like a diode detector with a
VERY high input impedance and gain. The higher the anode load impedance,
the greater the gain.

The capacitors job is only to provide a low impedance path for the RF. It
can be almost any value, so long as it is lower than the grid input
impedance at the operating RF frequency, but the ideal value (maximum
sensitivity and minimum hum and noise coupling from the input) is where
the reactance is a few percent of the grid's input impedance at the
operating frequency.

The grid MUST be driven by RF and not audio, and the non-linear operating
point makes the tube respond to the positive signal peaks MUCH more than
any negative signal peaks (non-linear operation).

I hope this explains the grid leak detector circuit. If I missed anything
or wasn't clear, let me know. I can go into more much more detail if
needed.

73 Tom

1378. Re: Gin-Pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3244a86a.34233847@news.santafe.edu>
Source record: 102260

Rocci <rocci@worldnet.att.net> wrote:

>Has anyone seen a published design for a decent gin-pole that can be
>constructed with commonly available tools and parts? If so, which
>publication, year month, etc.?
>
>
>Joe
>WA3CMQ
I have two. The first is made from a length of 1-1/2" steel pipe (HEAVY!) U-bolts are used to clamp angle iron to the pipe at two places about 3 feet apart. A pulley is atached to a a pipe cap with an eyebolt at the top end. The pole is lifted above two rungs of the tower and then lowered so the angle iron engages the rungs. The details depend on the tower design. Mine is an old 1959 vintage Rohn #6 which is just a heavy duty TV tower. The rungs are stamped sheet metal and the thing is climbable. Not a spec of rust after 10 years in Illinois and 20+ in New Mexico.

The second is made from 4" aluminum tubing with fairly thin wall. The brackets are fastened similarly. The pulley is fastened to a bolt through the pipe near the top and part of the tubing is cut away to clear the pulley.

That is not a detailed design, but maybe it'll give you a few ideas. It doesn't have to be complicated, but be sure that it is strong enough. Test it at low elevation!

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

1379. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: carl@ais.net
Message-ID: <523s51$3fq@news.ais.net>
Source record: 102261
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <51sur0$g7j@news.Hawaii.Edu>, jherman@Hawaii.Edu (Jeffrey Herman) writes:
>
>Now, I think we're going to have to redefine "homebrewing" - I've got
>an article here from QEX titled The Ultimate VFO (April 1996); the
>circuit contains two major ICs, a clock module, a handful of resistors,
>and a few push-button switches. Is snapping ICs into sockets considered
>homebrew? I'll say "no", and call something like this a kit, instead.
>I'll snap it together but won't make any claim that I homebrewed a
>VFO. I've homebrewed VFOs before from scratch and this project won't
>begin to come close to the detailed work that those necessitated. And
>it won't be as rewarding, either.
>

So you're stating that the use of *modern* parts like ICs means that
it's not "homebrew"???

What if I design the IC? (Something I do regularly at work ...) Does
that count?

What if I program the IC (as in a uController)? Does that count?

Or does it have to be solely discrete parts (tubes?) hand-wired between
nails pounded into a hunk of wood? (which is what you seem to view as
"homebrew")

We've already established that many, if not most, hams are not building
anything ... wouldn't getting lots of them building
(and debugging) ever-more-complex kits be a step in the right direction?

As usual, Jeff, your arguments are an outlandish mix of troll and
"traditional-eleteist" ...

Carl - wa6vse
carl@ais.net

1380. Re: Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: carl@ais.net
Message-ID: <523snb$3fq@news.ais.net>
Source record: 102262
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <521e7i$1u8@Usenet.Logical.NET>, orion@capital.net writes:
>
>Well said, Carl. I agree 100%. The trouble is though, things will
>never change as long as the CW loving ARRL is running the show.BTW, I
>resigned from that lofty organization last year just because of their
>assinine stand on code requirements. And for the "Try CW, You'll
>learn to love it!" group, I say "Nuts to you." I worked on that damn
>Morse Code until it made me sick. It's still just noise to me. Now I'm
>forever locked out of the HF spectrum because of this discriminatory
>rule.
>Butch N2YMJ
>

Butch,

Don't give up ... be more vocal ... we WILL get things changed ... and I think it will be sooner rather than later ...

73,
Carl - wa6vse
carl@ais.net

1381. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <523thr$i8k@newsbf02.news.aol.com>
Source record: 102263

In article <qX1muD4w165w@ham.island.net>, rs@ham.island.net writes:

>Well, they basically priced themselves out of the market. Why would you
>spend a lot of time building equipment that wasn't as good as stuff you
>could buy off the shelf for less?
>
>The reason kits were made in the first place was because hams liked
>building them, and minus the labour of assembly, they could be sold
>cheaper than ready built items. (And hams were always...errr frugal)
>
>By the 1970's there was no longer any financial advantage in kits.
>
>

As a former Heath contract engineer I can give a little more insight on
this.

It is very expensive to make a kit.

1.) Many customers didn't follow instructions or solder or do mechanical
asembly well and required technical support. More so in later years as our
population became less skilled at building.

2.) The cost of labor and materials to "kit" the parts exceeded the cost
of foreign labor and materials to assemble the same item

3.) Less people had the time or desire to build anything, so sales
declined partially from that reason.. and lower sales drove up the
overhead and design cost in each kit

4.) Less income meant less money for engineering, and that reduced
allowable design costs

Heathkit dropped out because of the market, just as hundreds of other
manufacturers do and continue to do, as we all get spoiled by low cost
overseas products. There is no single reason for this and there was
nothing Heath could have done, it's just a combination of many things that
are changing in the world.

Heath made it a point to NEVER to copy a design. Even though they could
have copied products I designed for other companies Heath always
approached me (and others) with offers of payment.

Every company I work for does this, many people approach with the same
idea for the same product as we have on the back burner. That's why most
companies turn away outside suggestions.. they might have to pay for
something they allready are working on if they listen or look at something

someone else does.

73 Tom

1382. Re: Use for open-filament 8877?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <523tmq$iae@newsbf02.news.aol.com>
Source record: 102264

In article <522eae$8e4@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>So does Econco and Freeland Products. But the 8877 uses an
>oxide-coated cathode, not a filament. I am unaware of any company who
>rebuilds a tube with a heater structure that small. It would probably
>cost as much to rebuild a tube that small as it would cost to replace
>it outright.

Fred is exactly correct on everything he said. It's pretty tough to rebuild an oxide cathode tube, especially a small one. They might as well throw it out and start over.

I've only very rarely found an open filament in an 8877. The usual failure is a grid to cathode short caused by structural probelms or operation with sustained high grid currents. The second most common failure is loss of emission due to stripping of the cathode (high current demand with low temperature) or many, many hours of heater time.

While open filaments happen, they are the rarest of problems I've seen. In the products I'm associated with.

The photons beaming down from space / parasitic failure stuff is another bunch of hoo-doo.

73 Tom

1383. Wanted: Source for Toroid Cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: David Keith <104573.2147@CompuServe.COM>
Message-ID: <523uff$831$1@mhafn.production.compuserve.com>
Source record: 102265
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

Can anyone recommend a mail order source for single quantities of
toroid cores?

Dave KD7TT

1384. Re: ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <32458585.FA6@HVWTech.com>
Source record: 102266

Rodney Isom wrote:
>
> I'm in the process of building the RF attenuator shown in the 1995
> ARRL handbook to use for foxhunting (the one made with double sided PC
> board and switches, not the active one).
>
> If anyone else has built this device, maybe you can answer a question
> for me. The instructions say to soak the switches in acetone to
> remove grease. Does this mean to actually immerse the whole switch in
> the acetone? If so, for how long?

This step usually isn't necessary. If you think /know that there is
grease on the contact surfaces of the switch, dunk the switch into
acetone and work the switch back-and-forth a few times -that should so
it.
>
> Also, the plans say to solder brass nuts inside the enclosure to screw
> the screws into. Is it critical that these are brass & not some other
> metal?

Not in terms of the unit's performance, but brass is the easiest to
solder -just try to solder stainless !

Good luck.

Mark, VE2HVW
VE2HVW@HVWTech.com

1385. Re: Surplus FT-243 crystals and FM Moitor rec.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: uncle@net1.nw.com.au
Message-ID: <324584c2.13382366@news.wt.com.au>
Source record: 102267

>Any crystals in the 7000 to 7300 KHz range fall within the 40m band.

>KC5NG

But not these ones. See below.

>>I have a box of crystals .. 25 kHZ difference between crystals,
>>starting at 5700 KHz to 8625 KHz. What can they be used for
>>or modified for The crystals are in FT 243 holders

Most of these older type crystals, NOT being hermetically sealed,
yopu'll find won't even oscillate. Their fundamental freq's
are often way way down in the approx 500kc range, the rigs
they were used in multiplied them up to the freq stamped on
the crystal. (Lower freq rock was more rugged, used in tanks,
equip bound to get tossed around a little).

First make sure they oscillate, and besides "rubbering" them
with a small padder, another trick you can use to shift their
freq is to drill and tap a small hole in the middle of the face
plate, use a screw to increase SLIGHTLY the pressure on
the plates over the wafer itself. But I'm still betting that most
of them will be duds.

Uncle Brian VK6BQN

- -
"The law is like a whore.... as long as you pay it enough
money, you can screw it any way you like."
"Rotter" in alt.crime

1386. Re: ARRIVED! (was BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524ath$4q3@news1.mnsinc.com>
Source record: 102268
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

jherman@Hawaii.Edu (Jeffrey Herman) whistled a happy tune like:

|>Thomas G. McWilliams <tgm@netcom.com> wrote:
|>>Ed Mitchell (vbook@vbook.com) wrote:

|>>: 14 year old Subaru Takahashi is making a solo crossing of the Pacific
Ocean
|>>: from Japan to the United States - in a 30 foot yacht. According to Masa

|>>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been heard
since
|>>: August 18th.

|>>Most probably, Master Subaru sleeps with the fishes.
|>>Talking to a dead man on ham radio--now that would be some DX!
|>>But what a great QSL card . . .

|>If it had been your son on that boat, Tom, would you have still written
|>those same words?

|>Happily, young Subaru sailed into San Francisco yesterday. Engine
|>trouble prevented him from charging his batteries, thus the reason
|>for no communications.

|>Jeff KH2PZ / KH6

Jeff, I hear that those Subaru engines ARE a problem if you put them in the
water! Now what the heck does this have to do with homebrew radios?

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1387. Re: HELP**** Microwave Modules MMT 144/28****Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524bci$4q3@news1.mnsinc.com>
Source record: 102269
Cross-posted to: alt.ham-radio.atv,alt.ham-radio.eme,alt.ham-radio.exotic-modes,alt.ham-radio.fm,rec.radio,rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.swap,sci.electronics.mis

James - check the list of where to buy manuals (list of MANY MANY suppliers)

The files is called MANUALS.TXT and you can get it at:
http://www.mnsinc.com/bry/

73 de AF4K

"James R. Chastain" <chastain@compunet.net> whistled a happy tune like:

|>Hi,
|> I am looking for a schematic/service manual for a Microwave
|> modules MMT 144/28 transverter. I recently had to sell my
|> primary VHF/UHF allmode and need to repair the xverter
|> to get back on. I would be happy to pay for reproduction
|> and shipping costs. Please E-mail chastain@compunet.net

|> Thanks, Rod. (KD0XX)

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1388. Re: Sync AM chip source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524bsq$4q3@news1.mnsinc.com>
Source record: 102270

Cal Eustaquio <ceustaqu@hertz.elee.calpoly.edu> whistled a happy tune like:

|>Does anyone know a parts/chip source for a sync AM detector? I am trying
|>to build one but I don't have any leads. Cal.

Yup. You can find them via the file megalist.txt available on my Website
MEGALIST + HAM RADIO + HOCKEY = Bry's Page!
at URL:
http://www.mnsinc.com/bry/

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1389. Re: HF Amp Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524be4$4q3@news1.mnsinc.com>
Source record: 102271
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Kory & Dale - there are several other manufacturers of HF amp kits.
You can find them all listed in my file MEGALIST.TXT,
available free of charge at:
http://www.mnsinc.com/bry/

"Dale R. Parfitt" <par@magg.net> whistled a happy tune like:

|>Kory Hamzeh wrote:
|>>
|>> Someone recently requested some info about HF amp kit manufacturer. I
|>> missed most of the replies because I was away and we have a very short
|>> expiration period here.
|>>
|>> I would appreciate any information anyone can send me about kits.
|>>
|>> Thanks,
|>> Kory
|>> AC6RNHi Kory,

|>I did not see the original post but Communications Concepts (QST
|>advertiser) has a number of Motorola based HF kits.

|>73, Dale WA2YPY

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1390. Re: Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524ca1$4q3@news1.mnsinc.com>
Source record: 102272

orion@capital.net whistled a happy tune like:

|>Well said, Carl. I agree 100%. The trouble is though, things will
|>never change as long as the CW loving ARRL is running the show.BTW, I
|>resigned from that lofty organization last year just because of their
|>assinine stand on code requirements. And for the "Try CW, You'll
|>learn to love it!" group, I say "Nuts to you." I worked on that damn
|>Morse Code until it made me sick. It's still just noise to me. Now I'm
|>forever locked out of the HF spectrum because of this discriminatory
|>rule.
|>Butch N2YMJ

Butch - it's not just the ARRL that loves CW. Thhis has little to do with homebrewing. Can we get back on topic?

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1391. Re: Needed: Manual for Heathkit SB-110 6 Meter Rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524cd1$4q3@news1.mnsinc.com>
Source record: 102273
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap

basil@turn.com (Basil Arrick,KB5KHR) whistled a happy tune like:

|>I need a manual for an old Heathkit SB-110 6 Meter Rig. This is an old
|>tube rig, and is currently in non-working, but otherwise good, condition.
|>I am willing to pay copy and postal charges. The more info I get on this
|>radio, the better, so if you have articles or other writings about the
|>Heathkit SB-110, I would be interested in those also.

|>Thank you in advance for your help.

|>Basil (Darin) Arrick, KB5KHR
|>basil@turn.com

Hi Bas - here's where you can get the information free about who has these
manuals:

Get the file manuals.txt at this Web Site:

http://www.mnsinc.com/bry/

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1392. Re: Needed/Wanted: Vacuum tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524cee$4q3@news1.mnsinc.com>
Source record: 102274
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap

basil@turn.com (Basil Arrick, KB5KHR) whistled a happy tune like:

|>I need a bunch of vacuum tubes for a couple of radios that I am working
|>on: a Collins KWM-2A and a Heathkit SB-110 6 Meter Rig. Some of the tubes
|>that I need are as follows:

|>6U8A (Qty: 3)\
|>6EB8 \
|>6EA8 ---- These are "must haves"
|>6DC6 /
|>6AZ8 (Qty: 2)/

|>12AT7 (Qty: 2)
|>12AX7
|>6BN8 (Qty: 2)
|>6AZ8 (Qty: 2)
|>6146B (Qty: 5)
|>6CL6

|>If you have any of these tubes, let me know. I would prefer to purchase
|>them all from one person, if possible, but I will purchase them from
|>different places, if needed. If I could pick them up (local to Dallas/Ft.
|>Worth, Texas, area), that would be a _HUGE_ plus. I will pay shipping
|>costs.

Hi again - get tubes.txt too while you are there!
Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1393. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524cjj$4q3@news1.mnsinc.com>
Source record: 102275
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

jherman@Hawaii.Edu (Jeffrey Herman) whistled a happy tune like:

|>Now, I think we're going to have to redefine "homebrewing" - I've got
|>an article here from QEX titled The Ultimate VFO (April 1996); the
|>circuit contains two major ICs, a clock module, a handful of resistors,
|>and a few push-button switches. Is snapping ICs into sockets considered
|>homebrew?

|>Jeff KH2PZ / KH6

Jeff, it is ONLY considered hombrew if you BURN your fingers in the process!

Bry, AF4K

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1394. Re: Manual for Hewlett-Packard 415B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524d1g$4q3@news1.mnsinc.com>
Source record: 102276

cjdumar@westelcom.com whistled a happy tune like:

|>I am looking for a copy of the manual for the Hewlett-Packard 415B Square Law Meter. If you
|>such a beast let me know also let me know what the xerox cost may be.

Manuals are found via the file manuals.txt available at:

http://www.mnsinc.com/bry/

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1395. Re: cw crystals co.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524dj6$4q3@news1.mnsinc.com>
Source record: 102277

"L. Booth" <lbooth@comm.net> whistled a happy tune like:

|>I found out the other day that Bob Woods has shutdown CW Crystals. Does
|>anyone know of another source of reasonably priced crystals for 7.000 to
|>7.070 mhz. I need a few to fire up my old HT40 station again. Woods was
|>selling crystals for 4-6 bucks each cut to your frequency.

|>Big loss to homebrew and old gear folks I think.

YES:

You need to look at the file xtals.txt
available at:
http://www.mnsinc.com/bry/

Enjoy!
73 de AF4K

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1396. Re: Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524d2s$4q3@news1.mnsinc.com>
Source record: 102278

hror1@pta6000.pld.com whistled a happy tune like:

|>> and@pacifier.com writes:
|>> In a previous posting, someone claimed that JAN Crystals were of poor
|>> quality- and that one was better off buying from International Crystal.
|>>
|>In the past I've used both. I've never had any problems with either. I
generally lean toward Jan as they
|>are alot less expensive. Kendall Herrick KB0BUG

There ARE other alternatives.
Check the file xtals.txt available at:
http://www.mnsinc.com/bry/

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1397. Re: amplificateur HF regulation of power

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <524dpu$4q3@news1.mnsinc.com>
Source record: 102279

maillet@ensm-douai.fr (Maillet Dominique) whistled a happy tune like:

|>hi, i whant to make a regulation of power for amplificateur HF.
|>if introduce in primary voltage in transformateur THT
|>a variable transfo. (slide regulator)
|>it's correct or is undesirable for a tube ?
|>tnx fer advise.
Yes. I have done this. In the USA/United States/Estados Unidos, we call that an "AUTOTRANSFORMER" and you can vary the voltage 0-100% of mains/line voltage. In our case it will be 0-120V AC or 0-220V AC

This worked VERY well for me using a 7000 Volts transformer as the HT+ or B+ for my "amplificateur" homebrew!

73 de AF4K / G3XLQ

"What.... you think I spoke 'Esperanto?' - Nah!!"

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1398. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9608228434.AA843432313@mail.creo.bc.ca>
Source record: 102280

jherman@Hawaii.Edu (Jeffrey Herman) wrote:

> (snip...)
> Now, I think we're going to have to redefine "homebrewing" - I've
> got an article here from QEX titled The Ultimate VFO (April 1996);
> the circuit contains two major ICs, a clock module, a handful of
> resistors, and a few push-button switches. Is snapping ICs into
> sockets considered homebrew? I'll say "no", and call something like
> this a kit, instead. I'll snap it together but won't make any claim
> that I homebrewed a VFO. I've homebrewed VFOs before from scratch
> and this project won't begin to come close to the detailed work that
> those necessitated. And it won't be as rewarding, either.

So now it's "real" vs. "non-real" homebrewing, is it? I've said it before, and I'll say it again: in an era when appliance operation is the norm and most hams are baffled by coax connectors, I'm prepared to be lenient on the definition of "homebrew". I too have homebrewed VFOs from scratch. Both ones with JFETs in them, and ones with DDS chips in them. The DDS ones work better and are less hassle all around.

To muddy the waters, consider a DDS VFO I built. I bought a pc board from FAR Circuits to build a DDS VFO from an article in 73 Magazine. I designed and built (wire-wrap) a microcontroller interface board, and programmed the microcontroller myself. Is the net result homebrew? Damn right! And, yes, it *was* rewarding, despite (or possibly because of) the Qualcomm DDS chip, computer clock oscillators, multiple micro-controllers, assorted 74LS TTL, even an intelligent LCD display.

Just because the electronics industry is moving toward greater integration, with the attendant reduced parts count, reduced hassle, increased reliability, and so on, does not render new projects non-homebrew, just because they don't look like something out of a 1955 ARRL Handbook. You can buy a significant portion of an HF receiver on a chip - does using such a chip render a project less homebrew? Or does it show that the designer was smart, knowing what he or she could buy off the shelf, and using it wisely?

I've beeen playing with a Huff and Puff VFO the last little while - the VFO part is a standard JFET affair from _Solid State Design for the Radio Amateur_, while the rest is 74HC logic, with a computer clock oscillator providing the reference. Is it homebrew? Yes! Is it rewarding? Yes! Was it mysterious and incomprehensible to members of the local ham club Friday night? Sadly, yes...

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le

ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

1399. Re: Wanted: Source for Toroid Cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-22 00:00:00 UTC
From: "Gary L. Sanders" <gsanders@ricochet.net>
Message-ID: <32460D78.72A0@ricochet.net>
Source record: 102281
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

Fair-Rite corporation has a kit assortment of their products that is
handy. 914-895-2055
--
Gary L. Sanders, V.P. Engineering
Sanders Media Adventures, Inc.
Video Design Consulting
C-MAC/SMA Active, Hybrid Video Filters
http://ourworld.compuserve.com/homepages/gls_sma
phone/fax (408) 279-5118

1400. Re: HTX 202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: RF BURNS <doogie@pop.fast.net>
Message-ID: <524q08$rlk@nn1.fast.net>
Source record: 102135

step one: Go to garage

step 2: Find a big hammer

step 3: smash your radio

Follow these steps its a shoe in break your radio.

There are no mods this is the reason the front end on the radio is tight
it is not a broad band radio

Doug

1401. Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: holford@cnwl.igs.net
Message-ID: <524pmi$s5t@nntp.igs.net>
Source record: 102136
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <jedent.46.001B5D73@phoenix.net>, jedent@phoenix.netï¿½ says...
>
>In article <51efhs$dq5@sjx-ixn6.ix.netcom.com> kc5egg@ix.netcom.com(Gerald
>Schmitt) writes:
>>From: kc5egg@ix.netcom.com(Gerald Schmitt)
>>Subject: Re: BULLETIN: 14 Year Old Sailor Not Heard in 3 Weeks
>>Date: 14 Sep 1996 14:30:20 GMT
>
>>In <tgmDxpB68.9BD@netcom.com> tgm@netcom.com (Thomas G. McWilliams)
>>writes:
>>>
>>>Ed Mitchell (vbook@vbook.com) wrote:
>>>: 14 year old Subaru Takahashi is making a solo crossing of the
>>Pacific Ocean
>>>: from Japan to the United States - in a 30 foot yacht. According to
>>Masa
>>>: Sakamoto, KN6RJ, Subaru, who's call sign is JH0YCG, has not been
>>heard since
>>>: August 18th.
>>>
>>>Most probably, Master Subaru sleeps with the fishes.
>>>Talking to a dead man on ham radio--now that would be some DX!
>>>But what a great QSL card . . .
>>>
>
>>Boy Tom you are some piece of work; the guys asks for help and this is
>>what you come up with. What ever happened to the amateur service
>>creedo. You know Sakamoto san's family could just easily read this,
>>talk about ugly Americans. You sir are an embarassment to the hobby.
>
>The saying is "..takes all kinds" .Is'nt that a shame?
>
>
>
He looked pretty healthy to me last week when he was being interviewed on TV
about his sucessfull trans-pacific voyage!!
Sometimes the newmedia knows more than the newsgroups.

1402. Re: HTX 202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <525040$jqh@news1.mnsinc.com>
Source record: 102137

This sounds JUST like the funny stuff I read at the "Destructive Garden" Web Site! (Listed in the comedy LINKS at my Web Site for all you die-hard surfers!)

RF BURNS <doogie@pop.fast.net> whistled a happy tune like:

|>step one: Go to garage

|>step 2: Find a big hammer

|>step 3: smash your radio

|>Follow these steps its a shoe in break your radio.

|>There are no mods this is the reason the front end on the radio is tight
|>it is not a broad band radio

|>Doug

Brian Carling, AF4K / G3XLQ
bry@mnsinc.com
http://www.mnsinc.com/bry = MEGALIST + HOCKEY + HAM RADIO = Bry's Page!

1403. Re: ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <324613BF.18D4@magg.net>
Source record: 102138

Rodney Isom wrote:
>
> I'm in the process of building the RF attenuator shown in the 1995
> ARRL handbook to use for foxhunting (the one made with double sided PC
> board and switches, not the active one).
>
> If anyone else has built this device, maybe you can answer a question
> for me. The instructions say to soak the switches in acetone to
> remove grease. Does this mean to actually immerse the whole switch in
> the acetone? If so, for how long?
>
> Also, the plans say to solder brass nuts inside the enclosure to screw
> the screws into. Is it critical that these are brass & not some other
> metal?
>
> I would appreciate any help.
>
> Rodney Isom, KF4COV
> j.r.isom@ieee.org
> Birmingham, ALHi Rodney,

The brass is used to facilitate soldering. Positioning the nuts is made easiest by securing them w/ a stainless steel screw while soldering. The solder will not adhere to the stainless and thus can be easily removed after soldering.
I would be careful w/ the acetone as it will attack ABS, and polystyrene, 2 plastics commonly used in switches.

73, Dale WA2YPY

1404. Re: ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <52565l$ndr@crash.microserve.net>
Source record: 102139

j.r.isom@ieee.org (Rodney Isom) wrote:

>I'm in the process of building the RF attenuator shown in the 1995
>ARRL handbook to use for foxhunting (the one made with double sided
PC
>board and switches, not the active one).
>
>If anyone else has built this device, maybe you can answer a question
>for me. The instructions say to soak the switches in acetone to
>remove grease. Does this mean to actually immerse the whole switch
>in the acetone? If so, for how long?

Almost all modern switches contain plastic parts that can be
permanently damaged by acetone. I've haven't experienced
problems with grease below 1 GHz or so, but if you must remove
it, use a commercial spray degreaser intended for electronic
parts.

73,
Jack WB3U

1405. Re: Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: keinanen@sci.fi
Message-ID: <525i9c$489@tron.sci.fi>
Source record: 102140

author@poboxes.com (Ryan) wrote:

>Is there any practical use for a transformer that has one winding
>burned out? I was really wondering if it would work for an RF choke
>in the hot lead to a mobile radio. thanks for any info.

Inductors that are designed to carry large DC currents usually have an
air gap to avoid core saturation. Using an ordinary transformer core
(without an air gap) can have surprising effects if the core saturates
(generation of harmonics etc.)

Paul OH3LWR

1406. Grid leak in simple rcvrs (???)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199609231233.IAA03167@service1.cc.uky.edu>
Source record: 102141

>In article <jwg6-2109961018530001@cu-dialup-1019.cit.cornell.edu>,
>jwg6@cornell.edu (Joel Govostes) writes:
>
>>I have a question about the grid-leak in a triode receiving tube such as
>>was used back in the 20s/30s.
>>
>>Say you have a triode and are using it as a detector. The antenna is
>>coupled to a L/C variable tuned (parallel) circuit. This tuned circuit
>>connects across the input of the triode, grid to cathode. Now the
>antique
>>radio books show the connection to the GRID as interrupted by a grid-leak
>>capacitor. Across the capacitor is connected a resistor of high value.
>>
>>I don't understand how this detects.

Grids do not leak. Often this is confused with contact bias which was
used with a few low level audio amplifiers. Contact bias uses a very high
value resistor from gird to cathode between 10 Meg and 100 Meg ohms.
Grid leak detector is really detection by grid rectification. It is very
sensitive but has the disadvantage of loading down the preceeding tuned circuit.
The capacitor must be chosen such that it and the grid resistor have a long
time constant in respect to the RF frequency but short in respect to the
audio frequency. The grid conducts on the positive cycles and charges the
capacitor to
the peak value of the signal and it is discharged thru the resistor. You can
verify this by playing with the capacitor in the detector. Use one very
large and the audio will go away. If you use one too small in value the
audio will be attenuated somewhat.
Another common detector was the plate detector. It had a large cathode
bias resistor and placed the tube in near class B operation. The low pass
filter circuit was placed in the plate circuit so that only the audio would
be passed to the rest of the circuit. A low pass filter is often placed in
the plate of the grid-leak detector as well.
The plate detector has much lower sensitivity but a very high input
resistance thus reducing the loading on the preceeding tuned circuit.

73
Bill wa4lav

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

1407. Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: louwers@stevin
Message-ID: <52607l$knu@frontier.tno.nl>
Source record: 102142

Hi there,

I am a fanatic amateur rocket builder. As our rockets get better all the time,
we start to get problems in retrieving them.

We think that recovery would be much easier if we had a kind of FOX
hunting transmitter in it. So we are looking for a _small_ transmitter
(144 MHz) design for our rockets. Range should be about 5-10 Km's.

Does anyone of you have a good design for such a small transmitter? Preferably
with PCB layout. Any help is greatly appreciated.
--
Jeroen Louwers
louwers@pml.tno.nl / \
|N|
|E|
|R|
/|O|\
/_|_|_\

1408. radar detector local oscilator frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Trent Howard <tmhoward@dirac.cca.rockwell.com>
Message-ID: <32468B71.2745@dirac.cca.rockwell.com>
Source record: 102143

I hope this is an appropriate group.
I was wondering what the radar detector local oscilator
is at for a frequency. I have been trolling for taillights
and I would like a radar detector detector
I think the local oscilator is around 11 gHz or so but I
would like a better number....
thanks
Trent

1409. VHF Antenna that Looks Like TV Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: csmith1@ccgate.hac.com
Message-ID: <5262q6$nsg@newsroom.gsfc.nasa.gov>
Source record: 102144
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc.

I am looking for an article that is supposed to be in CQ, I think from
years ago. Bill Orr's book "Simple, Low-Cost Wire Antennas for Radio
Amateurs" has something called a CIA Special. This ant is designed to
look like a TV antenna, but is really a 6, 2 and 220 antenna.
It has 2 beams, stacked. Each beam has a pair of 6 meter dipoles in a vee
shape about 1/4 wave apart.

Anyhow, I got it to work on 6 meters using their suggested tuner design, but I
can't get it to work on 2 (3:1 SWR is best I can do).

I am hoping that whomever told me it was once in CQ Magazine is correct and
that I can get hold of copy of the article to get more info than I have in
the book to get it going on 2 meters.

Any help appreciated! 73 de Chris NR3O

Please respond to email at csmith1@ccgate.hac.com

1410. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: WCS@Emperor.HandHeld.COM
Message-ID: <23446@Emperor.HandHeld.Com>
Source record: 102145

Text item: Text_1

Robert Smits (VE7HS) wrote:

>Well, they basically priced themselves out of the market. Why would
>you spend a lot of time building equipment that wasn't as good as
>stuff you could buy off the shelf for less?

Heath had an initial advantage when the first started in that the wiring in electonics was point to point and very time consuming. When PCBs were used and the boards were stuffed and wave soldered by machine that advantage went away. Within Heath, the development for a kit had to be paid off in two years of production. This was the standard and that set the kit price (we had an old PDP-8 that was pre-programmed with the accepted formula to generate the kit price). The problem was the volume. The volumes were in many cases for Ham equipment a few thousand a year. Also throw into the barrel that their was not a lot of money for test equipment. But.... it was a great place to work and had wonderful people.

>The reason kits were made in the first place was because hams liked
>building them, and minus the labour of assembly, they could be sold
>cheaper than ready built items. (And hams were always...errr frugal)

Again, not when you are dealing with low volumes. Heath did not export well. Many of the decision makers dealt with Illinois, Indiana, Michigan, and Wisconson as their primary sales area. I recall this in particular when they began talking about a major sales campaign to push the H-8 computer. The national blitz was four states.

>By the 1970's there was no longer any financial advantage in kits.

Heath finally began trying to sell the experience i.e. the pleasure of building your own equipment for six hours is cheaper than a Rock Concert (or whatever).

Bud Simciak
W4HXP

1411. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Mike Murphree <n4cnw@pig.net>
Message-ID: <32469A5C.6AC4@pig.net>
Source record: 102146

Rob Janssen wrote:
>
> In <522eiq$ovd@herald.concentric.net> wmkresl@townsquare.net (William Kresl) writes:
>
> >The SCSI drive is mostly surface mount devices on the underside of the PC
> >board, and I believe the smoke came from the top side (underneath the sealed
> >mechanical drive housing). I believe it was a 'smurf-mount' component that
> >died, smelling like a resitor. I hope NO active IC's were destroyed!
>
> When you have a short on the +5v, it more likely was a tantalium capacitor.
> Why don't you first remove the board from the drive, that will probably
> be required anyway to repair it. Maybe you can then identify the smoked
> part. When it is a capacitor, it may not look burnt but you may see a
> tiny hole in the case.

Being that I've done this twice in several years of dealing with SCSI hard drives, I can make an educated guess at what happened. Plugging the drive interface cable in upside generally does no harm on floppies or IDE drives, but is the kiss of death for many SCSI drives. In both instances that I did this, it did destroy active components (heavy silicon odor). Unkeyed SCSI connectors have been pretty common in the past and contribute to this problem. One thing to look for is whether or not your host adapter supplies termination power and what pin that power would have been applied to...

The first time I did this it was a 48M Seagate that cost me $440 wholesale and because a friend wanted to try it on his Amiga from my Atari ST. (LONG time ago!)

Mike N4CNW

1412. What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Kevin Muenzler <wb5rue@amsat.org>
Message-ID: <19960923115307.aaaa005tW@babyblue.cs.yale.edu>
Source record: 102147

bbaka@syix.com WRITES:

-> > I'm sure this question has been asked, but whenever you look at ham
-> > books from 15+ years ago, everyone has always got a heathkit
-> > something. Whether it be a transmiters/receivers all the way down to
-> > test equipment. So it raises the question, what ever happened to
-> > the heathkit co.?? They obviously made money as well as building a
-> > name for themselves. Hell I love the way heathkit equipment looks
-> > (but than again I love the way all old eqipment looks ;>
-> > If anyone nows the answer I'd be very interested in knowing it.
->
-> Well, they basically priced themselves out of the market. Why would you
-> spend a lot of time building equipment that wasn't as good as stuff you
-> could buy off the shelf for less?

Gee, what would you expect in an five-band HF rig that cost $450?
There was nothing wrong with Heathkit's equipment. It was as good
as the BUILDER could build it. If the builder's skills were poor
then the resulting rig was poor. I bought and built many rigs
and pieces of test equipment from Heath with no problems that weren't
the result of my mistakes during construction. As I got better
at building their rigs got "better." Granted they didn't have all
the bells and whistles of the commercially built stuff but did you
really need all those bells and whistles? Over the air my HW-101
sounded just as good as my Yaesu FT-101 and still sounds as good
as my FT-890. (using the same mike) No, it won't do FM, AM or RTTY
but it does CW and SSB just fine.

->
-> > 73,
-> > -David-
-> > KC5WDR

-David,
- Financial advantage wasn't the operative word, education was. By building and
-aligning your own stuff you LEARNED about how it worked. Problem is that
-Americans have gotten lazy and are dumbing down, like it or not. If this wasn't
-happening rat-shack would not have taken over the market.
- Bill

You are right Bill, financial advantage wasn't the operative word. It
was Heath's decision during the beginnings of the computer boom to
put all their eggs in the computer basket. When they couldn't compete
they fell apart because they had basically dropped every other line
to support their computer line. When they found that they couldn't
keep up with the computer market they also found that all their kit

customers had gone elsewhere. Radio Shack almost made the same mistake. If it wasn't for their other lines they would have gone the way of Heath. If you've noticed Radio Shack doesn't sell their own line of computer equipment any more. As far as the lazy and dumbing down I don't think that had too much to do with it. Those who are dumbed down and lazy don't spend any time on HF anyway. ;)

Kevin, WB5RUE

1413. Old Radios with 201-A tube and variometer tickler (?) queskin...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Sep23.114145@nova.wright.edu>
Source record: 102148

Cindy and I went to the local antique flea market yesterday and, while Cindy shopped for the perfect Martha-Stewart-lookalike-useless-piece-of-crap-nick-nack, I found a guy who had what looked like an old radio for sale. Talked him out of it cheap. Now all I need to do is figure out when it became what it is and who might have made it and where...

It's a one-tuber with a series cap to a large coil. The front panel has two open-contact switches that lead to taps on the coil. The top of the coil has a green-wire variometer with a front panel control knob. Two open rheostats, one to the tube (filament?) the other to the AF terminals (volume? regeneration?) and two pretty healthy capacitors on the front too. The pots have "CH" stamped on 'em. The caps are pretty normalish, some sort of "condensa.." something on one of 'em.

I suspect that the box has been through some sunlight or has been otherwise subjected to solar rays. The front panel appears to be ebonite and there is a grid of small holes on the panel, right in front of the tube. The panel is black behind the knobs, but otherwise is kinda brownish-yellow. ANd the labels have long since flitted off, so the only terminals marked are the ones for "telephones" and "aerial" and "ground." The knobs are Atwater-Kent look-alikes.

WHile I was carting this little box (wooden cabinet, piano hinge and latching bar lock to hold it open) around with Cindy, a couple guys about my age came up and said "It's a kit." "Figured that much," sez I, "'cause it's got no info inside as to how it came to be. No labels, no tested-logged-sold stickers on the inside cover." "Oh, they made a lot of 'em back in the 20s" said one guy. Then I saw the Zenith Transoceanic.

Oh, yeah: the tube has a filament. Sometimes you get lucky.,

Any hints on what I might have? After such a stunning description, most of youse is probably already gone on to the next interesting posting. But what the heck. I got the MRL #2 crystal set in a box. I may as well find out what this flea-market find is/was.

73
Nils
WB8IJN &c

1414. Re: Grid leak in simple rcvrs (???)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <3246E39A.F5C@fyi.net>
Source record: 102149

William L. Fuqua III wrote:
>
> >In article <jwg6-2109961018530001@cu-dialup-1019.cit.cornell.edu>,
> >jwg6@cornell.edu (Joel Govostes) writes:
> >
> >>I have a question about the grid-leak in a triode receiving tube such as
> >>was used back in the 20s/30s.
> >>
> >>Say you have a triode and are using it as a detector. The antenna is
> >>coupled to a L/C variable tuned (parallel) circuit. This tuned circuit
> >>connects across the input of the triode, grid to cathode. Now the
> >antique
> >>radio books show the connection to the GRID as interrupted by a grid-leak
> >>capacitor. Across the capacitor is connected a resistor of high value.
> >>
> >>I don't understand how this detects.
>
> Grids do not leak. Often this is confused with contact bias which was
> used with a few low level audio amplifiers. Contact bias uses a very high
> value resistor from gird to cathode between 10 Meg and 100 Meg ohms.
> Grid leak detector is really detection by grid rectification. It is very
> sensitive but has the disadvantage of loading down the preceeding tuned circuit.
> The capacitor must be chosen such that it and the grid resistor have a long
> time constant in respect to the RF frequency but short in respect to the
> audio frequency. The grid conducts on the positive cycles and charges the
> capacitor to
> the peak value of the signal and it is discharged thru the resistor. You can
> verify this by playing with the capacitor in the detector. Use one very
> large and the audio will go away. If you use one too small in value the
> audio will be attenuated somewhat.
> Another common detector was the plate detector. It had a large cathode
> bias resistor and placed the tube in near class B operation. The low pass
> filter circuit was placed in the plate circuit so that only the audio would
> be passed to the rest of the circuit. A low pass filter is often placed in
> the plate of the grid-leak detector as well.
> The plate detector has much lower sensitivity but a very high input
> resistance thus reducing the loading on the preceeding tuned circuit.
>
> 73
> Bill wa4lav
>
> William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
> Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
> University of Kentucky , Lexington, Ky 40506-0055

>
> Finding bottles of grid leak detector is getting hard these days....

1415. Re: Does anybody know what a D2824C is?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.960923124109.1445C-100000@primeline.net>
Source record: 102150

Zu

]On Sat, 21 Sep 1996, Dan Puckett wrote:

> I've been playing at converting a Rat Shack CB to 10 meters. The PLL in
> the synthesizer is marked D2824C with what looks like a manufacturer's
> logo that is a stylized "NPC". What is this little beast?
>
> 73 and thanks in advance,
>
> Dan WD8AAU
>
>
How many crystals does this radio have?
If it is one or two, it is impossible to convert to 10M (tHe PLL is
designed for CB especially)
If it has 3 crystals, It is much easier to convert.

Gary Tait , VE3VBF

1416. Help with UHF Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Jack <jack@mrwint.demon.co.uk>
Message-ID: <3246D2B2.FD2@mrwint.demon.co.uk>
Source record: 102151

I'm studying the schematics for a 750mW 440 MHz UHF transmitter to try and improve my understanding of RF design. I've come across a problem and I'm not sure if it's the schematic or me.

The transmitter uses a Motorola MRF559 as it's PA operating in Class C. I've obtained the Data sheets from Motorola's Web Site and the spec states that ZOL for 0.75W at 12.5V on 440MHz is 49-j50 (The spec states that this is the 'Conjugate of the optimum load impedance into which the device output operates at a given output power, voltage and frequency'). This means that the load should look like 49+j50, Right?

The schematic looks like this (I hope it's understandable, first attempt):

```
----------------- 12.5V
| |
C L
C 100pF L 39nH
C L
| | 25nH 10pF
------------------LLL-------------CCC--------- 50 ohm OUT
| |
| C
--O MRF559 C 1pF
| C
| |
GND GND
```

I've analysed the output network by maths and checked the answer on a Smith Chart, and it appears that the impedance of the network is 22+j31 which I feel is a long way out from the suggested value. Could stray L and C make this much difference or am I overlooking something? Should I build the circuit with the suggested values or calculate my own?

Any help would be much appreciated, I've been thinking over this for days now and you're the only people I know to ask.

Many Thanks,

Mark.
mark@mrwint.demon.co.uk

1417. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-2309961459310001@brainiac.hi.com>
Source record: 102152
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

bjrehm@most.fw.hac.com (bjrehm) wrote:
>I am looking for design ideas, schematics, suggested sources, and
>performance reports for active antenna designs. I would like to
>build my own for home and mobile SWL use.

I'm surprised no-one has mentioned the balanced transformer-feedback designs written up by Dallas Lankford and published in the IRCA "DX Monitor" and NRC "DX News". A 50-ohm input impedance RF-preamp variant was described by Rohde in one of his QST articles on modern receiver design. The Kiwa preamp is the same basic design.

These preamps can have very low intermodulation distortion, which translates to a high dynamic range, which is what you need for an active antenna. They do present a lower input impedance than one would like for a voltage probe active antenna, unfortunately.

Write to the NRC (http://wcoil.com/~gnbc/) and ask for their reprint catalog; that should list the article. I think it was entitled something like "High dynamic range loop preamp" or something like that. You should be able to buy the reprint for at most a few bucks.

NRC Publications
P.O. Box 164
Mannsville NY 13661
USA

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1418. Re: Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Chris Broadbent <cfb@bga.com>
Message-ID: <3246EA9D.7240@bga.com>
Source record: 102153
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

orion@capital.net wrote:
>
> ...<SNIP>
>
> .... And for the "Try CW, You'll
> learn to love it!" group, I say "Nuts to you." I worked on that damn
> Morse Code until it made me sick. It's still just noise to me. Now I'm
> forever locked out of the HF spectrum because of this discriminatory
> rule.
> Butch N2YMJ

Yes, there is a homebrew aspect to this response further down....

And what if, try as you might, you couldn't get the technical aspects of the tests right (many people can't)? Would you cry "discrimination" because, after all, why do you need to know what thosed damned transistor squiggles and Ohm's law thingies are? Only homebrewers need to know these things, not appliance operators. Who needs to know how an engine works to drive a car, after all? Why do you have to understand the components of a phase modulated TX when all you ever intend to do is key the mike on your Yeasu wonderradio?

I could make as big a case for removing most of the technical requirements as you are making for the removal of the code requirement. If successful, would we be better Hams? I don't think so.

Mark my words, if the CW requirement is removed, the technical requirement will follow. That would be a sad day.

And before anyone cries, "but it's alright for you, you have passed the tests", I'll point out that I have been a supporter of the code requirement both before and after writing my tests recently (a quick search using Deja News will verify this).

Again, I like the homebrew aspects, and there is no simpler homebrew starting point than a CW TX. The CW requirement encouraged me to enter, as I know there are many people out there with whom I can communicate using my freshly made homebrew TX. A selfish position, perhaps, but no more selfish than those who clammer to have the requirement removed because they cannot pass.

Chris (KC5VQL)

1419. I need a lcd display 1 by 16 or whatever (14 pin)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: dakota@ccwf.cc.utexas.edu
Message-ID: <526qhs$ir8@geraldo.cc.utexas.edu>
Source record: 102154

I need a lcd display for a small project. one or two line, 16 or 20 character.
I also need the pinout.
I didnt want to pay digikey ~$35.

any one got a used one floating around or know a surplus source?

thanks

richard

1420. Re: Use for broken transformers ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <5278qe$ohm@newsbf02.news.aol.com>
Source record: 102155

In article <525i9c$489@tron.sci.fi>, keinanen@sci.fi (Paul Kein&#65533;nen)
writes:

```
>
>Inductors that are designed to carry large DC currents usually have an
>air gap to avoid core saturation. Using an ordinary transformer core
>(without an air gap) can have surprising effects if the core saturates
>(generation of harmonics etc.)
>
>Paul OH3LWR
>
>
```

That's a good point Paul, but if the person stays within the AC current design limits of that winding (with the peak choke current) the core will be will be ok.

Another point worth mentioning is that if the transformer fails from shorted turns, the impedance of other windings is reduced.

73 Tom

1421. search for Grid Dip Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <Dy7JJ1.Br8@actcom.co.il>
Source record: 102156

Hi All,

We're still looking for a Grid Dip Mete (preferably the Millen Solid
State version).
Can anyone help?

When responding, please email directly in addition to posting
here, so that no responses are missed.

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

1422. wanted: tunable 300-400MHz tunable power oscilator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <Dy7L2y.F65@actcom.co.il>
Source record: 102157

Hello All,

This is a second post, since no one answered our previous one:

We're looking for a simple tunable 300-400MHz power oscilator design.
Minimal power output should be at least 50mW.
We were thinking about a simple GUNN DIODE oscilator, but these
devices are pretty hard to get and we're not sure they're suitable for
this frequency range.

Designs, anyone?...:-)

When responding, please email directly in addition to posting
here, so that no responses are missed.

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

1423. Re: wanted: tunable 300-400MHz tunable power oscilator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <3247705E.5FCC@wenzel.com>
Source record: 102158

How about a Mini-Circuits VCO followed by a MMIC amplifier? If you would rather build your own, try a grounded gate oscillator using a U310 JFET. Place a tuned-circuit in the drain with a small capacitor from the drain to source (2.2 pF?) and a 100 ohm resistor from the source to ground. The DC supply is connected to the other end of the inductor - bypass well! Tune the tank with back-to-back varactors coupled with the smallest capacitor values that give you sufficient tuning range. Take the output off the drain through a very small capacitor or tap the inductor at a low impedance point.

1424. Re: Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Carl Black <cblack@capecod.net>
Message-ID: <324755F5.78EE@capecod.net>
Source record: 102159

and@pacifier.com wrote:
>
> In a previous posting, someone claimed that JAN Crystals were of poor
> quality- and that one was better off buying from International Crystal.
>

Hi,
I've used many JAN crystals over the years of all varieties, the latest in a Motorola Mitrek conversion to a 430 MHz packet link. They have always worked fine and always checked out to the specified accuracy for frequency. And yes they've bounced around in Florida from place to place which hasn't had any ill effect that I've noted on their quality control.

73, Carl, W3KI (50th year in ham radio)

1425. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDy8xBC.JEF@netcom.com>
Source record: 102160

in <523thr$i8k@newsbf02.news.aol.com>, W8JI Tom wrote:
: As a former Heath contract engineer I can give a little more insight on
: this.

: It is very expensive to make a kit.

: 1.) Many customers didn't follow instructions or solder or do mechanical
: asembly well and required technical support. More so in later years as our
: population became less skilled at building.

More than that, the packaging technology made it harder to build stuff.
It was years before Heath put DIPs in their stuff. Most of their kits
were at a technology level of consumer products from about mid 1960's.
Anything more modern got harder and harder to build. And I don't think
it was a coincidence that their exit occured at the same time as surface
mount took over.

: 3.) Less people had the time or desire to build anything, so sales
: declined partially from that reason.. and lower sales drove up the
: overhead and design cost in each kit

And more and more of the kit building population's disposable income was
going to buy home computers.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1426. Tunnel diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: Vlad <dvorkin@pcs.mot.com>
Message-ID: <526goa$qrb@trotsky.cig.mot.com>
Source record: 102161
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

```
Looking for tunnel diodes.
Anybody makes them lately ?
Please reply to Vlad at:
dvorkin@pcs.mot.com

Regards,
Vlad
KB9OLM
```

1427. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: bjrehm@most.fw.hac.com
Message-ID: <Dy73uH.8EJ@most.fw.hac.com>
Source record: 102162
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

In article <51um6u$bek@nadine.teleport.com>, jimm@teleport.com says...
>
>bjrehm@most.fw.hac.com (bjrehm) wrote:
>
>>I am looking for design ideas, schematics, suggested sources, and
>>performance reports for active antenna designs. I would like to
>>build my own for home and mobile SWL use.
>
>>Thanks,
>
>>Brian
>
>A good article appeared in Ham Radio Magazine, May 1986 on
>active antenna preamps using VMOS FET's. I built some when
>i was in an urban apartment situation and they worked exceedingly
>well. Article author is R.W. Burhans, who seems to be an authority
>on active antenna design, I have seen other articles by the author
>in other more academic texts.
>
>Jim McVein
>jimm@teleport.com
>
Thanks Jim, I have the article, but did not know that Burhans has published outside of the article. Could you pass on the academic texts he has also written (the name sounds familiar, but I have not found were from yet).

Brian

1428. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.092296.175202.42@treasure-d6.syix.com>
Source record: 102282

> > I'm sure this question has been asked, but whenever you look at ham
> > books from 15+ years ago, everyone has always got a heathkit
> > something. Whether it be a transmiters/receivers all the way down to
> > test equipment. So it raises the question, what ever happened to
> > the heathkit co.?? They obviously made money as well as building a
> > name for themselves. Hell I love the way heathkit equipment looks
> > (but than again I love the way all old eqipment looks ;>
> > If anyone nows the answer I'd be very interested in knowing it.
>
> Well, they basically priced themselves out of the market. Why would you
> spend a lot of time building equipment that wasn't as good as stuff you
> could buy off the shelf for less?
>
> > 73,
> > -David-
> > KC5WDR

David,
Financial advantage wasn't the operative word, education was. By building and aligning your own stuff you LEARNED about how it worked. Problem is that Americans have gotten lazy and are dumbing down, like it or not. If this wasn't happening rat-shack would not have taken over the market.
Bill

1429. Re: ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <524mg7$872@opal.southwind.net>
Source record: 102283

In article <51vrla$lgr@camel3.mindspring.com>, j.r.isom@ieee.org says...
>
>I'm in the process of building the RF attenuator shown in the 1995
>ARRL handbook to use for foxhunting (the one made with double sided PC
>board and switches, not the active one).
>
>If anyone else has built this device, maybe you can answer a question
>for me. The instructions say to soak the switches in acetone to
>remove grease. Does this mean to actually immerse the whole switch in
>the acetone? If so, for how long?
>
>Also, the plans say to solder brass nuts inside the enclosure to screw
>the screws into. Is it critical that these are brass & not some other
>metal?

Rodney,
I'm not sure of your intensions for this attenuator but I strongly suggest
building the active attenuator. Of course, if you are needed a calbrated att,
then the stepped version would be what you need but if it is for T-hunting,
I've had excellent results with the active att. Other articles I've read on
the circuit claim to give nearly 100dB of attenuation however I have found that
by changing the frequency of the receiver, you have practically infinative
attenuation.

I was able to purchase all of the parts in town and and quite possibly all of
them from Radio Shack (can't remember, it's been a while).

Gud luck,
Zack, AA0XQ

1430. Re: Wanted: Source for Toroid Cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-23 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <524n35$872@opal.southwind.net>
Source record: 102284
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

In article <523uff$831$1@mhafn.production.compuserve.com>,
104573.2147@CompuServe.COM says...
>
>Can anyone recommend a mail order source for single quantities of
>toroid cores?

I just got an order of cores from Palomar Engineers. They will send out spec sheets for free and I don't think they have a minimum order (I ordered about $30 worth of cores). I also found a few cores from DC Electronics. They were quite a bit cheaper than palomar but they only carried a small selection. Amidon Associates may be able to help you. I have some info from them but have never ordered from them.

Palomar Engineers
PO Box 462222
Escondido, CA 92046
Phone: (619) 747-3343
Fax: (619) 747-3346

I don't have DC Electronic's info handy tonight.. If you email me, I can find it for you.

Amidon Associates Inc.
PO Box 25867
Santa Ana, CA 92799
Phone: (714) 850-4660
Fax: (714) 850-1163

Gud luck,
Zack, AA0XQ

1431. Re: Ham-Homebrew Digest V96 #413, broken transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.94.960923232637.29880A-100000@polaris>
Source record: 102163

If its a good size power transformer and the primary is the first winding on the core. Cut out the secondary windings and replace them with a 3 or 4 turn secondary using some welding cable as the wire. Attach some very large alligator clips and use it to thaw frozen pipes. Dont leave it on to long or you will melt the solder joints.
73
Spencer Trombly W1GAK
w1gak@polaris.mindport.net

1432. UC Amateur Radio Club

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: lewi2727@uceng.san.uc.edu
Message-ID: <527od3$art@news.ececs.uc.edu>
Source record: 102164
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.scanner,rec.radio.shortwave,rec.radio.amateur.policy,rec.radio.amateur.homebrew,uc.general,uc.ece,uc.compsci,uc.announce

The University of Cincinnati ARC will hold its first meeting during the 1996-1997 school year on Wednesday, October 9. We look forward to seeing some new faces (ok, and the old ones too...)

The club has resources for all hams, as well as scanner/shortwave enthusiasts.

If you would like to contact me, you can phone me at 556-7685 or the clubstation at 556-9899 (when the phone is working...) You can also page me at589-9822 or email me: lewse@email.uc.edu

We maintain an E-mail list to keep former/present/potential/future membersup to date on club activities. If you would like to be added, just say/type the word!!

-73- de N8TFD/Steve

1433. Re: What happen to Heathkit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: WCS@Emperor.HandHeld.COM
Message-ID: <23503@Emperor.HandHeld.Com>
Source record: 102165

Text item: Text_1

Robert Smits (VE7HS) wrote:

>Well, they basically priced themselves out of the market. Why would
>you spend a lot of time building equipment that wasn't as good as
>stuff you could buy off the shelf for less?

Heath had an initial advantage when the first started in that the wiring in electonics was point to point and very time consuming. When PCBs were used and the boards were stuffed and wave soldered by machine that advantage went away. Within Heath, the development for a kit had to be paid off in two years of production. This was the standard and that set the kit price (we had an old PDP-8 that was pre-programmed with the accepted formula to generate the kit price). The problem was the volume. The volumes were in many cases for Ham equipment a few thousand a year. Also throw into the barrel that their was not a lot of money for test equipment. But.... it was a great place to work and had wonderful people.

>The reason kits were made in the first place was because hams liked
>building them, and minus the labour of assembly, they could be sold
>cheaper than ready built items. (And hams were always...errr frugal)

Again, not when you are dealing with low volumes. Heath did not export well. Many of the decision makers dealt with Illinois, Indiana, Michigan, and Wisconson as their primary sales area. I recall this in particular when they began talking about a major sales campaign to push the H-8 computer. The national blitz was four states.

>By the 1970's there was no longer any financial advantage in kits.

Heath finally began trying to sell the experience i.e. the pleasure of building your own equipment for six hours is cheaper than a Rock Concert (or whatever).

Bud Simciak
W4HXP

1434. Re: Is JAN Crystal poor quality? / phone number

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <wwIOLBABe8RyEw98@ddwyer.demon.co.uk>
Source record: 102166

In article <3244355B.1ABE@tir.com>, "Bill C." <wrc@tir.com> writes
>My own experience with Jan crystals:
>
>They failed to work in cold weather 100%.
>
>They failed to work at all - 10%
>
>I buy from Sentry Manufacturing. They work 100%... under all conditions I
>have exposed them to. That is just my experience, but that is the
>experience that counts for me.
From outside the US I cannot comment on individual Xtals however:
Crystals that stop when cold? this is a symtom of crystals sealed in a
moist atmosphere. When the crystal gets cold the atmosphere in the
crystal reaches dew point and dew forms on the crystal adsorbing
vibrating energy and increasing resistance, the frequency also drops
50ppm or so. If your oscillator circuit is very active the crystal wont
stop but the freq still drops.
Crystals are best sealed in nitrogen with a -40 dew point.
Modern crystals are normally resistance welded like metal transistors ,
older processes use solder seal, not always bad. I have seen Xtals
sealed with heat shrink ! not so good.
Regards
Douglas Dwyer
Frequency Precision Ltd
Shorts Northlew Okehampton Devon UK EX20 3NR
Consultant and Designer for Analog, RF, Crystal Oscillators,
TCXOs, OCXOs, SAWOs, Sensors.
Phone/Fax +44(0)1837810590
Web page http://ourworld.compuserve.com/homepages/frequency_Precision/

1435. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <528li9$a8p@newsbf02.news.aol.com>
Source record: 102167

In article <steve-2309961459310001@brainiac.hi.com>, steve@hi.com (Steve Byan) writes:

>I'm surprised no-one has mentioned the balanced transformer-feedback >designs written up by Dallas Lankford and published in the IRCA "DX >Monitor" and NRC "DX News". A 50-ohm input impedance RF-preamp variant was >described by Rohde in one of his QST articles on modern receiver design. >The Kiwa preamp is the same basic design.

Actually Rohde described it FIRST in RF Design magazine. I used transformer feedback pre-amps in the early 70's using CATV transistors.

>These preamps can have very low intermodulation distortion, which >translates to a high dynamic range, which is what you need for an active >antenna. They do present a lower input impedance than one would like for a >voltage probe active antenna, unfortunately.

The main advantage is low noise, the negative feedback does not deteriorate the noise figure. This is not a concern at HF except for the first stage, or following a passive mixer.

I use a simple high power low noise FET source follower at my voltage probe antennas, and catv bi-polar amplifiers on my loop arrays. I do NOT use transformer feedback with small loops. With the transistor running at very high gain, very little feedback is used so the feedback resistance does NOT deteriorate noise figure enough to be measurable in the overall noise performance. It's only when gain is greatly reduced by large amounts of negative feedback that transformer feedback has a noise advantage. All feedback has an IMD advantage, but with a small antenna we can't use much feedback or we won't have enough gain.

At HF, it's easy to have ambient EXTERNAL noise at the receiving site dominate the system noise, even with an non-resonant antenna only one or two feet long or diameter. No special "tricks" are needed.

73 Tom

1436. Re: cw crystals co.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <528p5i$s4u@sf18.dseg.ti.com>
Source record: 102168

In article <32442BEA.2281@comm.net>, lbooth@comm.net says...
>
>I found out the other day that Bob Woods has shutdown CW Crystals. Does
>anyone know of another source of reasonably priced crystals for 7.000 to
>7.070 mhz. I need a few to fire up my old HT40 station again. Woods was
>selling crystals for 4-6 bucks each cut to your frequency.
>
>Big loss to homebrew and old gear folks I think.
>

JAN Crystals still makes FT-243 rocks (I'm sure they're more expensive
than $4 - $6 each, however).

I still find them from time to time at hamfests. I have never paid more
than $2.00 each for them, and usually it's $1.00 each.

Also, put out the word with as many people as you can that you're looking
for them. You'd be surprised how many people still have a few lying in
a drawer somewhere, unused and forgotten!

I have over 100 FT-243 crystals for 80m and 40m CW frequencies (many of
which will multiply into the 20m, 15m, and 10m bands as well). It's
taken years to build up this "library" of rocks, but I haven't spent much
money doing it.

Sorry, I don't have any extra crystals to offer you.

73 de KC5NG

1437. What happen to Heathkit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199609241541.LAA27632@service1.cc.uky.edu>
Source record: 102169

It is simple. It is cheaper to manufacture something
than make a kit. Even in the old Heathkit catalogs there
were examples of this. There was an All-American 5 tube radio
that was cheaper to buy assembled than in kit form.
Today we often buy new electronic devices rather than have
them repaired. Often it cost more to repair them than to replace
them.

73
Bill

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

1438. Wanted: Heath HW8 Handbook/mod book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: "Richard B. Joerger" <joerger@rd1.racal.com>
Message-ID: <324813BF.9B4@rd1.racal.com>
Source record: 102170
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Howdee.

I've been looking for a compendium of mods for the Heath HW8 QRP rig.

It's been suggested that I get the book "HW8-Handbook" by the 73
magazine QRP editor. 73 Mag. doesn't have the book.

Can anyone point me to a source OR does anyone have a copy they would
sell?

TIA & 73

Rich Joerger, WB4EHG
pepper@icanect.net
joerger@rd1.racal.com

1439. Help designing modulator for direct-to-skull work

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: raven1 <raven1@netaccess.on.ca>
Message-ID: <5296ch$ld3@news.bellglobal.com>
Source record: 102171
Body handling: HTML body converted to readable text

I'm one of several thousand victims of electromagnetic harassment. One of the main 'tools' used by the harassers is audio-via-direct-RF-to-skull transmission mode.

In a nutshell, this mode uses very 'thin' (low duty cycle) pulses like the teeth of a comb with the peaks modulated by the audio waveform. High quality voice and other audio are transmitted this way.

I would like to use a moderate power (20 - 50 watts?) ham transmitter coupled to a special modulator to try to duplicate this technology as a first step in showing the public that this technology exists NOW, and not only works, but works amazingly well. (The 420-450 MHz band would be a likely candidate for carrier.)

Below is an amazing article from 1962, believe it or not, detailing successful tests of this mode. If you can't receive it all, please request a separate e-mail transmission from me at:

raven1@netaccess.on.ca

Most sincere thanks to all who read this - it is NOT a hoax. Anyone wishing detailed information on electromagnetic harassment in general can dial up this web site:

http://members.gnn.com/fivestring

Here's the article:

The Government Psychiatric Torture Site
Human Auditory System
Response
To Modulated Electromagnetic Energy
ALLAN H. FREY

General Electric Advanced Electronics Center
Cornell University
Ithaca, New York

Courtesy of MindNet

Frey, Allan H., Human Auditory system response to modulated electromagnetic energy.
J. Appl. Physiol. 17(4): 689-692. 1962.

Note: This paper explains how voices can be beamed directly into an individual's head.

(*) Asterisks indicate unreadable characters in the original copy

--The intent of this paper is to bring a new phenomena to the attention of physiologists. Using extremely low average power densities of electromagnetic energy, the perception of sounds was induced in normal and deaf humans.

The effect was induced several hundred feet from the antenna the instant the transmitter was turned on, and is a function of carrier frequency and modulation. Attempts were made to match the sounds induced by electromagnetic energy and acoustic energy. The closest match occurred when the acoustic amplifier was driven by the rf transmitter's modulator. Peak power density is a critical factor and, with acoustic noise of approximately 80 db, a peak power density of approximately 275 mw / rf is needed to induce the perception at carrier frequencies 125 mc and 1,310 mc. The average power density can be at rf as low as 400 _u_w/cm2. The evidence for the various positive sites of the electromagnetic energy sensor are discussed and locations peripheral to the cochlea are ruled out.

Received for publication 29 September 1961.

A significant amount of research has been conducted with the effects of radio-frequency (rf) energy on organisms (electro- magnetic energy between 1 kc and ** Gc). Typically, this work has been concerned with determining damage resulting from body temperature increase. The average power densities used have been on the order of 0.1-t w/cm2 used over many minutes to several hours.

In contrast, using average power densities measured in microwatts per square centimeter, we have found that ****r effects which are transient, can be induced with rf energy. Further, these effects occur the instant the transmitter is turned on. With appropriate modulation, the perception of different sounds can be induced in physically deaf, as well as normal, in human subjects at a distance of inches up to thousands of feet from the transmitter. With somewhat different transmission parameters, you can induce the perception of severe buffeting of the head, without such apparent vestibular symptoms as dizziness or nausea. Changing transmitter parameters down, one can induce a "pins-and-needles" sensation.

Experimental work with these phenomena may yield information on auditory system functioning and, more generally, in the nervous system function. For example,

this energy could possibly be used as a tool to explore nervous system coding, possibly using Neider and Neff's procedures (1), and for stimulating the nervous system without the damage caused by electrodes.

Since most of our data have been obtained of the "rf sound" and only the visual system has previously been shown to respond to electromagnetic energy, this paper will be concerned only with the auditory effects data. As a further restriction, only data from human subjects will be reported, since only this data can be discussed meaningfully at the present time. The long series of studies we performed to ascertain that we were dealing with a biological significant phenomena (rather than broadcasts from sources such as loose fillings in the teeth) are summarized in another paper (2), which also reports on the measuring instruments used in this work.

The intent of this paper is to bring this new phenomenon to the attention of physiologists. The data reported are intended to suggest numerous lines of experimentation and indicate necessary experimental controls.

Since we are dealing with a significant phenomenon, we decided to explore the effects of a wide range of transmitter parameters to build up the body of knowledge which would allow us to generate hypotheses and determine what experimental controls would be necessary. Thus, the numbers given are conservative; they should not be considered precise, since the transmitters were never located in ideal laboratory environments. Within the limits of our measurements, the orientation of the subject in the rf field was of little consequence.

Most of the transmitters used to date in the experimentation have been pulse modulated with no information placed on the signal. The rf sound has been described as being a buzz, clicking, hiss, or knocking, depending on several transmitter parameters, i.e., pulse width and pulse-repetition rate (PRF). The apparent source of these sounds is localized by the subjects as being within, or immediately behind the head. The sound always seems to come from within or immediately behind the head no matter how the subjects twists or rotates in the rf field.

Our early experimentation, preformed using transmitters with very short square pulses and high pulse-repetition rates, seemed to indicate that we were dealing with harmonics of the PRF. However, our later work has indicated that this is not the case; rather, the rf sound appears to be incidental modulation envelope on each pulse,

as shown in Fig 1.

Some difficulty was experienced when the subjects tried to match the rf sound to ordinary audio. They reported that it was not possible to satisfactorily match the rf sound to a sine wave or to white noise. An audio amplifier was connected to a variable bypass filter and pulsed by the transmitter pulsing mechanism. The subjects, when allowed to control the filter, reported a fairly satisfactory match. The subjects were fairly well satisfied with all frequencies below 5-kc audio were eliminated and the high-frequency audio was extended as much as possible. There was, however, always a demand for more high-frequency components. Since our tweeter has a rather good high-frequency response, it is possible that we have shown an analogue of visual phenomenon in which people see farther into the ultraviolet range when the lenses is eliminated from the eye. In other words, this may be a demonstration that the mechanical transmission system of the ossicles cannot respond to as high a frequency as the rest of the auditory system. Since the rf bypasses the ossicle system and the audio given the subject for matching does not, this may explain the dissatisfaction of our subjects in the matching.

[If the following tables appear
misaligned, please update your monospaced font selection in your Browser's preferences. A monospaced courier or TTY font will improve readability.]

FIG. 1. Oscilloscope representation of transmitter output over time (pulse-modulated).

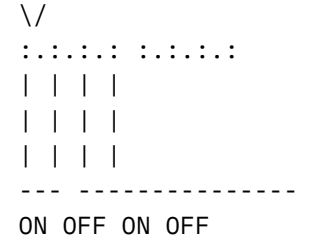
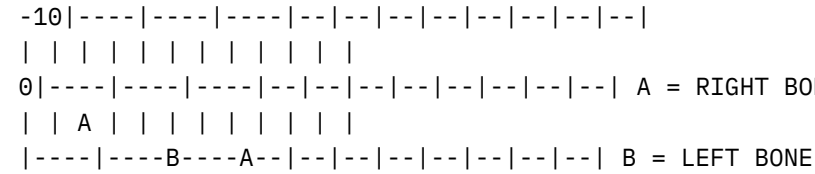


FIG. 2. Audiogram of deaf subject (otosclerosis) who had a "normal" rf sound threshold.



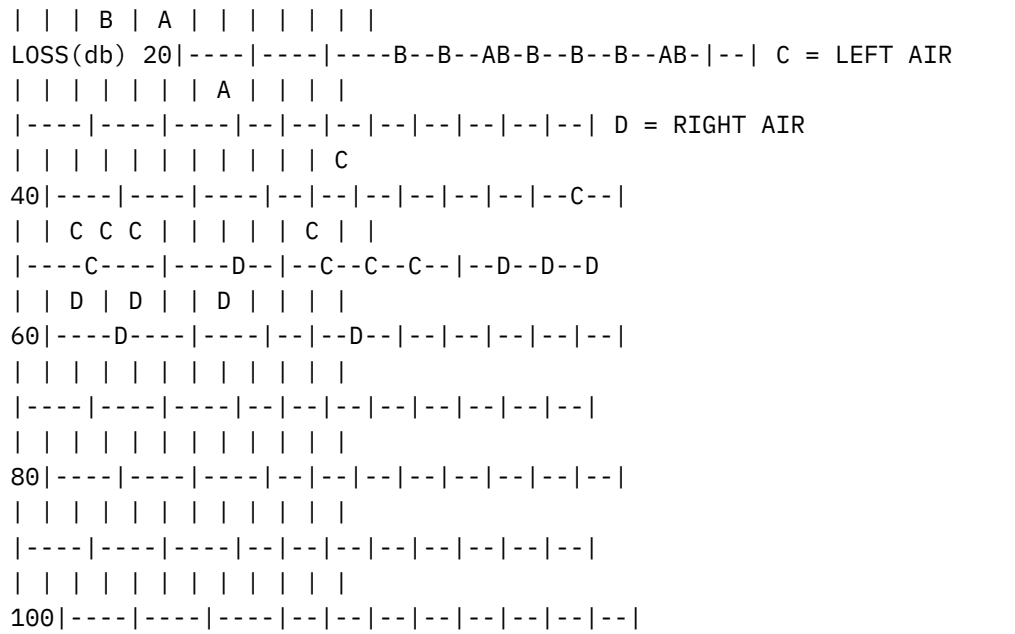
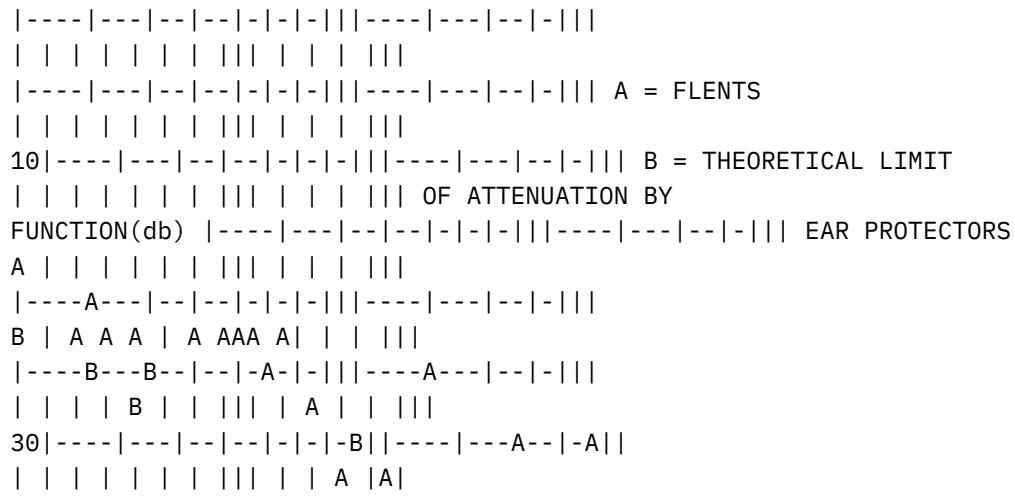


TABLE 1. Transmitter parameters

Trans-mitter	Frequency, mc	Wave-length, cm	Pulse Width, _u_sec	Pulses Sec.	Duty Cy.
A	1,310	22.9	6	244	.0015
B	2,982	10.4	1	400	.0004
C	425	70.6	125	27	.0038
D	425	70.6	250	27	.007
E	425	70.6	500	27	.014
F	425	70.6	1000	27	.028
G	425	70.6	2000	27	.056
H	8,900	3.4	2.5	400	.001

FIG. 3. Attenuation of ambient sound with F□lent antinoise stopples
(collated from Zwislocki (3) and Von Gierke (4).



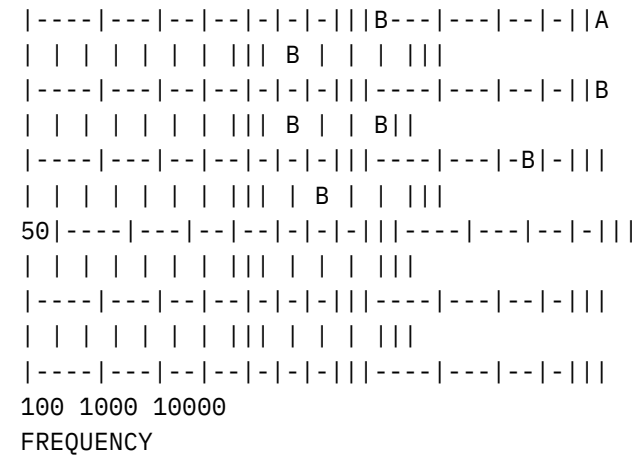
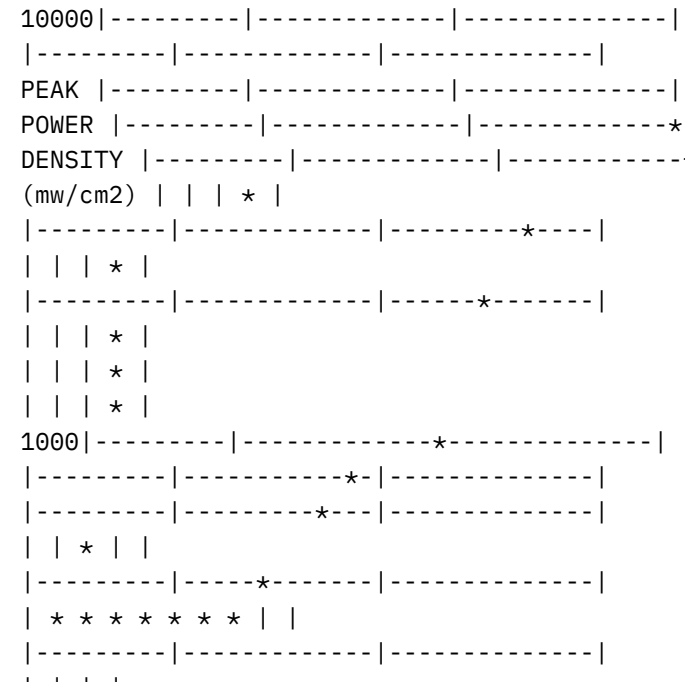


TABLE 2. Theshold for perception of rf sound (ambient noise level 70-90 db).

Transmitter	Peak Power mc	Avg Power mw, cm2	Peak Electric Field Density, mw, cm2	Peak Magnetic Field Density, v cm	Frequency amp. turns, m
A	1,310	.0015	0.4	267	14 4
B	2,982	.0004	2.1	5,250	63 17
C	425	.0038	1.0	263	15 4
D	425	.007	1.9	271	14 4
E	425	.014	3.2	229	13 3
F	425	.028	7.1	254	14 4

FIG. 4. Threshold energy as a function of frequency of electromagnetic energy (ambient noise level 70-90 db).



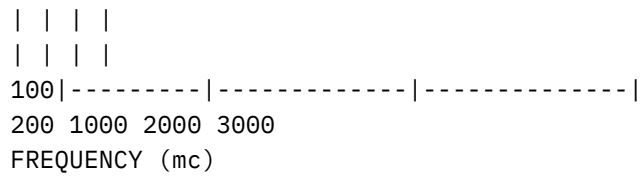


FIG. 5. Microwave power distribution in a forehead model neglecting resonance effects and considering only first reflections (from Nieset et al. (5), modified).

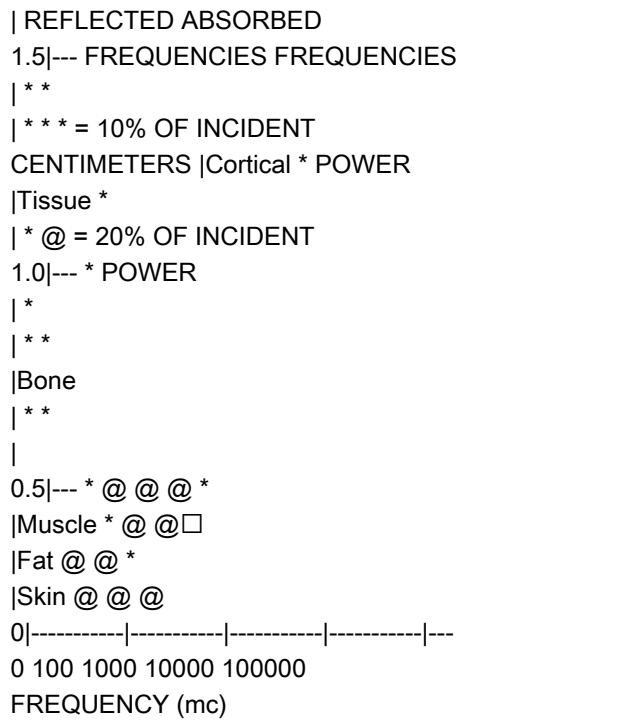
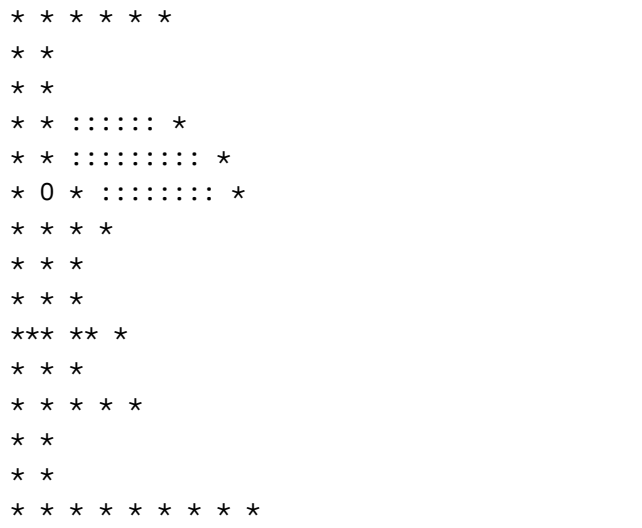


FIG. 6. Area most sensitive to electromagnetic energy (shaded portion).



At one time in our experimentation with deaf subjects there seemed to be a clear relationship between the ability

to hear audio above 5 kc and the ability to hear rf sounds. If a subject could hear above 5 kc, either by bone or air conduction, then he could hear the rf sounds. For example, the threshold of the subject whose audio gram appears in Fig. 2 was the same average power density as our normal subjects. Recently, however, we have found people with a notch around 5 kc who do not perceive the rf sounds generated by at least one of our transmitters.

THRESHOLDS

As shown in Table 1, we have used a fairly wide range of transmitter parameters. We are currently experimenting with transmitters that radiate energy at frequencies below 425 mc, and are using different types of modulation, e.g., pulse-repetition rates as low as 3 and 4/sec.

In the experimentation reported in this section, the ordinary noise level was 70-90 db (measured with a General Radio Co. model 1551-B sound level meter.) In order to minimize the rf energy used in the experimentation, subjects wore Flent antinoise ear stoppers whenever measurements were made. The ordinary noise attenuation of the Flents is indicated in Fig. 3. Although the rf sounds can be heard without the use of Flents, eventhough they have an ambient noise evel of 90 db, it appears that the ambient noise to some extent "masked" the rf sound.

Table 2 gives the thresholds for the perception of the sounds. It shows fairly clearly that the critical factor in the perception of the rf sound is the peak power density, rather than the average power density. The relatively high value for transmitter B was expected and will be discussed below. Transmitter G has been omitted from the table since the 20-mw/cm2 reading for it can be considered only approximate. The field-strength-measuring instruments used in that experiment did not read high enough to give an accurate reading. The energy from transmitter H was not perceived, even when the peak power density was as high as 25 w/cm2.

When the threshold energy is plotted as a function of the rf energy (Fig. 4), a curve is obtained which is suggestive of the curve of penetration of rf energy into the head. Figure 5 shows the calculated penetration, by frequency of rf energy, into the head. Our data indicate that the calculated penetration curve may well be accurate at the higher frequencies but the penetration at the lower frequencies may be greater than that calculated on this model.

As previously noted, the thresholds were obtained in a high ambient noise environment. This is an unusual situation as compared to obtaining thresholds of regular□ audio sound. One recent experimentation leads us to believe that, if the ambient noise level were not so high, these threshold fields strengths would be much lower. Since one purpose of this paper is to suggest experiments, it might be appropriate to theories as to what the rf sound threshold might be if we assumed that the subject is in an anechoic chamber. It is also assumed that there is no transducer noise.

Given: As a threshold for the rf sound, a peak power density of 275 mw/cm2 determined in an ambient noise environment of 80 db. Earplugs attenuate the ambient noise 30 db.

If: 1 mw/cm2 is set equal to o db, then 275 mw/cm2 is equal to 24 db.

Then: We can reduce the rf energy 50 db to -26 db as we reduce the noise level energy from 50 db to o db. We found that -26 db rf energy is approximately 3 _u_w/cm2.

Thus: If an anechoic room, rf sound could theoretically be induced by a peak power density of 3 _u_w/cm2 measured in free space. Since only 10% of this energy is likely to penetrate the skull, the human auditory system and a table radio may be one order of magnitude apart in sensitivity to rf energy.

RF DETECTOR IN AUDITORY SYSTEM

One possibility that seems to have been ruled out in our experimentation is that of a capacitor-type effect with the tympanic membrane and oval window acting as plates of a capacitor. It would seem possible that these membranes, acting as plates of a capacitor, could be set in motion by rf energy. There are, however, three points of evidence against this possibility. First, when one rotates a capacitor in an rf field, a rather marked change occurs in the capacitor as a function of its orientation in the field. When our subjects rotate or change the positions of their heads in the field, the loudness of the rf sound does not change appreciably. Second, the distance between these membranes is rather small, compared with the wavelengths used. As a third point, we found that one of our subjects who has otosclerosis heard the rf sound.

Another possible location for the detecting mechanism is in the cochlea. We have explored this possibility with nerve-deaf people, but the results are inconclusive due to factors such as tinnitus. We are currently exploring this

possibility with animal preparations.

The third likely place for the detection mechanism is the brain. Burr and Mauro (6) presented evidence that indicates that there is an electrostatic field about neurons. Morrow and Sepiel (7) presented evidence that indicates the existence of a magnetic field about neurons. Becker (personal communication) has done some work indicating that there is longitudinal flow of charged carriers in neurons. Thus, it is reasonable to suspect that possibly the electromagnetic field could interact with neuron fields. As yet, evidence of this possibility is inconclusive. The strongest point against it is that we have not found visual effects although we have searched for them. On the other hand, we have obtained other nonauditory effects and have found that the sensitive area for detecting rf sounds is a region over the temporal lobe of the brain. One can shield, with a 2-in.2 piece of fly screen, a portion of the stippled area shown in Fig. 6 and completely cut off the rf sound.

Another possibility should also be considered. There is no good reason to assume that there is only one detector site. On the contrary, the work of Jones et al. (8), in which they placed electrodes in the ear and electrically stimulated the subject, is sufficiently relevant to suggest the possibility of more than one detector site. Also, several sensations have been elicited with properly modulated electromagnetic energy. It is doubtful that all of these can be attributed to one detector.
As mentioned earlier, the purpose of this paper is to focus the attention of physiologists on an unusual area and□ stimulate additional work on which interpretations can be based. Interpretations have been deliberately omitted from this paper since additional data are needed before a clear picture can emerge. It is hoped that the additional exploration will also result in an increase in our knowledge of nervous system functions.
REFERENCES:
Neider, P.C. and W.D. Neff. Science 133: 101□0, 1961.

Frey, A.H. Aero Space Med. 32: 1140, 1961.

Zwislocki, J. Noise Control 4:42, 1958.

Von Gierke, H. Noise Control 2:37, 1956.

Nifset, R., Pinneo R. Baus J. Fleming, & R. McAfee. Ann.

Rept. USAF Rome Air Development Command, TR-61-65, 1961.

Burr, H., & J. Seipel, J. Wash Acad. Sci. 21: 455, 1949.

Morrow, R., & J. Seipel. J. Wash. Acad. Sci. 30: 1, 1969.

Jones, R.C., S.S. Stevens, & M.H. Laurie. J. Acoust. Sci. Am. 12: 281, 1940.

1440. Re: wanted: tunable 300-400MHz tunable power oscilator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: stevem@best.com
Message-ID: <529dbk$muv@shellx.best.com>
Source record: 102172

In article <Dy7L2y.F65@actcom.co.il>,
innovative technologies <innovative_technologies@actcom.co.il> wrote:
>Hello All,
>
>This is a second post, since no one answered our previous one:
>
>We're looking for a simple tunable 300-400MHz power oscilator design.
>Minimal power output should be at least 50mW.
>We were thinking about a simple GUNN DIODE oscilator, but these
>devices are pretty hard to get and we're not sure they're suitable for
>this frequency range.
>
>Designs, anyone?...:-)
>

I am starting to see some good answers to this question posted
so I will not repeat them, but I do want to comment that I dont
think there are any Gunn diodes that will work in this frequency
range. Lowest frequency for Gunns I've seen is about 4GHz but
I could be wrong. There was an interesting device called a tunnel
diode which might work, but I've not seen one used in years.
Anybody know what happened to the tunnel diode?

Steve Muther WF6R

1441. Re: morse again

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.94.960924154010.22042A-100000@polaris>
Source record: 102173

Took me 40 years to do it, but it sure felt good when that EXTRA came in the mail.

1442. Re: Wanted: Heath HW8 Handbook/mod book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: jonz@rainbow.rmii.com
Message-ID: <529h2r$7f4@rainbow.rmii.com>
Source record: 102174
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Richard B. Joerger (joerger@rd1.racal.com) wrote:
: Howdee.

: I've been looking for a compendium of mods for the Heath HW8 QRP rig.

: It's been suggested that I get the book "HW8-Handbook" by the 73
: magazine QRP editor. 73 Mag. doesn't have the book.

I noticed in this month's 73 magazine -- classified section -- that
the author has it back in print. I don't have the magazine with me,
but I believe it is self-published and _not_ in the "73 BookShelf" (or
whatever Wayne calls it.)

If I remember, I'll look for it again and re-post here tomoro.

--
73
Jonesy W3DHJ

--
SK

1443. Re: ARRL Attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: Randy Shore <randys@lsil.com>
Message-ID: <32487844.92@lsil.com>
Source record: 102175

> Also, the plans say to solder brass nuts inside the enclosure to screw
> the screws into. Is it critical that these are brass & not some other
> metal?

I built the RF attenuator using brass nuts to hold the cover in place.
Using a RF signal generator and spectrum analyzer, I observed that the
cover
did not help isolate the sections and there was some signal getting thru
from the input to the output port.

I removed the cover and brass nuts. I used a thin brass sheet which was
cut to fit the bottom of each section. I carefully soldered each brass
sheet section in place. Make sure to solder all around the brass sheet.
This helped seal each section so that it was RF tight. I tested the unit
again and the RF attenuator performed extremley well. With 20 dB
sections,
I was able to obtain about 120 dB of RF attenuation from 1MHz to 1GHz.

Randy KC6AND

1444. The Handicapper General & the Morse key of the Oppressed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: nyoung@desire.wright.edu
Message-ID: <1996Sep24.210454@desire.wright.edu>
Source record: 102176

And just to add fuel to the already inflamminatorized discussion: I've been playing CW since around 1968, when I got my licence. This was after the USN had told me that I was gonna be a radio operator but sent me to teletype school (no cw) instead. So I had to learn the CW the same way many do: listen and listen and listen and pink rabbits with bad fists. But I wanted to play HF and I wanted to play DX and I wanted the damn ticket. So I learned to copy at 5 wpm. Then I bought a keyer and discovered that I could send at 15 wpm and copy at 8. So I learned to copy at 17 and passed the general. Then the advanced. And since it's been a while since I chased some guy up the warp scale of CW, that's where I is today: an advanced ticket holder who would, if he could find the time, study all the transistor squiggles and learn to copy cw at 20+ (which I could do back in '72 when I left the USN).

Actually, it all comes down to something I read once in a _Playboy_ magazine. (We all read _Playboy_ in the Navy. It was the only source of good literature and cogent discussion of current event topics. Yeah, right.) Once some years ago I came across a story by Kurt Vonnegut. I think I read it in _Playboy_. The story was called "The Handicapper General." At least that's what I remember, even if it might just have been the name of one of the characters. The Handicapper General.

The Handicapper General was a government official who went around putting weights on the best ballerinas so that none would be better than an a priori average. Same with speakers: special dental and tongue implants so that their words would not sound any better than any other speakers. Clamps and bondage on the hands of writers. Limited vocabulary and spell-checkers too. Everyone was averaged out by the Handicapper General.

So you have a choice: you either get past the basic crap, the CW or the theory, and you get on with enjoying whatever part of the hobby you like, be that satellites or QRPp on 1.75 km. You're different. You cared enough to go through the basic training to get the licence.

Or you can water it down, one way or the other, with no CW requirements or no technical knowledge requirements and you end up with CB (or some pandemic equivalent) that has been averaged out by the Handicapper General.

Me, I'd rather know that my frontal lobe and my ability to decipher signs and sounds somehow went beyond my natural ability to control what is to all other animals just food barks. Simple choice. Signs and significance or gibbering cacophony.

73
Nils
WB8IJN &c

1445. Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: Simon Bosworth <simonb@primenet.com>
Message-ID: <32489400.44B8@primenet.com>
Source record: 102177

I am looking for a source for a 75MHZ, (or somewhere around there), crystal filter to use in an
upconverting receiver. Any ideas ?

Thanks,
Simon N0EPW

1446. Re: Does anybody know what a D2824C is?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDyAt88.DD2@netcom.com>
Source record: 102178

in <3244B3F9.296E@erinet.com>, Dan Puckett wrote:
: I've been playing at converting a Rat Shack CB to 10 meters. The PLL in
: the synthesizer is marked D2824C with what looks like a manufacturer's
: logo that is a stylized "NPC". What is this little beast?

My first guess would be that it's a poorly formed label for a NEC chip.

Only way to find out is to get the manual. Something that Radio Shack
is really pretty good at. One way is to get the local salesdroid to
order it, another is to get it from "Tandy National Parts". They
have an 800 number, take plastic, and can get most any part for
Tandy stuff. I got the number by calling their 800-The Shack number
and futzing around in the voice mail maze until I got to an operator
who gave it to me. Can't find it now, though...

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1447. Re: I need a lcd display 1 by 16 or whatever (14 pin)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDyAt8A.DDq@netcom.com>
Source record: 102179

in <526qhs$ir8@geraldo.cc.utexas.edu>, Richard Friedrich wrote:
: I need a lcd display for a small project. one or two line, 16 or 20 character.
: I also need the pinout.
: I didnt want to pay digikey ~$35.

: any one got a used one floating around or know a surplus source?

The surplus outfit that usually has them in their ads is Timeline. They advertise in Circuit Cellar Ink, sometimes in Nuts & Volts, and in the issues of Electronics Now that have the "Electronic Shopper" quarterly? supplement. They're on the web somewhere, I just read that their URL changed. $5 to $25 depending on size.

There's copies of a FAQ on http://www.paranoia.com/~filipg or on ftp://ftp.ee.ualberta.ca (in the pub/cookbook, ???)

There was also a two part article in Radio-Electronics a few years back (summer of 1989?).

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1448. Re: radar detector local oscilator frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Sep24.223442.646@main03>
Source record: 102180

In article <32468B71.2745@dirac.cca.rockwell.com>, Trent Howard
<tmhoward@dirac.cca.rockwell.com> writes:
> I hope this is an appropriate group.
> I was wondering what the radar detector local oscilator
> is at for a frequency. I have been trolling for taillights
> and I would like a radar detector detector
> I think the local oscilator is around 11 gHz or so but I
> would like a better number....
> thanks
> Trent

I measured mine (Uniden RD9XL) at 11.49ghz.
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course

1449. Re: What happened to Heathkit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: byoung@qni.com
Message-ID: <5298u3$mi7@suba01.suba.com>
Source record: 102181

> wlfuqu00@service1.UKy.EDU (William L. Fuqua III) writes:
>
>
> It is simple. It is cheaper to manufacture something
> than make a kit. Even in the old Heathkit catalogs there
> were examples of this. There was an All-American 5 tube radio
> that was cheaper to buy assembled than in kit form.
> Today we often buy new electronic devices rather than have
> them repaired. Often it cost more to repair them than to replace
> them.
>
> 73
> Bill
>
>
> William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
> Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
> University of Kentucky , Lexington, Ky 40506-0055
>
>
>
>
>>>>
Bill and the group,

I want to interject a few quick comments from the viewpoint of a former Heathkit employee. (I was the Assistant Manager of the Mission, Kansas Heathkit retail store for a few years...)

#1 We felt that Heathkit was always treated as a "poor stepchild" by the firms that owned it. It got passed
around from owner to owner and could not maintain a consistent marketing focus or product line. During
Heath's final years, it was always "SomeConglomerate DBA Heathkit". For example, we honestly felt that
Zenith bought us for our "cutting edge" PC technology (everybody remember the H-8 and H-88? H-DOS?
CP/M?), but didn't really care about the other established facits of our company.

#2 We felt that Heath's upper management failed to forecast or see significant changes in the market we
served. Mr. Fuqua is right, it is more expensive to produce a kit version of a consumer product. I'd extend
that line of thinking by stating that it's MUCH more expensive both on the "front-end" (components, cabinet,

instructions, packaging, etc....) and the "back-end" (technical support of client during and after
construction, parts stock at numerous retail locations, counter time supporting client rather than moving
product, etc, etc...) *BUT!!!!* The concept can work if you provide a unique product with obvious features
that set it apart from similar pre-assembled consumer goods.

I don't want anyone to think I didn't enjoy my tenure at Heathkit and give my all to try to make it work! I did!
Many of the store "demo units" were my handiwork as I enjoyed building kits just as much as any other
techno-type person. All of us were saddened by the decline. I still drive by the old store, now a pawnshop,
and remember the glory days of crowds on the day we released new kits, amatuer radio club meetings,
unloading the truck from Benton Harbor... Oh well.....

Bill Young
byoung@qni.com
KB0UZQ

1450. Search for info on old ICOM computer interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: dbseh@mbox.vol.it
Message-ID: <527vd0$q0m@everest.vol.it>
Source record: 102182

I own an old ICOM IC-720 RTX that I wish now to connect to my
computer. I have tried to find informations about the built-in
parallel I/F of 720A, but It was impossible for me to find something
useful over the internet.
The only clue I have is that it was published an article on QST
magazine (july 1984) by L. Studebaker titled "A simple, low cost
computer control for ICOM IC-720". I don't know if it is possible to
buy a so old back iusse of QST. Is there anyone who can help me?

Thank you in advance.

73 I8ZSE Giorgio

Giorgio L. Rutigliano
grutig.aica@iol.it

1451. Searching for info on old ICOM computer interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-24 00:00:00 UTC
From: "Giorgio L. Rutigliano" <grutig.aica@iol.it>
Message-ID: <3248644F.37FC@iol.it>
Source record: 102183

sorry for reposting, but there was a problem with my ISP...

I own an old ICOM IC-720 RTX that I wish now to connect to my computer. I have tried to find informations about the built-in parallel I/F of 720A, but It was impossible for me to find something useful over the internet.
The only clue I have is that it was published an article on QST magazine (july 1984) by L. Studebaker titled "A simple, low cost computer control for ICOM IC-720". I don't know if it is possible to buy a so old back iusse of QST. Is there anyone who can help me?

Thank you in advance.

73 I8ZSE Giorgio

Giorgio L. Rutigliano
grutig.aica@iol.it

1452. Re: Morse Code again (was Re: re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: jjm@mdc.net
Message-ID: <529qh9$qtl@namesrv.mdc.net>
Source record: 102184
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

carl@ais.net wrote:

>In <521e7i$1u8@Usenet.Logical.NET>, orion@capital.net writes:
>>
>>Well said, Carl. I agree 100%. The trouble is though, things will
>>never change as long as the CW loving ARRL is running the show.BTW, I
>>resigned from that lofty organization last year just because of their
>>assinine stand on code requirements. And for the "Try CW, You'll
>>learn to love it!" group, I say "Nuts to you." I worked on that damn
>>Morse Code until it made me sick. It's still just noise to me. Now I'm
>>forever locked out of the HF spectrum because of this discriminatory
>>rule.
>>Butch N2YMJ
>>

>Butch,

>Don't give up ... be more vocal ... we WILL get things changed ... and I
>think it will be sooner rather than later ...

>73,
>Carl - wa6vse
>carl@ais.net

Well folks the results are in! After observing the stats of the
downloaded FCC database with which Microsoft Access, Foxpro,
etc...were used we now know that 78%.....I say again 78% of the U.S.
Amateur Radio operator population is of the coded variety. Only 22%
of the hams are no code technicians. That is 1/5th. I think the
numbers of no-coders will have to grow for there to a significant
impact here.

Now, realistically not everyone of that 78% is active...but I bet
neither is the entire 22% of the uncoded population.

What say ye naysayers about that?

==========
cheers! Jim Martin, wk1v
Lowell, Mass, U.S.A.
http://www.shore.net/~jjmartin/jjm.htm

1453. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: ke4udn@amsat.org
Message-ID: <529vdn$ob4@nicaragua.earthlink.net>
Source record: 102185

See 73 Amateur Radio Today, December 1995, pg 34...
for a milli-ohm DMM extension circuit.

Works great! simple design too.

--73, Todd KE4UDN

Todd Owen Hanover Engineers, P.C.
804-730-0011 (Voice) 9464 Chamberlayne Road
804-730-4012 (Fax) Mechanicsville, VA 23111

ke4udn@amsat.org

1454. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: carl@ais.net
Message-ID: <52a3hm$o3u@news.ais.net>
Source record: 102186

In <dgfDy0B0u.4L4@netcom.com>, dgf@netcom.com (David Feldman) writes:
>I'm working on mounting several VHF radios into a ZERO/Halliburton type
>"suitcase" cabinet. I'd like to use urethane (expanding) foam to position
>the radios, instead of building some complicated metal structure (the
>radios are various ICOM IC-?02 series VHF/SSB rigs). Anyway, where do
>you buy the stuff? As I recall, it's two chemicals, and when you mix them,
>they make a foam that then hardens. You can form the stuff by pumping it
>into a heavy duty plastic bag, forming it around the equipment you want
>to package, and then let it harden. Then after it's hardened, you can cut
>it with a knife to make openings (for cables), adjustments, and such.
>
>Anyway, is this stuff bought at hardware stores, paint stores, or where?
>
>73 Dave WB0GAZ dgf@netcom.com
>

Dave,

If you don't find it anywhere else, check boating supply places like
West Marine and Boat US ... it's often used in marine refrigeration
installations ...

73,
Carl - wa6vse
carl@ais.net

1455. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <52a8m5$lbp@cc.iu.net>
Source record: 102187

In <N.092296.175202.42@treasure-d6.syix.com>, bbaka@syix.com writes:
>> Well, they basically priced themselves out of the market. Why would you
>> spend a lot of time building equipment that wasn't as good as stuff you
>> could buy off the shelf for less?
>> > -David-
>> > KC5WDR
> Financial advantage wasn't the operative word, education was. By building and
>aligning your own stuff you LEARNED about how it worked. Problem is that
>Americans have gotten lazy and are dumbing down, like it or not. If this wasn't
>happening rat-shack would not have taken over the market.
> Bill

well, it's more than just price or lazy people as well (i kinda find that sort of comment a bit self serving and degrading for what it's worth). it's things like increasing specification requirements as well. ham gear not ok to use in commercial bands unless you get commercial gear that can be used in the ham bands for example.

you have people hustling for every penny they can get..why do they have to spend weeks building a TV when you can buy one for less...

radio shack is a dominant force because the existing amateur radio companies aren't geared up to work in a sales environment like radio shack has to deal with. if radio shack as 3000 stores and needs 2 radios per store, that's 6000 radios just to stock the stores....i suspect that the makers and dealers have been "Comfortable" and were blind sided by radio shack.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

1456. WTBuild: 2 meter FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: keslark@k2nesoft.COM
Message-ID: <324885BC.FD@k2nesoft.com>
Source record: 102188

Hi All,

I was wondering if anyone had plans to build a 2 meter FM rig. It does not have to put out more than 5 watts. I need to build instead of buy because i do not have much money being that I am only in 9th grade. I have one 2 meter rig (ICOM IC-281H) but would like another prefferibly one that weighs less than 1 pound. If you have plans for one or know where i could get plans for one could you please e-mail me the info.

Thanks in advance.

73,
DE KB2WKW
Kenny

1457. Remote Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: modinaf@swsupp.ico.olivetti.COM
Message-ID: <199609250907.CAA29783@mail.ucsd.edu>
Source record: 102189

I am looking for schematics of remote tuner for HF operation (160-10m) as
to SGC 230 or others.
Thanks.

73 de IK1VCF Fabrizio

IK1VCF@AMSAT.ORG

1458. Searching for info on old ICOM interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: "Giorgio L. Rutigliano" <grutig.aica@iol.it>
Message-ID: <199609251212.NAA02634@iol-mail.iol.it>
Source record: 102190

I own an old ICOM IC-720 RTX that I want now to connect to my computer. I have tried to find informations about the built-in parallel I/F of 720A, but It was impossible for me to find something useful over the internet. The only clue I have is that it was published an article on QST magazine (july 1984) by L. Studebaker titled "A simple, low cost computer control for ICOM IC-720". I don't know if it is possible to buy a so old back iusse of QST. Is there anyone who can help me?

Thank you in advance.

73 I8ZSE Giorgio

Giorgio L. Rutigliano
grutig.aica@iol.it
Giorgio L. Rutigliano
grutig.aica@iol.it

1459. Re: Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: bergen@hades.mpn.cp.philips.com
Message-ID: <52bdle$fei@ns1.nl.cis.philips.com>
Source record: 102191

Louwers (louwers@stevin) wrote:
: We think that recovery would be much easier if we had a kind of FOX
: hunting transmitter in it. So we are looking for a _small_ transmitter
: (144 MHz) design for our rockets. Range should be about 5-10 Km's.

: Does anyone of you have a good design for such a small transmitter? Preferably
: with PCB layout. Any help is greatly appreciated.

Maybe I can elaborate Jeroens intentions here a little bit. When our rockets come down, they either descend on a parachute or they strike when the recovery fails. This brings us to one more criteria: can withstand high 'G' forces, which makes very sensitive parts useless.

When a rocket is landed, there are thus two obvious places for us to look; either at the ballistic end of the trail where the rocket impacted, or at the meteorilogical end where the wind brought it.

These things are not small, so fairly easy to find. The only problem is that the people who own the land (department of defense) don't allow us to strawl through the land to look for them. A homeing transmitter enables us to hunt for the rocket in a specific direction.

Concerning the range Jeroen indicates I think it's a bit of an overkill to be able to scan a 10km range for a rocket; 1 to 3 km should be more then enough. Even if we 'loose' the rocket from the launchers standpoint, we'll pick up a signal near the two expected locations.

One of our major concerns is that we cannot 100% assure that the rockets land on the designated area (3km wide, 8km long). If either the militaries or an innocent bystander finds the rocket first, we are in big trouble.

The sole purpose of this setup is to find the rocket back as soon as possible.

Here are some of the criteria listed:
- Small; must fit in a 40mm tube easily.
- Impact resistant; shock sensitive parts are undesireable.
- High G loads resistant; launch acceleration runs close to 50G
- Light; will be airborne, so no heavy batteries and components can be used.
- Direction sensitive; we'll have to be able to locate it by means of a simple receiver.
- Attitude insensitive; It should be locateable either lying on the ground or hanging from a tree (or sticking in the dirt).
- Simply reproduceable; we have a lot of rockets.
- Antenna problems expected with metalic body-tubes. Any idea for this problem is highly appreciated.
- Use of 144Mhz is required.

What we had in mind where these little transmitter posts used by radio amateurs to setup a game where people had to try to find the transmitter only by using a simple direction sensitive receiver.

Another application that comes to mind is the radio beacon used by wildlife preservists to tag certain animals and then track their whereabouts. These things are very small from the transmitters point of view, and very trackeable from the receivers point of view.

Any suggestions, and I mean ANY are welcome.
--

Cheers, Wilfred /^\
+=+ |N|
M.V.C. Jupiter Wilfred van Bergen |E|
bergen@mpn.cp.philips.com |R|
Model Jet Promoting Netherlands /|O|\
+=+ /_|_|_\
http://www.win.tue.nl/win/cs/ooti/students/martijnb/nero/index.html

1460. Adding digital readout to analog radio: How?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: twhite@digitrix.com
Message-ID: <52bfa5$84i@newshost.cyberramp.net>
Source record: 102192
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

I'm considering adding a digital frequency readout to my old analog SWR. I like the old beast (Hallicrafters SX-28A) and don't plan to give it up, since it does go up to 42MHz and I'm hard pressed to find a SWR that covers the freqs above 30MHz. I'm wondering: a)would a standard digital frequency counter work; b)if so, where would I need to connect the input, and c)whether or not I'd need to build an IF stage for the counter so I'd get the proper readout. This is a rackmountable unit, and I'm considering putting this project in a 1U rack box. If I can do it with a standard freq. counter, does anyone have schematics for a homebrew unit?

TIA

1461. Re: Adding digital readout to analog radio: How?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: gfoley@freenet.columbus.oh.us
Message-ID: <52bh9k$p5l@login.freenet.columbus.oh.us>
Source record: 102193
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Tony White (twhite@digitrix.com) wrote:
: I'm considering adding a digital frequency readout to my old analog SWR. I
: like the old beast (Hallicrafters SX-28A) and don't plan to give it up, since
: it does go up to 42MHz and I'm hard pressed to find a SWR that covers the
: freqs above 30MHz. I'm wondering: a)would a standard digital frequency
: counter work; b)if so, where would I need to connect the input, and c)whether
: or not I'd need to build an IF stage for the counter so I'd get the proper
: readout. This is a rackmountable unit, and I'm considering putting this
: project in a 1U rack box. If I can do it with a standard freq. counter, does
: anyone have schematics for a homebrew unit?

: TIA

You can measure the variable local oscillator frequency with any counter
that covers the range and has sufficient sensitivity. The number you
get will differ from the received frequency by the value of the
first intermediate frequency following the local oscillator. The
counter frequency will usually be higher than the received frequency,
but in some receivers or bands it may be lower.

Around twenty years ago there were some counters made which had a
programmable offset so that the value of the intermediate frequency
was automatically added or subtracted from the local oscillator
frequency before it was displayed. I don't know if any currently
available counters have this ability.

K8EF

--
Gerry

1462. Re: Adding digital readout to analog radio: How?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Mark Glusker <glusk@sgi.com>
Message-ID: <32494BAF.41C6@sgi.com>
Source record: 102194
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Tony White wrote:

> I'm considering adding a digital frequency readout to my SX-28A

> anyone have schematics for a homebrew unit?

Try the January 1980 issue of QST. As I recall, there were about five errors in the schematic which became obvious when comparing components to their data sheets.

Also, Robert Foxworth wrote a number of articles for the National Radio Club about building digital displays and hooking them up to vacuum tube based receivers. They have a website at:

http://alpha.wcoil.com:80/~gnbc/

Good luck!

Mark Glusker, glusk@sgi.com

1463. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <52bhuc$1q4k@info4.rus.uni-stuttgart.de>
Source record: 102195
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

>Is snapping ICs into sockets considered
>homebrew? I'll say "no", and call something like this a kit, instead.
>I'll snap it together but won't make any claim that I homebrewed a
>VFO.

Don't be so ridiculous, What do you call nailing a tube
to a breadboard, strapping a few caps and coils around it
until it transmits or receives? By your standart it could not
possible have been homebrewing.

Moritz DL5UH

1464. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: ddenter@nortel.ca
Message-ID: <52beqn$b74@bcarh8ab.bnr.ca>
Source record: 102196

In article <52a3hm$o3u@news.ais.net>,
carl@ais.net writes:
>In <dgfDy0B0u.4L4@netcom.com>, dgf@netcom.com (David Feldman) writes:
>>I'm working on mounting several VHF radios into a ZERO/Halliburton type
>>"suitcase" cabinet. I'd like to use urethane (expanding) foam to position
>>the radios, instead of building some complicated metal structure (the
>>radios are various ICOM IC-?02 series VHF/SSB rigs). Anyway, where do
>>you buy the stuff? As I recall, it's two chemicals, and when you mix them,
>>they make a foam that then hardens. You can form the stuff by pumping it
>>into a heavy duty plastic bag, forming it around the equipment you want
>>to package, and then let it harden. Then after it's hardened, you can cut
>>it with a knife to make openings (for cables), adjustments, and such.
>>
>>Anyway, is this stuff bought at hardware stores, paint stores, or where?
>>
>>73 Dave WB0GAZ dgf@netcom.com
>>
>
>Dave,
>
>If you don't find it anywhere else, check boating supply places like
>West Marine and Boat US ... it's often used in marine refrigeration
>installations ...
>

Not sure where you live, but if you're in one of the cooler climates,
you may be able to get aerosol cans of it in hardware/building supply
stores. Here in Canada, its used as exterior insulation around
houses (typically to fill gaps where the foundation and the siding
join).

This stuff turns almost rock hard once it has cured, I would think that
foam-rubber would be more useful for your purpose since it's flexible.
Not real sure where you can get this stuff, my last source dried up
2 years ago. I know it's available, just can't remember where to get
it (it's made by Dow Chemical I think).

regards,
Dean.
--
Dean Denter work -> ddenter@nortel.ca
VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

1465. Adjustable attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: ml@radiodesign.se
Message-ID: <52almb$8i1@lex.zippo.com>
Source record: 102197

Looking for a circuit to build an electrically adjustable attenuator at 450 MHz.

Anyone??

Thanks!

Micke

1466. Re: Active Antenna Designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Roy Keeley <rkeeley@dibbs.net>
Message-ID: <32496352.2A5@dibbs.net>
Source record: 102198
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

bjrehm wrote:
>
> In article <51um6u$bek@nadine.teleport.com>, jimm@teleport.com
> says...
> >
> >bjrehm@most.fw.hac.com (bjrehm) wrote:
> >
> >>I am looking for design ideas, schematics, suggested sources,
> and
> >>performance reports for active antenna designs. I would like
> to
> >>build my own for home and mobile SWL use.
> >
> >>Thanks,
> >
> >>Brian
> >
> >A good article appeared in Ham Radio Magazine, May 1986 on
> >active antenna preamps using VMOS FET's. I built some when
> >i was in an urban apartment situation and they worked
> exceedingly
> >well. Article author is R.W. Burhans, who seems to be an
> authority
> >on active antenna design, I have seen other articles by the
> author
> >in other more academic texts.
> >
> >Jim McVein
> >jimm@teleport.com
> >
> Thanks Jim, I have the article, but did not know that Burhans has
> published outside of the article. Could you pass on the academic
> texts he has also written (the name sounds familiar, but I have
> not found were from yet).
>
> Brian
Mr. Burhans has retired. He wrote many articles for the "Lowdown" which
is the monthly paper put out by the Lowfering Group. He especialized in
preamp antennas designs. I can look up the address of Lowdown if there
is any interest. He also wrote many articles for the Ham Radio public,
but he has officially quit all business.

--
73's

Roy KC4IMC

rkeeley@dibbs.net
rkeeley@MAF.mobile.al.us
kc4imc@maf.wa4wbi.ampr.org
Snail Mail = 10675 Salt Aire Rd, E., Theodore, AL 36582, USA

1467. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <52bp5d$obr@peabody.colorado.edu>
Source record: 102199

>In <dgfDy0B0u.4L4@netcom.com>, dgf@netcom.com (David Feldman) writes:
>>I'm working on mounting several VHF radios into a ZERO/Halliburton type
>>"suitcase" cabinet. I'd like to use urethane (expanding) foam to position
>>the radios,

Be aware that the foam is quite a thermal insulator. Where will the heat
go when the radios are on?

Bruce
N6URH

1468. INFO on Knoxville TN Clubs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Susan Driggers <insight@concentric.net>
Message-ID: <3249A499.7DB@concentric.net>
Source record: 102200

Hello, this is probabally the wrong newsgroup for this but I am looking for info on the Knoxville TN Amateur Radio Club. Any contact of directional information would be appreciated. Thanks.

Susan Driggers
insight@cris.com

1469. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: jonz@rainbow.rmii.com
Message-ID: <52c1po$3p9@rainbow.rmii.com>
Source record: 102201

TIEMANN BRUCE (tiemann@spot.Colorado.EDU) wrote:
: >In <dgfDy0B0u.4L4@netcom.com>, dgf@netcom.com (David Feldman) writes:
: >>I'm working on mounting several VHF radios into a ZERO/Halliburton type
: >>"suitcase" cabinet. I'd like to use urethane (expanding) foam to position
: >>the radios,

: Be aware that the foam is quite a thermal insulator. Where will the heat
: go when the radios are on?

...and wear disposable gloves and clothing when you apply it!
That crap sticks to EVERYTHING!!!

--
73
Jonesy W3DHJ

--
SK

1470. Re: Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Joop van der Velden <joopv@solair1.inter.nl.net>
Message-ID: <01bbaae0$673bf740$cefb4fc1@joopv>
Source record: 102202

Louwers <louwers@stevin> wrote in article <52607l$knu@frontier.tno.nl>...
> Hi there,
>
> I am a fanatic amateur rocket builder. As our rockets get better all the
time,
> we start to get problems in retrieving them.
>
> We think that recovery would be much easier if we had a kind of FOX
> hunting transmitter in it. So we are looking for a _small_ transmitter
> (144 MHz) design for our rockets. Range should be about 5-10 Km's.
>
> Does anyone of you have a good design for such a small transmitter?
Preferably
> with PCB layout. Any help is greatly appreciated.

144 MHz is out of the question - unless you have licensed radio amateurs in
your rocket builders group. Even then, you'll need a special permit i think.
144 MHz is an exclusive amateur band - no other parties allowed.

However, there is a ISM band at 433.920 MHz +/- 0.2% where you can use 10 mW
transmitters. Also on 2450 MHz there is such a piece of spectrum. Look in
the Conrad catalog for more information about transmitters and receivers for
these frequency's.

Joop

1471. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Joop van der Velden <joopv@solair1.inter.nl.net>
Message-ID: <01bbaae3$2abc4420$cefb4fc1@joopv>
Source record: 102203

Mike Murphree <n4cnw@pig.net> wrote in article <32469A5C.6AC4@pig.net>...
> >
> > In <522eiq$ovd@herald.concentric.net> wmkresl@townsquare.net (William Kresl) writes:

> Being that I've done this twice in several years of dealing with SCSI hard drives,
> I can make an educated guess at what happened. Plugging the drive interface cable
> in upside generally does no harm on floppies or IDE drives, but is the kiss of
> death for many SCSI drives. In both instances that I did this, it did destroy

In theory this could not happen because the oppsite side of the 50-pin cable connector is not-connected - specially for this purpose. I have often reverse-connected scsi devices with no smoke signs. Sometimes the 5V fuse in the terminator power line blows. This can happen if you connect an unpowered scsi device which has no series diodes on an active scsi bus.

Joop

1472. Early radio in Latin America?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: nyoung@desire.wright.edu
Message-ID: <1996Sep25.172011@desire.wright.edu>
Source record: 102204

I'm looking for any info (copies of printed stuff especially)
on the growth of radio as an industry in Latin America. I'm
really interested in knowing what was going on in Latin America
during the early days of radio (1890-1920) when most of the
world was beginning to learn from Hertz, Marconi &c. Crystal
sets and one-tube radios are a particular interest.

Reply to me via email direct, unless you actually believe
that there are others who might be as demented as I. The
address is NYOUNG@NOVA.WRIGHT.EDU

73
Nils
WB8IJN

1473. Tape recorder speed controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: scicon@ix.netcom.com
Message-ID: <52cf97$6jh@dfw-ixnews3.ix.netcom.com>
Source record: 102205

I'd like to tap into the speed control of a cassette deck to slow down the speed so I can record at least four hours on a C120 cassette.

Anybody have a circuit that does this?

Any help would be appreciated!

73 de KE6LBX

1474. FS:DC Plugs:Kenw,Icom,Alinco,Yaesu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: n2cjj@undefined
Message-ID: <1996Sep25.205000.1698720@undefined>
Source record: 102206
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

I have found a source for those DC power cord plugs. The ones I've got
have 6 pins, male plastic with metal female (barbed) inserts.

The plug fits most 12VDC HF radios:
Icom 720, 735, 706..and alike, newer Yaesu and Alinco DX70.
Kenwood-TS120, 130, 140..430, 440, 450..850,..TS50,60, 660, 670...and alike.

Make your own power cord yourself, YOUR WAY!
Crimp or solder, long or short, heavy gauge wire, purple with polka-dots...

I'm offering the 6 position plug with 6 inserts for $4 each,
or the deal 3 for $10. All prices include postage in the US.

To order, kindly send a check to:

R. Langston
286 Hudson Street
Cornwall-on-Hudson, N.Y. 12520

You can also email me for info at: n2cjj@ibm.net

It's a great deal if you use one rig at home, in the car and at work and
are stuck dragging one power cord all over....

I still can't believe AES, HRO and others get $30 for a power cord. HiHi!
n2cjj@ibm.net

1475. Re: Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <324A0172.41D7@wenzel.com>
Source record: 102207

Will a frequency around 55MHz do? If so, I can send you a couple of
quartz filter elements.

1476. Re: Tunnel diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960925230422.20769B-100000@ban.libertel.montreal.qc.ca>
Source record: 102208
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

On 23 Sep 1996, Vlad wrote:

> Looking for tunnel diodes.
> Anybody makes them lately ?
> Please reply to Vlad at:
> dvorkin@pcs.mot.com
>

I don't think I've ever seen catalog listings for tunnel diodes, and they still might have been available somewhere back in 1971 when I became interested in electronics. The place to start would be to find who made tunnel diodes when they were in vogue, and try those companies today (or those that still exist). Start off with old data books, which you cn still find at hamfests (and maybe local ham clubs if they have kept a library).

A few years ago, somebody asked me if I had any tunnel diodes, because somebody he knew needed some to fix an old oscilliscope. You're really in a bind if you have a commerical piece of equipment that used them, since if you're building you can use something else (and there may not be a particularly good reason to use tunnel diodes for new stuff, esepcially if you can't find them).

The friend had recalled that I had once bought a huge bag of surplus diodes at a hamfest, and some of them "had similar packages". Not a great reason for thinking of them, none of them were labeled, but it is a thought. Find a curve tracer, find a sample curve for a tunnel diode, and start checking various diodes you can find to see if you can come up with something that somehow works the same way by accident.

People have done this sort of thing with other diodes.
Varactors/varicaps come to mind, since over the years I've seen plenty of articles about using common diodes as varactors. Zeners likewise. So there always is the slight possibility that you could stumble over a tunnel diode this way. Experimentation, after all, is the amateur way.

If you do find something this way, let the rest of the world know.

Michael VE2BVW

1477. New QRP HF traceiver kit available for only $75

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: wb6siv@cyberg8t.com
Message-ID: <wb6siv-2509962348570001@host45.cyberg8t.com>
Source record: 102209

Emtech has a new QRP transceiver kit available for only $75, which my ham supply company just started to carry. You can order either the 80, 40,30, or 20 meter version. It is a superhet single signal receiver, with a variable crystal filter (available as an option for $20). The transmiter will put out 4-5 watts max, and adjustable down to the MW range. This rig will transmit and receive throughout the CW portion of the band. The keying and muting is very smooth and features solid state antenna switching. The rig also comes with full QSK keying. You supply the cabinet, power plug,and knobs. The rig is guranteed to work, as it is put together and tested in steps, you should not have any surprises. Full e-mail and phone tech support is available if needed.

If interested send me an e-mail and I'll provided more details.

Best of 73's Ray
--
The Raymond Sarrio Co. a full feature Ham Radio Storefront and web site developer. Located at http://www.sarrio.com.

In association with Brillar Enterprises http://win-win.com/brillar provider of discount CD-Roms!

1478. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: Lars Arvidsson <arvid@plea.se>
Message-ID: <324A050A.54EF@plea.se>
Source record: 102210

Hello Carl!
I would recomend you to use something else for shock-absorbant.
The substances used to make urethane foam is not very healthy,
one of the substances is called MDI or methyldiisocyanate, and
it causes life-lasting asthma and other lungdamages.
It does'nt smell much, so you'll already be poisoned before you
know it...
In factory-maid foam that is fully cured, this substance is
fully locked into urethane, but it's very tricky to get the right mix.
If there's any unreacted MDI left it will slowly evaporate and
I wouldn't be in the same room as that foampiece...
Here in sweden it's no longer legal to sell it for private use.
I suggest that you use styrofoam instead, cutting it to the right
shape with a hot wire.

good luck //Lars (SM4RZW)

1479. Wanted: OLD QEX issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-25 00:00:00 UTC
From: mne1@clarion.cec.wustl.edu
Message-ID: <52afah$6kq@clarion.cec.wustl.edu>
Source record: 102211
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am looking to buy older issues of QEX magazine. Please send mail to
mne@andrew.cmu.edu if you would like to sell them.

Specifically, I am looking for:
Anything older than May 1992
May and June 1993

Thanks
Matt Ettus
N2MJI
mne@andrew.cmu.edu

1480. HELP with a school project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: kujoes@ix.netcom.com
Message-ID: <52cu8f$9bg@sjx-ixn2.ix.netcom.com>
Source record: 102212

I am taking a class of electronics, and have to have a term paper due at the end of this term. It will be anything to do with recent electronics, and I am going to do it with the advancement of ham radio. Can anyone help me by suggesting books that I may need to look at which will give a basic background of the early years to present years of ham radio? I have only the ARRL study guide I used to get my ticket, but I will need more than that. THANKS

de Don KB7RME

E-mail kujoes@ix.netcom.com

1481. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <52d18c$ktl@dfw-ixnews3.ix.netcom.com>
Source record: 102213
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In <52bhuc$1q4k@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:

<... What do you call nailing a tube
>to a breadboard...>

A bad waste of a good tube?

73,
Mike, KK6GM

1482. FT-1000MP tx general coverage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: morel@shani.NET
Message-ID: <9609260546.AA14594@shani.net>
Source record: 102214

I'm looking for the tx general coverage opening instructions for FT-1000MP .

TNX in advance
Replay to: morel@shani.net

73 de Morel 4X1AD

1483. Schematic designs for HAM equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Feico de Boer <fdboer@baan.nl>
Message-ID: <324A2821.451F@baan.nl>
Source record: 102215

Hello World,

Is there a place on the net where I can download schematic designs (and maybe PBC layouts) for HAM equipment. I'm thinking of oscillators, mixers, (de)modulators, synthesizer units and amplifiers. Actually this covers almost anything.

I'm also interested in packet radio modems and TNC designs. Any pointer is welcome.

Greetings,

Feico.

1484. Re: Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: louwers@stevin
Message-ID: <52d92i$qev@frontier.tno.nl>
Source record: 102216

```
: 144 MHz is out of the question - unless you have licensed radio amateurs in
: your rocket builders group. Even then, you'll need a special permit i think.
: 144 MHz is an exclusive amateur band - no other parties allowed.

Don't worry we have them. As we are amateurs, I think the amateur band is very
well suited.

--
Jeroen Louwers
louwers@pml.tno.nl / \
|N|
|E|
|R|
/|O|\
/_|_|_\
```

1485. Re: Tunnel diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: heilmayr@math.berkeley.edu
Message-ID: <heilmayr-ya023180002609960100310001@agate.berkeley.edu>
Source record: 102217
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <526goa$qrb@trotsky.cig.mot.com>,
Vlad <dvorkin@pcs.mot.com> wrote:

> Looking for tunnel diodes.
> Anybody makes them lately ?

Try Microsemi:
<http://www.microsemi.com/>

-- Klaus (heilmayr@math.berkeley.edu)

1486. Re: Adding digital readout to analog radio: How?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <324A2E1F.3AE7@rcru.rl.ac.uk>
Source record: 102218
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Tony White wrote:
>
> I'm considering adding a digital frequency readout to my old analog SWR. I
> like the old beast (Hallicrafters SX-28A) and don't plan to give it up, since
> it does go up to 42MHz and I'm hard pressed to find a SWR that covers the
> freqs above 30MHz. I'm wondering: a)would a standard digital frequency
> counter work; b)if so, where would I need to connect the input, and c)whether
> or not I'd need to build an IF stage for the counter so I'd get the proper
> readout. This is a rackmountable unit, and I'm considering putting this
> project in a 1U rack box. If I can do it with a standard freq. counter, does
> anyone have schematics for a homebrew unit?
>
> TIA

Try Hands Electronics. Available from Kanga in the USA. They do a pic
based display that takes account of the IF offset and works up to 100
MHz.

1487. Re: Adjustable attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <324A2E6A.1726@rcru.rl.ac.uk>
Source record: 102219

ml@radiodesign.se wrote:
>
> Looking for a circuit to build an electrically adjustable attenuator at 450 MHz.
>
> Anyone??
>
> Thanks!
>
> Micke

Mini-Circuits. PAS-1 electronically adjustable attenuator.

1488. Re: Tape recorder speed controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <52e5ag$icr@dfw-ixnews6.ix.netcom.com>
Source record: 102220

In <52cf97$6jh@dfw-ixnews3.ix.netcom.com> scicon@ix.netcom.com(Dan Walker) writes:
>
>I'd like to tap into the speed control of a cassette deck to slow
>down the speed so I can record at least four hours on a C120
>cassette.
>
>Anybody have a circuit that does this?
>
>Any help would be appreciated!
>
>73 de KE6LBX
>
>
I did a simular, but probably not that sever a change by pulling the spindle drive motor out of a 5 1/4 floppy drive and the associated controller, and modified the pully to get the center adjustment at 1 7/8 ips so I could change the speed of the tapes for special effects.

If you only need the single slow speed, I would do it mechanically with different pully's and possibly a jackshaft to replace the current moter.

BTW an VCR with a dead video head makes a pretty good 5 hour audio recorder if you can spare the space.

Sparky KI5GY

1489. Re: Tunnel diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-2609961255270001@brainiac.hi.com>
Source record: 102221
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

On 23 Sep 1996, Vlad wrote:

> Looking for tunnel diodes.
> Anybody makes them lately ?
> Please reply to Vlad at:
> dvorkin@pcs.mot.com

Check out the unusual diode FAQ at http://www.avtechpulse.com/faq.html.
It's linked from the sci.electronics FAQ at
http://www.paranoia.com/~filipg/HTML/sci_electronics_FAQ.html , so if you
look there you'll find it.

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1490. Re: Wanted: OLD QEX issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-2609961259480001@brainiac.hi.com>
Source record: 102222
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <52afah$6kq@clarion.cec.wustl.edu>, mne1@clarion.cec.wustl.edu (Matthew Noel Ettus) wrote:

> I am looking to buy older issues of QEX magazine. Please send mail to
> mne@andrew.cmu.edu if you would like to sell them.

Have you tried contacting the ARRL? I wrote asking for some reprints of some QEX articles. To my surprise, they sent me complete back issues. The fee was quite nominal.

BTW, the ARRL can supply photocopies of articles from QST. I recently purchased a photocopy of Beverage's original 1933 (or was it 32?) QST article from them. The service was quick and economical.

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1491. Heathkit Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: ab712@FreeNet.Carleton.CA
Message-ID: <52ea8e$q0v@freenet-news.carleton.ca>
Source record: 102223

I picked up a couple of interesting used Heathkit items at a yardsale:

Sine-Square Generator Model AG-10
RF Signal Generator, no model # on front panel

Both items work well, and have the original tubes that are unmarked.
There's no handbooks - I wonder if any Heathkit lovers would happen to
have a note of the tube line-up for this.
Gotta protect my investment, they cost a buck each!

Appreciate any info you can pass direct to me;
Tnx,
Colin H.

1492. AF freq. counter software?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Scott Macmillan <scotty@golfmike.demon.co.uk>
Message-ID: <WDuHtDAe$rSyEwze@golfmike.demon.co.uk>
Source record: 102224

Hi all, does anyone know if there is a
freeware/shareware audio frequency counter
that gets its input from a soundblaster card?

If there is, is it available over the net?

Thanks in advance.

--
Best 73's DE Scott
GM7OMU - IO75tv.

1493. Re: Tunnel diodes, and also Ge transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <52eil9$qsu@peabody.colorado.edu>
Source record: 102225
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article
<Pine.SGI.3.91.960925230422.20769B-100000@ban.libertel.montreal.qc.ca>,
Michael Black <blackm00@libertel.montreal.qc.ca> wrote:

>On 23 Sep 1996, Vlad wrote:
>
>> Looking for tunnel diodes.
>> Anybody makes them lately ?
>> Please reply to Vlad at:
>> dvorkin@pcs.mot.com
>>
>
>[snip]
>
>If you do find something this way, let the rest of the world know.
>
> Michael VE2BVW

I have inherited a few from my Dad's old electonics collection. All were made by G.E. (and were made possible by the procedure in one of his patents!).

I don't have the part #s here, though I know all are Ge-Au devices. I have a few dozen total, three or four different types, and I'm willing to part with them for a reasonable price.

Come to think of it, I also have a nice collection of Ge diodes and transistors (all by G.E. also) from this same source. I'll have a list available within a few weeks, and I'll make them available as well.

Send for the list:
tiemann@spot.colorado.edu

Bruce
N6URH

1494. Re: LCD sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9608268437.AA843772817@mails.imed.com>
Source record: 102226

An additional place to find LCD's (LCD displays is redundant is redundant :<)) is Marlin P Jones in Florida. They had quite a selection in the catalog they gave out at Hamcom in Dallas.

Call:800-652-6733

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

1495. Re: WTBuild: 2 meter FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960926165025.12526C-100000@ban.libertel.montreal.qc.ca>
Source record: 102227

On 25 Sep 1996, KB2WKW wrote:

> Hi All,
>
> I was wondering if anyone had plans to build a 2 meter FM rig. It does
> not have to put out more than 5 watts. I need to build instead of buy
> because i do not have much money being that I am only in 9th grade. I
> have one 2 meter rig (ICOM IC-281H) but would like another prefferibly
> one that weighs less than 1 pound. If you have plans for one or know
> where i could get plans for one could you please e-mail me the info.

When 2Meter FM got started, it was based a lot on surplus
commercial 2-way radios that had been obsoleted when the
channels had been narrowed.

This is still a valid way to go to get a cheap 2meter rig.
Not only are there the same rigs that were around 25 years ago,
but there must be more recent surplus.

A lot of those early surplus rigs were tube-based, with solid
state equipment carrying a higher price. So there were plenty
of construction articles on building 2Meter fm gear. The majority
were for transmitters, but there were receivers too.

When synthesizers started to become practical, they too were
described in the amateur magazines.

There hasn't been much, if anything, published on building
2meter rigs in a long time. I guess once commercialy built
ham gear with all the desired bells and whistles were
available, building the gear was no longer one of the few ways
of getting it, so people stopped doing it. Or maybe because
nobody is publishing articles about building 2meter rigs,
nobody knows where to start.

If you really want to build, look in old issues of the ham
magazines. QST, Ham Radio, 73, from around 1970 to 1980 or
so. The articles are too numerous to mention. Find somebody
locally, maybe a club, that has back issues and start looking.
The rigs may not be fancy, but they dealt with the signal chain
rather than features, so they could hardly be simpler.

Of course, the surplus and the homebrew rigs were crystal
controlled. A disadvantage when you want to hit all the locally
used channels, but an advantage in terms of simplicity and
compactness. Once you've got a working rig, then you can
go back and look up all the homebrew synthesizer articles

and build one of those.

The problem with all this is your desire for a light weight rig. YOu are not going to find that in surplus. Neither will you find the compactness of today's rigs. I was at a hamfest last year and saw a handie talkie that was advertised all over the place around 1973, and I was amazed at how big it was. I'd never seen one in the flesh over all those years.

As for homebrew, again you aren't likely to get something small and lightweight. You have better control over these matters if building, but it takes a lot more effort to get it that way than just to build a rig.

Michael VE2BVW

1496. Re: Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960926164843.12526B-100000@ban.libertel.montreal.qc.ca>
Source record: 102228

On 24 Sep 1996, Simon Bosworth wrote:

> I am looking for a source for a 75MHZ, (or somewhere around there), crystal filter to use in an
> upconverting receiver. Any ideas ?
>

One source for such filters might be a cellular phone. I had wondered about the IF frequency of them, and had been looking for a cheap used one to take apart. Last month, I came across one at a church garage sale for fifty cents. To think I was prepared to spend five or ten dollars on the exploration; the battery alone was worth way more.

As soon as I got home, I opened it up. Inside was a module with "IF" in the model number, and a listing of "freq: 83.16/0.455 MHz". Opening it up confirmed that it was the IF strip, and showed two three-pin filters, two 455 KHz filters, and a crystal marked 82.705.

This is a bit higher than I was hoping for, and I do wonder about interference from tv, but it does have possilities. It has the advantage that the crystal is right there for a second IF of 455KHz. Maybe a way of using up old Collins mechanical filter.

I assume this module is a complete FM IF strip with an input of 83.15. There's is an IC that is unmarked that I figure is the mixer/amplifier/limiter/detector.

I haven't quite decided what to do with it, but am certainly glad to get it, especially at that price.

One thing. This was the clunky old kind of cell-phone, which would explain the price. It would probably be much more difficult to extract parts from a more compact model.

Other cell-phones might turn up different IF's; I don't know enough about them to know if they are standardized.

But it is worth looking into.

Michael VE2BVW

1497. Re: do we build? was(re: arrl survey ignores 7 of 8 wrc-99 issues!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep26.202548.25629@ke4zv.atl.ga.us>
Source record: 102229
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <51sur0$g7j@news.Hawaii.Edu> jherman@Hawaii.Edu (Jeffrey Herman) writes:
> gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>> ...<SNIP>
>>
>>I think you see CW transmitters as the most common because that's all
>>you do, so your vision is a bit myopic on the subject of home constructed
>>equipment (or you may be insisting on a purist definition of homebrew which
>>doesn't admit anything but an original design by the home constructor). If
>>you were active on other modes, you might find that there is quite a bit of
>>building going on for them as well. Probably only at microwave, and for ATV,
>>is homebrew the majority course, but it is alive and well on most of the
>>other modes, not just among CW operators.
>
>You can quote sales figures of parts being sold but you can't conclude
>the projects those components are supposed to go into are ever completed
>or even started. Sales of parts doesn't give a very accurate account of
>homebrewing. But, hearing comments of what folks are building naturally
>enough does gives an account of the general trend in homebrewing.

It would if the people you listen to are representative of all
builders. But if the only places you hang out are where CW QRPers
hang out, then your POV is skewed. Try the TAPR SIGs, or try getting
on SSB and see how many stations with homebrew linears you work.

>Now, I think we're going to have to redefine "homebrewing" - I've got
>an article here from QEX titled The Ultimate VFO (April 1996); the
>circuit contains two major ICs, a clock module, a handful of resistors,
>and a few push-button switches. Is snapping ICs into sockets considered
>homebrew? I'll say "no", and call something like this a kit, instead.
>I'll snap it together but won't make any claim that I homebrewed a
>VFO. I've homebrewed VFOs before from scratch and this project won't
>begin to come close to the detailed work that those necessitated. And
>it won't be as rewarding, either.

Poor Jeffery, too hard for you to comprehend those 1s and 0s
I suppose. The fellow who designed and programmed that VFO was
homebrewing. Those who order the kit are kit builders, of course.
The act of installing a chip in a socket, or soldering a wire
to a tiepoint is home assembly. And that's what most of your
QRP CW friends do too. It's probably what you do too, since I
expect you copy your designs from somewhere rather than *really*
doing them from scratch. Mr. Colpitts or Mr. Pierce did it first,
you're just copying (or am I mistaken, is there really a Herman
oscillator circuit now?). And (gasp) you actually use factory built

parts too, instead of mining your own ores and chipping your own galena. Shame on you.

In my view, homebrew is any home contruction requiring more skill than assembling a Heathkit. Now *that* I consider just home assembly because the instructions were so detailed that someone with zero electronics knowledge could build one, and because Heath had that "we won't let you fail" guarantee. All but the most primitive builders use factory made parts. Whether those parts are tubes or ICs doesn't really matter (other than that ICs will allow you to do much more complex things than you can with discretes). And as Ramsey proves, just because it is a kit doesn't mean it isn't homebrew. By the time you debug and modify one of his kits so that it works right, you've done more than most builders who copy their circuits from the Handbook or a magazine article.

For the most part, I consider modern kit suppliers to just be acting as my purchasing agent, hunting down and gathering the parts in one package so I don't have to do it. It is convienent, but it is no different in principle than if I hunted the parts down myself for a published circuit.

Now even when I'm building something semi-original, I'm going to search out the most efficient way to build it. If that means I use a chip, I use a chip. That involves more than "snapping" an IC into a socket (which sounds like a good way to break a pin to me). You've got to install and wire the socket too, properly decoupling it in the process (no different than if you were "snapping" a tube into a socket). And you better understand what the chip wants in the way of inputs and what it supplies in the way of outputs. And you'd better understand the chip's transfer function too (again in no way different than if you were "snapping" a tube into a socket, except the transfer function is probably a lot more complex for the chip).

There aren't many really novel circuits. Most everything is an embodiment of the same basic set of building block circuit topologies. I'm not out to re-invent the wheel when I build. I'll happily rip off any circuit idea I come across that'll do something I want done in my project. It doesn't matter to me if that circuit idea is embodied in a 5 gallon bucket full of discretes or in a single chip (other factors equal, I'll choose the chip because it likely is more compact and uses less power than an equivalent discrete circuit). I'm just trying to get some functionality I can't get from commercially produced equipment, either because they don't build what I want, or because what they build costs more than I'm willing to pay.

Getting back to that DDS VFO, try duplicating its functionality using only discretes. If you can do it at all, it'd take a six

foot rack of parts to achieve a digital readout unit with frequency memories, I Hz tuning resolution, crystal stability, and the ability to hop frequency sequences in realtime for direct FSK RTTY or even SS FH use. (One of the advantages of DDS is that one frequency change is as quick as any other because there's no more settling penalty for a large excursion than a small one. You can't do that with an analog VFO at all.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1498. Need Discone Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-26 00:00:00 UTC
From: Dave.Formilan@cybernet.magsystems.com
Message-ID: <fcd_9609262000@magsystems.com>
Source record: 102230

Looking for plans to build a discone antenna for RX 25-1300MHz and TX 6M/2M/440/900/1200MHz. I have access to materials, but need plans.

Any help or even recommendations on commercial kits would be appreciated.

Thanks,

Dave Formilan
dave.formilan@hobbs.com
---
* OLXWin 1.00a * --T-A+G-L-I+N-E--+M-E-A+S-U-R+I-N-G+--G-A+U-G-E--

--

1499. Re: Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: kirkland <kirkland@nortel.ca>
Message-ID: <324BE082.2BC9@nortel.ca>
Source record: 102085

Simon Bosworth wrote:
>
> I am looking for a source for a 75MHZ, (or somewhere around there), crystal filter to use in an
> upconverting receiver. Any ideas ?
>
> Thanks,
> Simon N0EPW

Try Temex Electronics, Inc
3030 W. Beer Valley Rd. Phoenix, AZ
85027
(602) 780-1995, Fax (602) 780-2431

They have standard 2 or 4 pole monolithic crystal filters at 10.7,
21.4 45.0, 70.0, and 90.0 MHz and are shipped from stock on hand,
i.e. they don't have to make a production run.

They also sell crystal filter kits.
VISA and Master Card Accepted and deal in small quantities.
I've dealt with them before and have been very satisfied.
(although I still haven't hooked up the filters yet.)

Bill Kirkland
VE3JHU

1500. Re: Need Discone Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: stevem@best.com
Message-ID: <52gqsm$ffj@shellx.best.com>
Source record: 102086

In article <fcd_9609262000@magsystems.com>,
Dave Formilan <Dave.Formilan@cybernet.magsystems.com> wrote:
>Looking for plans to build a discone antenna for RX 25-1300MHz and TX
>6M/2M/440/900/1200MHz. I have access to materials, but need plans.
>
>
>Any help or even recommendations on commercial kits would be
>appreciated.
>

I think Radio Shack and ICOM sell discones and the price is so
reasonable that it might make you wonder if you should spend time
building one. One of the two antennas is less expensive because the
center vertical element is not used. This limits the low frequency
response of the antenna. The 1/4-20 mounting screw is there, so you
could attach your own center element which would bring back the
low end. It should be noted that while discones are very broad
band, their performance is not nearly so spectacular.

Steve M. WF6R

1501. Re: Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.191.0052AEB8@azstarnet.com>
Source record: 102087

In article <324BE082.2BC9@nortel.ca> kirkland <kirkland@nortel.ca> writes:
>From: kirkland <kirkland@nortel.ca>
>Subject: Re: Wtd: 75MHZ XTAL filter
>Date: Fri, 27 Sep 1996 10:11:14 -0400

>Simon Bosworth wrote:
>>
>> I am looking for a source for a 75MHZ, (or somewhere around there), crystal
>filter to use in an
>> upconverting receiver. Any ideas ?
>>
>> Thanks,
>> Simon N0EPW

>Try Temex Electronics, Inc
>3030 W. Beer Valley Rd. Phoenix, AZ
>85027
>(602) 780-1995, Fax (602) 780-2431

>They have standard 2 or 4 pole monolithic crystal filters at 10.7,
>21.4 45.0, 70.0, and 90.0 MHz and are shipped from stock on hand,
>i.e. they don't have to make a production run.

>They also sell crystal filter kits.
>VISA and Master Card Accepted and deal in small quantities.
>I've dealt with them before and have been very satisfied.
>(although I still haven't hooked up the filters yet.)

>Bill Kirkland
>VE3JHU

Thanks to Bill for this info. I live down the road in Tucson, but as far as I know, there is no Beer Valley Road (and I'm an expert on the subject) in Phoenix. Try Deer Valley Rd.

73, Wes -- N7WS

1502. Schematic for HG-10 Heathkit VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: lewissys@ix.netcom.com
Message-ID: <52guap$onv@dfw-ixnews3.ix.netcom.com>
Source record: 102088
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Good day,

I picked up a Heathkit HG-10 External VFO the other day. Would someone have a schematic they could fax me? I want to convert it to solid state, the osc. coils are very rugged since they have ceramic fired over them. I would be happy to supply notes for the mod once it was finished. I plan to make a QRP output for each band and have it all installed in the one box, since there is plenty of real estate.

TNX de KJ5WA

1503. Re: WTBuild: 2 meter FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960927121053.16983A-100000@ban.libertel.montreal.qc.ca>
Source record: 102089

On 27 Sep 1996, Glenn Sparks wrote:

>
> >>Hi All,
> >>
> >>I was wondering if anyone had plans to build a 2 meter FM rig. It
> >> (with deletion)

> Building a 2m FM would be major, an alternative may be an inexpensive
> 49 MHz talkie that has separate transmit and receive crystals, and
> builing a transverter to mix the frequency to 14*.**. I remember
> seeing something simular in some magazine several years ago for 220.
>
The article on the 220 transverter for use with a 49MHz walkie talkie
was in QST, maybe around 1988? I can picture the cover, predominantly
yellow and maybe with the shuttle on the cover, and there was part of
a 2part article by Wes Hayward on a 14MHz ssb transciever.

If you try this, you want to be sure to use a walkie talkie that
uses a superhet receiver, ie one of the more expensive kind. Those
with superregenerative receivers will be too wide, among other things.

The proper way to use the walkie talkie, though, would be to use a receive
converter to bring 2Meters down to 49MHz, but then change the crystal in
the transmitter to 1/3 the desired 2Meter frequency, and then use a tripler.
This is a method used quite frequently in the old days, although usually
it was to go from 144 to 432MHz.

The walkie talkie idea does make a good start, but sometimes we end up
modifying things to such an extent that it would have been simpler to
start from scratch. Witness all those articles in years past on modifying
portable am radios so they work as ham receivers; there is so much outboard
stuff that what was used in the portable could easily built from scratch.

The walkie talkies make a good source of 10.7MHz/455KHz fm if strips.
They include the maybe hard to get if filters and second conversion crystal.
They are probably no less capable than what shows up in a lot of scanners.

It might, however, be a better choice to modify the front end or skip the
built in front end and feed in a 10.&MHz signal from an external front end.
Cut down on needless conversions which exist only because you don't want
to modify the walkie talkie.

On the transmit side, is there a real reason for using the built in
transmitter with a heterodyne converter or tripler? Transmitters are
simple, and it might be much easier to start from scratch. After all,
the VHF tripler and power amplifier still have to be built, and they

might be the most expensive and difficult stages. That transverter article had to include circuitry to detect the low output power to switch to transmit; if you went to a separate transmitter you could eliminate that stage, and overall the parts count might be about the same.

Michael VE2BVW

1504. Re: Schematic for HG-10 Heathkit VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: stevem@best.com
Message-ID: <52h407$4hq@shellx.best.com>
Source record: 102090
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <52guap$onv@dfw-ixnews3.ix.netcom.com>,
Charles E. Lewis <lewissys@ix.netcom.com> wrote:
>
> Good day,
>
> I picked up a Heathkit HG-10 External VFO the other day. Would
>someone have a schematic they could fax me? I want to convert it to
>solid state, the osc. coils are very rugged since they have ceramic
>fired over them. I would be happy to supply notes for the mod once it
>was finished. I plan to make a QRP output for each band and have it
>all installed in the one box, since there is plenty of real estate.
>
> TNX de KJ5WA

I used to have an HG-10 but no more docs. As I recall, that VFO only
oscillated on 80M and that the band selection was simply rotating a
different dial scale calibrated to the harmonics of the fundamental
osc. The external radio would do the multiplication. My memory may
be foggy on this, but it might make your QRP project more interesting
with the need for multiplicaiton and filtering for each band.

Steve M. WF6R

1505. Re: WTBuild: 2 meter FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: morganp@freenet.edmonton.ab.ca
Message-ID: <52hhu0$gka@news.sas.ab.ca>
Source record: 102091

Michael Black (blackm00@libertel.montreal.qc.ca) wrote:
: On 27 Sep 1996, Glenn Sparks wrote:

: >
: > >>Hi All,
: > >>
: > >>I was wondering if anyone had plans to build a 2 meter FM rig. It
: > >> (with deletion)

: > Building a 2m FM would be major, an alternative may be an inexpensive
: > 49 MHz talkie that has separate transmit and receive crystals, and
: > builing a transverter to mix the frequency to 14*.**. I remember
: > seeing something simular in some magazine several years ago for 220.
: >
: The article on the 220 transverter for use with a 49MHz walkie talkie
: was in QST, maybe around 1988? I can picture the cover, predominantly
: yellow and maybe with the shuttle on the cover, and there was part of
: a 2part article by Wes Hayward on a 14MHz ssb transciever.

It was in the January 1990 issue of QST.

--
73 & ttyl Morgan Patterson
\\/// Internet: morganp@freenet.edmonton.ab.ca
(o o) Ham Radio: VE6MRP
(_) "What, back up my hard drive! I can't find the reverse switch"
----oOO-----OOo---

1506. Re: Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: griffin@jgfl1.allcon.com
Message-ID: <DyEn6L.20J@jgfl1.allcon.com>
Source record: 102092

Louwers (louwers@stevin) wrote:
> : 144 MHz is out of the question - unless you have licensed radio amateurs in
> : your rocket builders group. Even then, you'll need a special permit i think.
> : 144 MHz is an exclusive amateur band - no other parties allowed.

> Don't worry we have them. As we are amateurs, I think the amateur band is very
> well suited.

My idea would be a small oscillator+filter powered by a 9V cell. The antenna would be coiled up inside the last stage (to be pulled out by the next-to-last stage <sp?>). Xtal control would require under five transistors (I would have to dig out the schematics, but there was an article by HaJo Brandt in the G-QRP Circuit Handbook). The whole transmitter could be covered in epoxy with space for the battery:

```
-----------------
XXXBBBBBBXXXAA
XXXBBBBBBXXXA
XXXTTTTTTXXXA
XXXXXXXXXXXXA
-----------------
T = transmitter
X = epoxy
B = battery
- = tube exterior
A = antenna wire
```

I would add padding on both sides of the transmitter.

If you need the schematics of the transmitter, I can email it to you.

Hope that helps,
Jens, DB9LL
--
Don't like my opinion? Go get your own!

1507. KI6QP Dual Synth Source????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <52hmbk$6bc2@lamar.ColoState.EDU>
Source record: 102093

I'm interested in the asssembled version of the dual V/UHF synth in the January 96 QEX, and there's been no answer (or bounce-back) from the author's e-mail address given in the article. Has anyone contacted the author (KI6QP) or built/bought one of these units? I want one, and if all else fails, I'll have to build it, but I'd prefer the assembled version.
Anybody?
Galen, KF0YJ

1508. Re: Schematic for HG-10 Heathkit VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.960927223916.8008A-100000@ban.libertel.montreal.qc.ca>
Source record: 102094
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <52guap$onv@dfw-ixnews3.ix.netcom.com>,
Charles E. Lewis <lewissys@ix.netcom.com> wrote:
>
> Good day,
>
> I picked up a Heathkit HG-10 External VFO the other day. Would
>someone have a schematic they could fax me? I want to convert it to
>solid state, the osc. coils are very rugged since they have ceramic
>fired over them. I would be happy to supply notes for the mod once it
>was finished. I plan to make a QRP output for each band and have it
>all installed in the one box, since there is plenty of real estate.

I don't have a schematic, never had one of these. However, the Heath
ham equipment went through some line changes over the years, ie before
there was a monitor scope that matched the SB-101 line, there was a monitor
scope that did the same thing but matched earlier equipment.

Before this VFO, there was the FV-1 Vfo to go with the earlier line of
AM/CW transmitters. I would assume that the circuit is pretty much the
same. The important point to this is that in late 1972, maybe November,
after the US novice class was allowed the right to use VFO's, there was
an article on solid-stating the VF-1 vfo, and it did include the
schmeatic either original or as modified. If you can get a hold of that
article, not only would you have some information about the same basic
circuit probably, but you'd also have some idea of how somebody else
accomplished the same thing.

Michael VE2BVW

1509. FS - UHF rig - 2mtr rig - Ans Mach - Mics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: Peter Michael <Pete@AirTraffic.com>
Message-ID: <324BDFD8.5397@AirTraffic.com>
Source record: 102095

I have the following items for sale

(one) Kenwood TR-7950 2 mtr rig

(two) Panasonic KX-T1450 answering machines

(one) Uniden SMU 300K 440 - 480 rig

(two) Realistic 600 olm mics - great for IP phone

Best offer or trade ! Thank you

1510. Re: I need a lcd display 1 by 16 or whatever (14 pin)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: dd@adobe.com
Message-ID: <52f8ik$hg7@enquirer.corp.adobe.com>
Source record: 102231

In article <526qhs$ir8@geraldo.cc.utexas.edu>,
Richard Friedrich <dakota@ccwf.cc.utexas.edu> wrote:
>I need a lcd display for a small project. one or two line, 16 or 20 character.
>I also need the pinout.
>I didnt want to pay digikey ~$35.

A couple of good surplus sources:

Marlin P. Jones & Assoc. Inc.
P.O. Box 12685
Lake Park, FL 33403-0685
(800) 653-6733 orders
(800) 432-9937 fax orders
(561) 848-8236 info
(561) 848-8764 fax info
mpja@gate.net
http://www.mpja.com

B.G. Micro
Box 280298
Dallas TX 75228
(800) 276-2206 orders
(214) 271-5546 orders
(214) 271-2462 fax
(214) 271-9834 tech support
bgmicro@ix.netcom.com (Rick Dale)
http://www.bgmicro.com/

1511. Re: WTBuild: 2 meter FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: no.spamming.allowed@null.com
Message-ID: <52ft0d$emn@jerry.loop.net>
Source record: 102232

In article <324885BC.FD@k2nesoft.com>, keslark@k2nesoft.COM (KB2WKW) wrote:
>Hi All,
>
>I was wondering if anyone had plans to build a 2 meter FM rig. It does
>not have to put out more than 5 watts. I need to build instead of buy
>because i do not have much money being that I am only in 9th grade. I
>have one 2 meter rig (ICOM IC-281H) but would like another prefferibly
>one that weighs less than 1 pound. If you have plans for one or know
>where i could get plans for one could you please e-mail me the info.
>
>Thanks in advance.
>
>73,
>DE KB2WKW
>Kenny
>

Kenny,

Building a 2M rig from scratch would be quite an undertaking. By your statement, "one which weighs under 1 pound" I assume you would hope to have an HT-style rig? This wouls prove very difficult. The marvel of modern electronics, particularly surface mount technology, is what allows those HT thingees (technical term) to be so darned tiny. If you're interested in building a radio from a kit, I would recommend the new Ten-Tec 2M rig. At $199, it may be a little pricey to you, but it is an excellent value. It is in a mobile-style case, so forget about wearing it on your belt.

I don't know if they have a 'net presence, but you cal call them at 800-833-7373 for more info.

7 3 de KE6ALM
-- Matt

##
I fix broken computers # Reply to
I can break them as well # ke6alm
#.I.will.not.tolerate.SPAM.#.@loop.com #
##

1512. Re: Tunnel diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: et1kb@tu-harburg.d400.de
Message-ID: <52gi5q$bgc@rztsun.tu-harburg.de>
Source record: 102233
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <526goa$qrb@trotsky.cig.mot.com>, Vlad <dvorkin@pcs.mot.com> writes:
|> Looking for tunnel diodes.
|> Anybody makes them lately ?
|> Please reply to Vlad at:
|> dvorkin@pcs.mot.com
|>
|> Regards,
|> Vlad
|> KB9OLM
|>

Consult the unusual-diode-FAQ by M.J. Chudobiak (http://www.avtechpulse.com).
And if you find other sources, please report them.

****
Kai Borgeest	Tel. : ++ 49 40 7718-2873
Dept. of Measurement Engineering/EMC	Fax : ++ 49 40 7718-2382
TU Hamburg-Harburg	
Harburger Schloss-Strasse 20	email: borgeest@tu-harburg.d400.de
21079 Hamburg	http://www.tu-harburg.de
Germany	/et1/emv/et1kb/et1kbe.html
****

1513. Re: WTBuild: 2 meter FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-27 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <52gm12$9hc@sjx-ixn4.ix.netcom.com>
Source record: 102234

>>Hi All,
>>
>>I was wondering if anyone had plans to build a 2 meter FM rig. It
does
>>not have to put out more than 5 watts. I need to build instead of buy
>>because i do not have much money being that I am only in 9th grade. I
>>have one 2 meter rig (ICOM IC-281H) but would like another
prefferibly
>>one that weighs less than 1 pound. If you have plans for one or know
>>where i could get plans for one could you please e-mail me the info.
>>
>>Thanks in advance.
>>
>>73,
>>DE KB2WKW
>>Kenny
>>
Building a 2m FM would be major, an alternative may be an inexpensive
49 MHz talkie that has separate transmit and receive crystals, and
builing a transverter to mix the frequency to 14*.**. I remember
seeing something simular in some magazine several years ago for 220.

Sparky KI5GY

1514. ATV on 10 GHZ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: marwynn@phoenix.net
Message-ID: <52hus0$m9v@uhura.phoenix.net>
Source record: 102096

I am looking for information on how to set up 10 GHZ ATV. I would like to use Gunplexers and build a interface for the video to transmit. I would like to know how to get a quality picture off the the gunplexer. I would also like to here from someone who has done this.

Thanks in advance for the help .....WB5PWG..... Webster, Texas

God made Earth and rested
God made Man and rested.
God made Woman and ever since neither God or Man has rested. :)

Marwynne Kuhn WB5PWG
marwynn@phoenix.net

1515. Re: The Handicapper General & the Morse key of the Oppressed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: doll@centuryinter.net
Message-ID: <N.092796.192035.14@anxp4.ld.centuryinter.net>
Source record: 102097

On 9/24/96 7:04PM, in message <1996Sep24.210454@desire.wright.edu>,
nyoung@desire.wright.edu wrote:

> And just to add fuel to the already inflamminatorized
> discussion: I've been playing CW since around 1968, when I
> got my licence. This was after the USN had told me that I
> was gonna be a radio operator but sent me to teletype school
> (no cw) instead. So I had to learn the CW the same way many
> do: listen and listen and listen and pink rabbits with bad
> fists. But I wanted to play HF and I wanted to play DX and
> I wanted the damn ticket. So I learned to copy at 5 wpm. Then
> I bought a keyer and discovered that I could send at 15 wpm
> and copy at 8. So I learned to copy at 17 and passed the
> general. Then the advanced. And since it's been a while since
> I chased some guy up the warp scale of CW, that's where I is
> today: an advanced ticket holder who would, if he could find
> the time, study all the transistor squiggles and learn to
> copy cw at 20+ (which I could do back in '72 when I left
> the USN).
>
> Actually, it all comes down to something I read once in a
> _Playboy_ magazine. (We all read _Playboy_ in the Navy. It
> was the only source of good literature and cogent discussion
> of current event topics. Yeah, right.) Once some years ago
> I came across a story by Kurt Vonnegut. I think I read it in
> _Playboy_. The story was called "The Handicapper General."
> At least that's what I remember, even if it might just have
> been the name of one of the characters. The Handicapper General.
>
> The Handicapper General was a government official who went
> around putting weights on the best ballerinas so that none
> would be better than an a priori average. Same with speakers:
> special dental and tongue implants so that their words would
> not sound any better than any other speakers. Clamps and
> bondage on the hands of writers. Limited vocabulary and spell-
> checkers too. Everyone was averaged out by the Handicapper
> General.
>
> So you have a choice: you either get past the basic crap,
> the CW or the theory, and you get on with enjoying whatever
> part of the hobby you like, be that satellites or QRPp on
> 1.75 km. You're different. You cared enough to go through the
> basic training to get the licence.
>

> Or you can water it down, one way or the other, with no CW
> requirements or no technical knowledge requirements and you
> end up with CB (or some pandemic equivalent) that has been
> averaged out by the Handicapper General.
>
> Me, I'd rather know that my frontal lobe and my ability to
> decipher signs and sounds somehow went beyond my natural
> ability to control what is to all other animals just food
> barks. Simple choice. Signs and significance or gibbering
> cacophony.
>
> 73
> Nils
> WB8IJN &c
>

Bravo, Bravo, Bravo.....if anyone questions your thoughts, just have them listen to most "no-code" techs on 2 meter C.B.

Ken
KK5JD

1516. Re: The Handicapper General & the Morse key of the Oppressed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: orion@capital.net
Message-ID: <52iabd$q65@Usenet.Logical.NET>
Source record: 102098

>Bravo, Bravo, Bravo.....if anyone questions your thoughts, just have them
>listen to most "no-code" techs on 2 meter C.B.

>Ken
>KK5JD

Ever listen to some of the arrogant, dirty-mouthed Advanced and Extras
on HF scream and gibber at each other, Ken?
Butch N2YMJ

1517. W2IHY noise gate&equalizer kit ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: morel@shani.NET
Message-ID: <9609280827.AA23448@shani.net>
Source record: 102099

Hi,

If you're using a " W2IHY noise gate & equalizer unit ", please send
me your impressions on functional performance and components quality.

Reply to: morel@shani.net

73 de Morel, 4X1AD

1518. Re: Wanted: Heath HW8 Handbook/mod book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: bruce muscolino <w6toy@erols.com>
Message-ID: <52ivdb$euu@test-sun.erols.com>
Source record: 102100
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The HW-8 Handbook was compiled and published by Mike Bryce. Mike is an avid and active QRPer. The book covers both the HW7 and HW8. It has been through two editions. I believe you can still buy it from Mike. Mike is the QRP editor of 73 Magazine and the Publicity Chairman of the QRP Amateur Radio Club International (QRP-ARCI). I'm sorry I don't have Mike's address handy, but you can write to him at the address given in his 73 Magazine column.

73,

Bruce -- W6TOY/3
QRP, Really! (c)

1519. Re: Schematic for HG-10 Heathkit VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: bbennett@smartt.com
Message-ID: <324cff04.1274314@news.smartt.com>
Source record: 102101
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On 27 Sep 1996 10:47:51 -0700, stevem@best.com (Stephen Muther) wrote:

>In article <52guap$onv@dfw-ixnews3.ix.netcom.com>,
>Charles E. Lewis <lewissys@ix.netcom.com> wrote:
>>
>> Good day,
>>
>> I picked up a Heathkit HG-10 External VFO the other day. Would
>>someone have a schematic they could fax me?

I think you can get the tech spec (?) & operating manual from:
The Manual Man
Pete Markavage
27 Walling St.
Sayreville, NJ 08872
908 238-8964

He has lots of manuals for older rigs.

Brian VE7IJQ

1520. Re: Wanted: Source for Toroid Cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: bruce muscolino <w6toy@erols.com>
Message-ID: <52j0dq$fnf@test-sun.erols.com>
Source record: 102102
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

You can buy direct from Amidon. They advertise in QST on a periodic basis.

Also, Dan's Small Parts and Kits is an excellent source of parts for projects. I don't have his address handy, but he mails out a catalog and is on the web at http://www.fix.net/dans.html. He is very popular with the QRP community. I havbe used him for several years now and can say he's OK.

Bruce -- W6TOY/3
QRP, Really! (c)

1521. Motorola Compact Palm Microphone [HMN1056D] - Need Wiring Diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: The Frankel Family! <nfrankel@pop.erols.com>
Message-ID: <324D3F79.5903@pop.erols.com>
Source record: 102103

I would like to use a Motorola Compact Palm Microphone [HMN1056D] on one of my radios. Does anyone have a wiring (red=, black=, green=, etc.) diagram?

Please e-mail your reply to nfrankel@erols.com

Thanks!

Nevins

1522. Marine/2-meter conversion?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: emesis@gatecoms.gatecom.com
Message-ID: <52i0oe$li5@www.gatecom.com>
Source record: 102104

Ihave an early 60's era Raytheon RAY-45, tube type, 12 channel crystal controlled marine band transceiver that I would like to use on 2-meter. I bought a set of crystals from Jan's for 146.505, however the unit will not transmit there and receive is marginal at best: ie. too far out of band. Does anyone know of a way to make this work? Changing/altering a few components is not beyond me, but is it practical?

Thank you for any suggestions,
73 de Jay Gibson KB8ZLZ

1523. Re: The Handicapper General & the Morse key of the Oppressed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <52j7h3$62f@newsbf02.news.aol.com>
Source record: 102105

In article <52iabd$q65@Usenet.Logical.NET>, orion@capital.net writes:

>Ever listen to some of the arrogant, dirty-mouthed Advanced and Extras
>on HF scream and gibber at each other, Ken?
>Butch N2YMJ

The more the FCC allows us to "self-regulate", and the easier exams get, the less value any license has. Good point Butch, it's also affected the "higer" classes (that are actually lower skill now than they have ever been).

73 Tom

1524. Wanted: Info for marine mod (diode?) to IC-2SAT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: perry@scn.org
Message-ID: <DyG6wJ.L37@scn.org>
Source record: 102106

If you know the mod, please tell me at perry@scn.org

1525. Re: AM Synch det. sch. sent out

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: Burt Weiner <bweiner@ksca.com>
Message-ID: <324D4F5E.4F26@ksca.com>
Source record: 102107

Rob...
I was "browsing the net" and saw your note about synchronous detector schematic. If this is something you are faxing upon reauest I'd be interested in seeing it. My fax number is, 818-500-7206. If there is a charge, telephone call (and faxes) aren't free, let me know.

Thanks,

Burt, K6OQK
--

Burt I. Weiner Associates
Broadcast Technical Services
bweiner@ksca.com

1526. Re: Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <324DBDB6.5082@worldnet.att.net>
Source record: 102108

Murata-Erie produces SAW filters that may also be useful for some
applications. It may be difficult to find them however, without going to
a large commercial distributer with a minimum order....
73 Woody

kirkland wrote:
>
> Simon Bosworth wrote:
> >
> > I am looking for a source for a 75MHZ, (or somewhere around there), crystal filter to
use in an
> > upconverting receiver. Any ideas ?
> >
> > Thanks,
> > Simon N0EPW
>
> Try Temex Electronics, Inc
> 3030 W. Beer Valley Rd. Phoenix, AZ
> 85027
> (602) 780-1995, Fax (602) 780-2431
>
> They have standard 2 or 4 pole monolithic crystal filters at 10.7,
> 21.4 45.0, 70.0, and 90.0 MHz and are shipped from stock on hand,
> i.e. they don't have to make a production run.
>
> They also sell crystal filter kits.
> VISA and Master Card Accepted and deal in small quantities.
> I've dealt with them before and have been very satisfied.
> (although I still haven't hooked up the filters yet.)
>
> Bill Kirkland
> VE3JHU

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

1527. Re: Wanted: Heath HW8 Handbook/mod book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: wa7twi@primenet.com
Message-ID: <52jtp5$bik@nnrp1.news.primenet.com>
Source record: 102109
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

bruce muscolino <w6toy@erols.com> wrote:

>The HW-8 Handbook was compiled and published by Mike Bryce. Mike is an
>avid and active QRPer. The book covers both the HW7 and HW8. It has
>been through two editions. I believe you can still buy it from Mike.
>Mike is the QRP editor of 73 Magazine and the Publicity Chairman of the
>QRP Amateur Radio Club International (QRP-ARCI). I'm sorry I don't have
>Mike's address handy, but you can write to him at the address given in
>his 73 Magazine column.

>73,

>Bruce -- W6TOY/3
>QRP, Really! (c)

Mike Bryce can be contacted at 2225 Mayflower, N. W., Massillon, OH 44710.

An excellent book. I have it myself and won't even loan it out for fear it will never return.

Richard

Richard Kendrick CET WA7TWI |
Amateur Radio Extra Class | Do not adjust your mind, there
QRP #4129/G-QRP #8591/MI-QRP #M-1412 | is a fault in reality.
Mesa, AZ email: wa7twi@primenet.com |

1528. Hairpin filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: "J.Manuel Rivas Rodriguez" <manel@redestb.es>
Message-ID: <324D955E.6224@redestb.es>
Source record: 102110

I am interested about build printed circuit board hairpin filters.
I know that are buiding with 50 ohms lines. All designs in the ARRL UHF/Microwave projects manual
use the same hairpin wide, but I doni¿½t know how to calculate the exact length and the 50 ohms
feed point.
Please send any info about the design of this filters.
Thanks.

73 de EA1BLA

1529. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: cj@hth.com
Message-ID: <324d85b8.0@news.buller.se>
Source record: 102111
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something (big or small) with the BASIC Stamp
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
```

```
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax PIC och BASIC STAMP produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

1530. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep28.162555.4509@ke4zv.atl.ga.us>
Source record: 102112

In article <dgfDy0B0u.4L4@netcom.com> dgf@netcom.com (David Feldman) writes:
>I'm working on mounting several VHF radios into a ZERO/Halliburton type
>"suitcase" cabinet. I'd like to use urethane (expanding) foam to position
>the radios, instead of building some complicated metal structure (the
>radios are various ICOM IC-?02 series VHF/SSB rigs). Anyway, where do
>you buy the stuff? As I recall, it's two chemicals, and when you mix them,
>they make a foam that then hardens. You can form the stuff by pumping it
>into a heavy duty plastic bag, forming it around the equipment you want
>to package, and then let it harden. Then after it's hardened, you can cut
>it with a knife to make openings (for cables), adjustments, and such.
>
>Anyway, is this stuff bought at hardware stores, paint stores, or where?
>
>73 Dave WB0GAZ dgf@netcom.com

Try Foam Plus from Insta-Foam. It's available at Home Depot.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1531. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep28.163842.4627@ke4zv.atl.ga.us>
Source record: 102113

In article <51vdsc$b9p@herald.concentric.net> wmkresl@townsquare.net (William Kresl) writes:
>HI! I have an application to track down a +5volt rail SHORT on
>some computer equipment. I have a FLUKE model 77 DVM. Any ideas
>on a good circuit to built up to to use as an add-on for this?
>I'd like to hear your suggestions, rather then plunge head-first
>into a pile of old ham mags.

Let me offer an alternative way to track down this sort of pesky problem. Use a current probe. HP sells one that looks like a logic probe, but it is really a current probe sensing the current in the trace you are following.

To use it to find a short in the +5 buss, just apply power through a current limiting resistor, chosen to limit current to 5 mA, to the 5 volt buss, and follow the buss along until the probe stops showing a current flow. You've just passed the short. It's a really easy, and really fast way to find these pesky shorts, especially on multi-layer boards.

Note, the rest of the circuitry won't be drawing current because the short is hammering the buss, and limiting current to 5 mA will prevent damage. Works like a charm.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1532. Programming Western Radio WR2400 UHF Mobile??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-28 00:00:00 UTC
From: Jerry Sturge <jerrys@vcn.bc.ca>
Message-ID: <324CF2B8.3F45@vcn.bc.ca>
Source record: 102114

I have a WR2400 UHF mobile. It looks like it is diode matrix
programmable. But the maxtrix is empty and it just has one
diode and a little prom chip. I assume that it can still
be programmed via diodes. If you have any ideas please
drop me a line.

Thanks in Advance.
Jerry VE7RYB

jerrys@vcn.bc.ca

1533. BETA TESTERS NEEDED FOR PA QSO PARTY LOGGER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: N3LAI@radix.net
Message-ID: <324e31fe.1767706@news1.radix.net>
Source record: 102115

Hi All,

I hope I don't offend any one by posting this off-topic message. If I do, I sincerely apologize.

I'm looking for people to test a logging program I created for the Pennsylvania QSO Party contest. I could not find any good logging programs for the contest that were Windows programs, so I decided to make one. Well, it's done to the point I can't elicit any errors. I need some people to "push some buttons" and see what happens.

The only thing I can offer in return for your help is a copy of the software at no charge. This will include any and all updates to the software any time I make any. I'm planning on making changes at least once each year as the new rules and/or sections come out.

System requirements are a 486 or better processor with 8 MB RAM (that's the only computer I've tested it on) and Windows 3.x, Windows95, or Windows NT. Approximately 5 megabytes of disk space is required for installation, and additional disk space for the log files.

If you're interested, please contact me by e-mail and I can e-mail you a copy (3 disks) or I can post it to the Newsgroup.

Thanks In Advance,

Chuck Spafford - centrex@radix.net

-=> CenTrex Computer Services <=-
http://www.radix.net/~centrex/

* Web Site Design
* Mailing List Management & Cleanup
* Database Management

1534. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <52krrs$6i8@villa.fc.net>
Source record: 102116

In Article <529vdn$ob4@nicaragua.earthlink.net>, through puissant locution,
ke4udn@amsat.org (Todd Owen) soliloquized:
>See 73 Amateur Radio Today, December 1995, pg 34...
>for a milli-ohm DMM extension circuit.
>Works great! simple design too.

Greetings. An App note for the LM3909 LED flasher chip also does
this... I think I have the diagram as URL:

http://www.paranoia.com/~filipg/HTML/MINE/PROJECTS/bikelight/l_schm2.gif

Result is a tone on a speaker... I had used it before to trace PCBs
for open or iffy traces.

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

1535. Plymouth Radio Club 1997 Rally

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: lawspear@cbm.co.uk
Message-ID: <52m10f$9q3@cave.hiway.co.uk>
Source record: 102117

Plymouth Radio Club holds its 1997 Rally on Sunday 25th May 1997 at the College of Further Education Kings Road Devonport Plymouth.

The venue is excellent with lots of free car parking, a licensed bar and restaurant. There is plenty of space to browse and mingle.

Email me if you would like more information or want to book table space.
--
Stephen G7UXL
lawspear@cbm.co.uk

1536. magnetic-loop antenna for hf-bands

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: lex.van.der.lugt@tip.nl
Message-ID: <DyHKxD.CB1@tip.nl>
Source record: 102118

Hello fellow-ham's,

Just recently i read an article about magnetic-loop antenna's for hf-bands. Since i might want to build me one i wonder if any of you has information on this type of antenna (did you build one, does it work ok, did it work the first time you tried it, are they difficult to build, is it better if i buy one , which one ? etc...)

looking for your comments on this subject,

73 de PA3GIS

lex van der lugt
lex.van.der.lugt@tip.nl

PS Please send a copy of your reply to my mailbox as well, just in case i miss your reply !

1537. [Q]: Improvement of Transmit Audio and Microphone Switch boxes... Suggestions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: seeler@upei.ca
Message-ID: <324e3a9c.3467189@137.149.3.1>
Source record: 102119

Hi - I plan to make a microphone switch box that would enable me to switch between 2 mics (a Kenwood MC-60 with its original dynamic element; and a heil boom (with HC-4 Element) headset arrangement) and 3 rigs (kenwood TS690s, IC275 and an IC475).

My hope is to have a mike for DX / weak SSB signal use and a "good quality" / "broadcast" quality signal for rag-chewing......

I recognize that I will need a capacitor on the icom lines (0.47 - 1 uf) to prevent damage to the two mikes if I use the two mikes I have with the Icom rigs.

Since I am doing the switching with a data switch box I am also considering ways in which to improve the audio output - especially with the kenwood desk mike (MC-60). My voice - at least on HF is bassy using the MC-60 and needs some enhancement or bass reduction.... (sorry but physical type changes not to be considered :-))

My first question is this.....

Would the HC-5 Heil element improve audio output from the desk mike enough that I do not need to build an audio equalizer circuit - just change elements?

or....

Should I build an audio equalizer circuit even if the Heil HC-5 element is placed in the kenwood Desk mike to further "tweak" my audio output?

I have copies of the papers by heil (QST, July 1982: pg 11 - Equalize your microphone and be heard) and Doug Demaw (CQ, February 1994: pg 82 - Enhanced audio quality on transmit) and I am considering using Doug's circuit to "adjust" the audio from the two microphones.

Second.....

Is there a better mike, mike element or audio equalizer (cuircuit or otherwise) out there that I should consider? Would an electric mike element be a better choice over a Heil element (either HC-4 or -5)?

I welcome any suggestions or comments as to how to improve upon this area.

HAve a great week!

73 - David Seeler, VY2DCS
Internet: Seeler@upei.ca

Regards,
David Seeler, VY2DCS
Charlottetown, PEI

1538. Power splitter/combiners

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: aor <aor@gteais.com>
Message-ID: <324E9F82.2D70@gteais.com>
Source record: 102120

I am building a 2 meter amplifier using a pair of MRF-151G VHF transistors (300 watts each). The Motorola Application Note has the input and output transformers (and ferrite cores) to cover 10MHz thru 175 MHz. The input and output transformers use 25 Ohm rigid mini coax with cores. These are the 48v transistors.

How can I combine these two amplifiers using combiners/splitters which will cover 10-150MHz? I know how to do this for single band operation. My goal is to have 600 watts on 10 meters, 6 meters, and 2 meters thru this one amp. It will be mounted on the tower, so I will not have access to it once installed.

Any thoughts, suggestions, or articles would be a big help.

73, and thanks in advance.

Al, NW2M

1539. Any freeware UHF+ PCB layout stuff around?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Sep29.143120.647@main03>
Source record: 102121

Are there any inexpensive (or freeware) PC based PCB artwork CAD packages suited for UHF/microwave microstrip layout? I don't need schematic capture or routing capability - just something to help visualize layout and placement, with maybe some DRCing and automation in dimensioning lines WRT frequency, PCB material, and desired impedance. (Too much to ask?) :)

I dont want to go head first into this and blow $$$ on a package that I may rarely use.

Thanks!
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

1540. new Home Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: Yannick Cailliau <cailliau@worldnet.fr>
Message-ID: <01bbae58$ec36f3c0$179dcec2@worldnet.sct.fr>
Source record: 102122

--
Yannick CAILLIAU, F5TCN
14 route d'Harnes,
62880 Annay sous Lens,
France
E-mail: f5tcn@mail.dotcom.fr
Home Page: http://www.worldnet.fr/~cailliau/HomePage.shtml

1541. Mid-Atlantic VHF conf./Packrats Hamfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Sep29.160448.648@main03>
Source record: 102123
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew

*** Mid Atlantic VHF Conference ***

The 20th Annual Mid-Atlantic States VHF Conference sponsored by the Mt. Airy VHF Radio Club will be held on Saturday, 5 October at the Days Inn in Horsham PA. Technical presentations relating to VHF/UHF/SHF weak signal operating will begin at 9AM.

The Days Inn is located just north of exit 27 (Willow Grove exit) of the PA Turnpike, north of Philadelphia, in Horsham, PA. Rooms at the Days Inn can be reserved by calling 215-674-2500. Mention Pack Rats for a discount. The Days Inn is filling up quickly, so reserve soon. Additional lodging is available in the Horsham area: Holiday Inn Trevose (215) 364-2000, Marriott Willow Grove (215) 830-0550, Hampton Inn Willow Grove (215) 659 - 3535, Warrington Inn (215) 343-0373.

*** HAMARAMA ***

On the following day, Sunday 6 Oct. the Packrats will have their annual hamfest at the Bucks County Drive In Theater, about 5 miles north of PA Tpk. exit 27 on Rte. 611. Talk-in on 146.52 simplex and the club repeater on 224.58.

Ron, WZ1V has placed the flyer for the events, including a preliminary list of presentations, on the N.E.W.S. Group web page:
http://uhavax.hartford.edu/~newsvhf/hamarama.html

For more information on the technical conference or a possible presentation slot, contact John Sortor, KB3XG, at 610-584-2489 or at JohnKB3XG@aol.com.

** Preliminary Conference Agenda **

SPEAKERS TOPICS

KD1DU, Del Schier - Introduction to 10 GHz Equipment and Operation

WB6JJN, Jim -Amateur Satellites:Modes, Bands,& Issues @ VHF thru Microwaves

AJ3K, Jim Rautio, Sonnet Software - 3-D Planer Electromagnetic Design

WA1YHO, Gary Dallas - Using YO & AO to Optimize a 6M Antenna System

N1DPM -Introduction to VHF/UHF Weak Signal Operating

Harvey Kaylie, Mini-Circuits Laboratories

WB2SON, Richard Fiore - American Technical Ceramics

W3ZZ, Gene Zimmerman - 40 Years of Contesting

Preliminary schedule of events:

Friday, October 4, 1996
5pm to 11pm - Out of town guests arrive, check in.
The 2 meeting rooms be used as a hospitality suite. The Pack Rats will provide snacks & beverages

Saturday, October 5, 1996

9am to 12pm Morning conference session.
12pm to 1pm Lunch break
1pm to 5pm Afternoon conference session.
5pm to 7pm Hospitality suite.
7pm to 9pm Dinner/Banquet
9pm to 11pm Hospitality suite.

Sunday, October 6, 1996

6am to 10am Check out
7am to 3pm Hamarama at the Bucks County Drive In

Joe - AA3GN
--
landisj@nad.com

1542. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <52m3km$qn@herald.concentric.net>
Source record: 102124

The SCSI drive cable was one I made, and utilized keyed connectors. The initial two SCSI drive setup had been working OK for awhile. The drives are keyed connectors as well. Here's some more info regarding the events that led up to blowing TWO SCSI DRIVES, as I remember them.

o I was successfully using two SCSI drives.

o One day, I pulled the computer case's cover and discovered that the 5-1/4" drive terminator resistor was HOT. I pulled THAT drive and was just using the two SCSI drives (and another 3-1/2" drive). I thought that drive alone went bad, and used it like this for several months.

o I then tried the first SCSI drive VICTIM. With the POWER OFF, I pulled the second drive's SCSI cable and plugged it into the VICTIM drive, power connector plugged in as well. When I powered up, the fan was DEAD on the power supply and by that time the VICTIM smoked. The +5volt rail shorted. Unplugging VICTIM drive power and SCSI cable, and system power measured fine and working with ONE SCSI drive (and 3-1/2" drive). Voltage checks on Power Supply were OK.

o I then returned cables to my previously working SECOND SCSI drive. When I powered it up, I got the same results as the VICTIM drive, and KILLED this drive as well. OUCH! TWO DRIVE VICTIMS in FIVE MINUTES FLAT!

o System crippled to one SCSI and 3-1/2" drive. Thinking that the power supply was bad, I have since changed the system case/power supply to a tower box. Now running another 5-1/4", 3-1/2" floppies and one SCSI drive.

Thought I'd clear up any confusion regarding the possibility of a mis-connected SCSI cable. The drive's keyed connector with plastic housing eliminates the possibilty of being 'off' by a few pins (or backwards).

The VICTIM drive's PC-Boards are attached to the housing using SMALL TORX head type screws. I would estimate to be about a size T5-T8. Anybody know where I can find a small tool like this. (Tried SEARS, NAPA auto parts, some others...no luck).

Thanx,
Wm Kresl
WB9BBC

--
In article <522eiq$ovd@herald.concentric.net>,
wmkresl@townsquare.net (William Kresl) wrote:
>WOW, great suggestions from you ALL! Thanks! Here's some additional info
>that I left out regarding the shorted equipment VICTIM, which is a 2GIG
>SCSI hard drive. I plugged it into my PACKET computer one day, and it SMOKED

>the drive and shorted out the +5volt rail. I checked the voltage out of the
>supply with a DVM and +5v/+12v checked OK. I suspect high ripple was the
>culprit that killed the drive, tho I haven't checked it with a scope. I have
>since replaced the computer case/power supply rather then wasting time
>trying to debug an el-cheapo switching supply. System now works fine, drive
>still dead. Due to the fine traces and sensitive nature of this drive, I am
>leery of injecting BIG CURRENT into it. I DO want to make this drive WORK!
>
>The SCSI drive is mostly surface mount devices on the underside of the PC
>board, and I believe the smoke came from the top side (underneath the sealed
>mechanical drive housing). I believe it was a 'smurf-mount' component that
>died, smelling like a resitor. I hope NO active IC's were destroyed!
>
>I especially liked the suggestion from Leo, PE1RHX, to use an AF amp and
>inject an AF signal into the shorted rail and monitor along the rail with
>a discarded cassette tape head til the sig stops (@short). This may be hard
>to do on a multi-layer board with 'smurf-mount'. I may try it.
>
>Well, I haven't tackled the trouble-shooting job yet...so please keep those
>cards/letters and suggestions coming in. Best suggestions gets an honorable
>mention and big thanks from ME, as well the satisfaction that YOU helped out
>another ham in need. THAT plus $0.80 will get you a coffee ANYWHERE! Thanks!
>
>Keep Suggesting,
>Bill-WB9BBC
>

--
Wm Kresl
WB9BBC @KD9JK.WI.USA.NOAM
Delavan, WI USA

1543. Want "Modulated CW" technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-29 00:00:00 UTC
From: David Johnson <KB5YLG@why.net>
Message-ID: <324F4971.30A1@why.net>
Source record: 102125

I want to be able to connect my mfj-557 code practice key+oscillator from its earphone jack to my dual-bander FM rig to send FM cw. The idea is to hold practice sessions to help interested codeless techs to upgrade to tech+ etc...by holding practice sessions on 2M repeaters and simplex frequencies...

Do you know of an article or circuit that could help me?

1544. DC-DC Converter IC needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: john.ackermann@daytonOH.ncr.com
Message-ID: <john.ackermann.595.00114DAD@daytonOH.ncr.com>
Source record: 102035

Howdy --

I need to generate 15-18 volts DC at 50 milliamps from an input that fluctuates from 11.5 to about 13.0 VDC. Can anyone suggest a DC-DC converter chip that would work for this application?

Thanks!

John Ackermann AG9V
john.ackermann@daytonOH.ncr.com

1545. Re: hamradio-online.com EXCLUSIVE: WA State Eases Proposed Radio Restrictions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: jsm@n4vu.Atl.GA.US
Message-ID: <DyKInw.Lv8@n4vu.Atl.GA.US>
Source record: 102036
Cross-posted to: rec.radio.amateur.misc,wash.general,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

nrhblack (nrhblack@condate.com) wrote:
: Ham radio is authorized by Federal Law which overrides State law. Ham
: radio installations do not need to be certified.

: Henry Black P.E. KK6JR, G4NOC

Keep in mind that while states do not regulate radio, they most
definitely regulate what you may do while operating your automobile!
Perhaps that's what this is about.
--
John Miller, N4VU My employer pays me handsomely for my
jsm@mindspring.com opinions, and I'll be darned if I'm going to
Fayetteville, GA let any of the good ones escape onto the net!

1546. KDK FM-2015R Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: jaggi@cvrc.med.upenn.edu
Message-ID: <52ola9$5h@netnews.upenn.edu>
Source record: 102037

Recently I picked up a KDK FM-2015R 2m tranceiver on a hamfest. Unfortunatley the frequency selector switch was taken out, but I have a replacement switch plus copies of a few pages of the manual. The only trouble is that the copies are not very readable which makes the rewiring of the selector almost impossible. So I am looking for a manual for this radio, in particular page 12 which details the Control Unit. If you have one, please send me e-mail. I'll be happy to pay for xerox and mailing expenses.

Thanks a lot,

Jurg, KB2WKX

1547. Re: DC-DC Converter IC needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: stevem@best.com
Message-ID: <52qc5c$bdo@shellx.best.com>
Source record: 102038

In article <john.ackermann.595.00114DAD@daytonOH.ncr.com>,
John Ackermann <john.ackermann@daytonOH.ncr.com> wrote:
>Howdy --
>
>I need to generate 15-18 volts DC at 50 milliamps from an input that
>fluctuates from 11.5 to about 13.0 VDC. Can anyone suggest a DC-DC
>converter chip that would work for this application?
>
>Thanks!
>
>John Ackermann AG9V
>john.ackermann@daytonOH.ncr.com

I would try looking at the switching regulators made by Maxim
and National Semiconductor. The selector guides and data sheets
are available through their web pages.

Steve M. WF6R

1548. Remote Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: modinaf@swsupp.ico.olivetti.COM
Message-ID: <199609301519.IAA29894@mail.ucsd.edu>
Source record: 102126

I am looking for schematics of remote tuner for HF operation (160-10m) as
to SGC 230 or others.
Thanks.

73 de IK1VCF Fabrizio

IK1VCF@AMSAT.ORG

1549. Re: Schematic for HG-10 Heathkit VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <52o786$krh@mercur.foa.se>
Source record: 102127
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi
it's not easy to fax when you do not leave your number!
The HG10B have been a great companion for many years and helped me to
my first DXCC in the mid 70's.

Output is 3.5 (80 meter) 7 (40-10 meter) and 8 (2 meter) MHz
depending on settings of the bandswitch.

You must multiply the 7 MHz signal if you want a proper output signal
on other hambands

Yes I can fax the schematics, I have the B version thou
73 de Lasse SM5GLC.
lewissys@ix.netcom.com(Charles E. Lewis) wrote:

> Good day,

> I picked up a Heathkit HG-10 External VFO the other day. Would
>someone have a schematic they could fax me? I want to convert it to
>solid state, the osc. coils are very rugged since they have ceramic
>fired over them. I would be happy to supply notes for the mod once it
>was finished. I plan to make a QRP output for each band and have it
>all installed in the one box, since there is plenty of real estate.

> TNX de KJ5WA

1550. Re: Any freeware UHF+ PCB layout stuff around?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: stevem@best.com
Message-ID: <52oqhg$6f2@shellx.best.com>
Source record: 102128

In article <1996Sep29.143120.647@main03>, Joe Landis <landisj@nad.com> wrote:
>Are there any inexpensive (or freeware) PC based PCB artwork CAD packages
>suited for UHF/microwave microstrip layout? I don't need schematic capture or
>routing capability - just something to help visualize layout and placement,
>with maybe some DRCing and automation in dimensioning lines WRT frequency, PCB
>material, and desired impedance. (Too much to ask?) :)
>

Unfortunatly, I think this is way too much to ask for freeware and
"inexpensive" CAD software. Also, DRC implies netlist traceablility
which requires some kind of schematic capture capability.

The best freeware I know of is Protel's Easytraks which you can
get from their web site. http://www.protel.com. I notice they
are reorganizing their web stuff so you may have to wait a bit
before you can download from there. Easytracks is fine for digital
stuff, but has very little flexibility for RF in the way of
irregular polygons etc.

If you are doing this for homebrew boards, you probably don't
need gerber photoplot capability. I have heard of people doing
boards on some of the more inexpensive software like Correl Draw
or Illustrator. Even Paintbrush can be used.

>I dont want to go head first into this and blow $$$ on a package that I may
>rarely use.

I company I work for just paid several thousand dollars for
for a Windows based Schematic and PCB design system which includes
some of the features you asked for. I think thats about the
going rate right now...unfortunatly.

Steve Muther WF6R

1551. Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: Stephen John Farthing <stephen@stevef.demon.co.uk>
Message-ID: <O6rDHCAPC$TyEwbg@stevef.demon.co.uk>
Source record: 102129

I would like to make a device for measuring the vales of inductors and capacitors. Essentially I like making radios and need to be able to measure (and match) components to within 1% or so. Can someone point me at a suitable homebrew design?
--
Stephen John Farthing MBCS G0XAR
Melksham, Wiltshire UK
RSGB G-QRP 7766

1552. *********Homebrew Tube Amp*********

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: jsmith5435@aol.com
Message-ID: <52p5tl$bqg@newsbf02.news.aol.com>
Source record: 102130

Does anyone have schematics and assembly procedures for a tube linear amplifier for the 10 to 60 meter bands? If so Please email me. I'm looking for a project that's easy to understand and build for an 18 year old with minimal technical knowledge.

1553. Re: Help designing modulator for direct-to-skull work

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DyK09K.3ry@sunsrvr6.cci.com>
Source record: 102131

I really feel much better now that I know where those voices
come from...

73..Jim

In article <5296ch$ld3@news.bellglobal.com>,
raven1 <raven1@netaccess.on.ca> wrote:
>I'm one of several thousand victims of electromagnetic
>harassment. One of the main 'tools' used by the harassers
>is audio-via-direct-RF-to-skull transmission mode.
>
>In a nutshell, this mode uses very 'thin' (low duty cycle)
>pulses like the teeth of a comb with the peaks modulated
>by the audio waveform. High quality voice and other audio
>are transmitted this way.
>
>I would like to use a moderate power (20 - 50 watts?)
>ham transmitter coupled to a special modulator to try
>to duplicate this technology as a first step in showing
>the public that this technology exists NOW, and not only
>works, but works amazingly well. (The 420-450 MHz band
>would be a likely candidate for carrier.)
>
>Below is an amazing article from 1962, believe it or not,
>detailing successful tests of this mode. If you can't
>receive it all, please request a separate e-mail trans-
>mission from me at:
>
>raven1@netaccess.on.ca
>
>Most sincere thanks to all who read this - it is NOT
>a hoax. Anyone wishing detailed information on electro-
>magnetic harassment in general can dial up this web site:
>
>http://members.gnn.com/fivestring
>
>Here's the article:
>
>The Government Psychiatric Torture Site
>Human Auditory System
>Response
>To Modulated Electromagnetic Energy
>ALLAN H. FREY
>
>(stuff deleted...)

1554. Re: Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Sep30.140251.12424@ke4zv.atl.ga.us>
Source record: 102132

In article <52bdle$fei@ns1.nl.cis.philips.com> bergen@hades.mpn.cp.philips.com (Wilfred van Bergen) writes:
>Here are some of the criteria listed:
>- Small; must fit in a 40mm tube easily.

This should be easy to meet. Simple rocket telemetry transmitters fit in our Estes rockets, with 19mm tube diameters. They were about 75mm long, however. That's because they used all discrete components. Today you can have a complete FM transmitter in a chip. The MC2800 will do. A simple beacon can be constructed with just 3 transistors, however, an overtone oscillator, a multiplier, and a power amplifier.

>- Impact resistant; shock sensitive parts are undesireable.
>- High G loads resistant; launch acceleration runs close to 50G

Pot the finished circuit in epoxy.

>- Light; will be airborne, so no heavy batteries and components can be used.

The battery is the major mass. How big it has to be is determined by how much signal power you need (not a lot), and how long you need the transmitter to operate (this may be hours if your first guess at a landing site is off). A 10 mW transmit power is usually plenty, and a 9 V transistor radio battery will run that for a couple of days. If you want more power for a much shorter time, 3 lithium coin cells can supply it.

>- Direction sensitive; we'll have to be able to locate it by means of a
> simple receiver.

Sorry, the DFing is up to the receiver. The transmitter will use an omni-directional antenna. There are a number of techniques which work well using an amateur HT or handheld scanning receiver. The simplest techniques depend on signal strength, so the receiver should either have an S meter, or have one added to it.

As you get closer to the rocket, the signal strength increases, as you move away, it decreases, so you play a game of "hot-cold" to find the transmitter. This is pretty crude, and you often need an attenuator when you get close to keep the signal strength reading from pinning the meter.

(You can even use a technique called "body fading" to find the direction of the signal by interposing your body between the antenna and the target. By turning in a circle, you'll get a weak broad null when your back is to the rocket.)

A step up from this is to use a beam or directional loop antenna
on the receiver. Then you can rotate it to get a bearing on the
rocket. Move to one side a fair distance, take another bearing,
and you'll have a fair fix on the transmitter location where the
two bearings cross. The beam will give a peak signal strength
reading when pointed at the rocket, and the loop will give a
sharp null when pointed broadside to the rocket. The beam is
more useful when you are far away, and the loop works better
when you get closer.

Another method is called the Time Difference Of Arrival method,
and the circuit is called a Double Ducky. This method uses two
vertical antennas (can be Rubber Duckies) mounted on a horizontal
(wooden) rod so that they are about 1/4-wave or less apart. The
two antennas are switched to the receiver alternately by a diode
switch arrangement driven by a pulse source at an audio rate. You
hear the switching tone coming out of the receiver when the signal
is present. When the antenna carrying rod is exactly perpendicular
to the direction of the rocket, the tone will null. This is quite
sharp, and it doesn't matter if the signal is strong, no S meter
is required. This makes a compact and handy search tool.

Moving up a notch in sophistication is the doppler direction
finder. This uses 4 antennas arranged in a circle. The antennas
are switched to the receiver in sequence by diode switches.
As with the Double Ducky, a tone is produced. But this tone
is processed through a filter and phase detector and fed to
a ring of LEDs via gates enabled by the switching pulses.
the result is that the LED in the direction of the rocket
lights while all the others remain extinguished. This rather
elaborate system works well in a vehicle, but can be clumsy
to use on foot.

Note, multipath can cause false readings with all these systems.
You want to take as many readings as you can and average them
to reduce the effect of multipath. A good bit of experience
will allow you to easily detect when you are receiving multipath
corrupted signals and allow you to discount the obviously wrong
bearings.

>- Attitude insensitive; It should be locateable either lying on the ground or
> hanging from a tree (or sticking in the dirt).
>- Simply reproduceable; we have a lot of rockets.
>- Antenna problems expected with metalic body-tubes. Any idea for this
> problem is highly appreciated.
>- Use of 144Mhz is required.

This can be a problem. Most of the DFing techniques mentioned
work best with a vertically polarized transmitting antenna.
On non-metallic rocket bodies, we used to just glue a wire
antenna down the side of the tube. If the tube winds up
lying flat on the ground, it's hard to DF until you get
pretty close. If it is hanging from its parachute in a

tree, it's a lot easier. And if it is sticking nose first
into the ground, it's pretty easy too.

If you're using a metallic rocket body, you've got problems.
A 19 inch spike antenna out the nose cone would work fine
as long as the rocket doesn't bury itself nose first in the
ground. Better is a spring loaded rod antenna with a mechanism
to deploy it out the *back* of the rocket after the engine
has burned out. Rockets rarely land tail first, so this usually
keeps the antenna in the clear.

>What we had in mind where these little transmitter posts used by radio amateurs
>to setup a game where people had to try to find the transmitter only by using
>a simple direction sensitive receiver.

Yeah, we call it "foxhunting". It would be a good idea to find a
book on this to learn the techniques. And it would be an even better
idea to find a radio club which holds these foxhunts and *practice*
the techniques. Your first time won't be very easy or very successful.
There are practical things you can only learn by doing, and this
is one of them.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1555. Re: hamradio-online.com EXCLUSIVE: WA State Eases Proposed Radio Restrictions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: nrhblack <nrhblack@condate.com>
Message-ID: <01bbaf0d$c7953260$46d6e9ce@nrhblack.mpath.com>
Source record: 102133
Cross-posted to: rec.radio.amateur.misc,wash.general,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Ham radio is authorized by Federal Law which overrides State law. Ham radio installations do not need to be certified.

Henry Black P.E. KK6JR, G4NOC

Ed Mitchell <vbook@vbook.com> wrote in article <51vols$8ev@kanga.accessone.com>...
> We learned about 10 days ago of a proposed new law in the State of Washington
> that would have required certification of all mobile radio installations by the
> State Patrol. We contacted the State Patrol and our state representative, Brian

1556. Re: Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-09-30 00:00:00 UTC
From: Lars Arvidsson <arvid@plea.se>
Message-ID: <3250B9A5.52C7@plea.se>
Source record: 102134

Stephen John Farthing wrote:
>
> I would like to make a device for measuring the vales of inductors and
> capacitors. Essentially I like making radios and need to be able to
> measure (and match) components to within 1% or so. Can someone point me
> at a suitable homebrew design?
> --

Hello Stephen!
I guess that one of the most simpliest ways is, to build a basic
stable oscillator with low-straycapacitance plug-in possibilities
for the L and C. Then you can use a freq-counter, or a CW reciever
and calculate your values. To be able to make a fair compare
between two coils or caps the R-loss has to be the same in the
two units to be compared, but that's probably no problem, since
you wish to sort out components of the same type.

The other possibility is to make a wheatstone's bridge, but it's a
little tricky to measure low L:s and C:s. Look in the ARRL:s handbook
for details.

good luck /Lars (SM4RZW)

1557. VHF-UHF-SHF beacons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: adriaan <adpe1khp@pi.net>
Message-ID: <3250CE48.21D1@pi.net>
Source record: 102039

PE1KHP Radiozendamateur

Homepage http://home.pi.net/~adpe1khp/home.htm
Packet Radio PE1KHP@PI8APD

QRV with VHF dx-ing SSB on 2 meter Tropo, MS, Sp-e and Aurora
---
There a lot of hamfun to do on 70cm, don't give it to the CB

Hi dx friends,

My name is Adriaan, my age is 32 years old. I live in
Apeldoorn. That is a city with 150.000 inhabitant. In the
Netherlands live 14 million people. Apeldoorn is a green place in
the hart of the Veluwe, what is in the centre-east of the
Netherlands.

See my beacon page on www.
http://home.pi.net/~adpe1khp/baken.html
Its a list of VHF UHF and SHF beacons in Europe.

Greetings from the Netherlands, Adriaan PE1KHP.

1558. Re: Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <52pt67$hj4@dfw-ixnews2.ix.netcom.com>
Source record: 102040

Stephen,

I was leafing through the latest Popular Electronics at a friends, and there were articles on building capacitance and inductance modules for a Digital volt meter. I didn't read it close, but I think it was measuring the phase shift, anyway it looked fairly simple with parts available as a kit.

Glenn Sparks KI5GY

1559. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <32509890.17273611@eskinews.eskimo.com>
Source record: 102041

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <51vdsc$b9p@herald.concentric.net> wmkresl@townsquare.net (William Kresl)
writes:
>>HI! I have an application to track down a +5volt rail SHORT on
>>some computer equipment. I have a FLUKE model 77 DVM. Any ideas
>>on a good circuit to built up to to use as an add-on for this?
>>I'd like to hear your suggestions, rather then plunge head-first
>>into a pile of old ham mags.
>
>Let me offer an alternative way to track down this sort of pesky
>problem. Use a current probe. HP sells one that looks like a
>logic probe, but it is really a current probe sensing the current
>in the trace you are following.
>
>To use it to find a short in the +5 buss, just apply power through
>a current limiting resistor, chosen to limit current to 5 mA, to
>the 5 volt buss, and follow the buss along until the probe stops
>showing a current flow. You've just passed the short. It's a really
>easy, and really fast way to find these pesky shorts, especially on
>multi-layer boards.
>
>Note, the rest of the circuitry won't be drawing current because
>the short is hammering the buss, and limiting current to 5 mA will
>prevent damage. Works like a charm.
>
>Gary

Gary's suggestion would work fine, but if you want to do it on the cheap, try
this: Connect a 5 volt power supply through a 5-20 ohm resistor to the
shorted area. This will allow a limited current to flow through the short.
Using the DMM on the lowest millivolt range, measure the voltage drop along
the bus wire. For a current of one amp, expect about a 25 millivolt drop per
inch of wire. The exact drop depends on the wire size, of course. As you
proceed along the bus, the millivolts will continue to increase until all of a
sudden, they don't. You have found your short. I've used this technique to
find shorts inside multi-layer PCBs and it works great. Now, FIXING these
shorts is something else.... :-)

73, Bill W7LZP
wrt@eskimo.com

1560. Re: Wtd: 75MHZ XTAL filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <52q9m8$5vl@li.oro.net>
Source record: 102042

n7ws@azstarnet.com (Wes Stewart) shared these priceless pearls of wisdom:

->Thanks to Bill for this info. I live down the road in Tucson, but as far
as I
->know, there is no Beer Valley Road (and I'm an expert on the subject) in
->Phoenix. Try Deer Valley Rd.

If you don't think there is a Beer Valley Road in either Phoenix or Tucson,
then you never went to either U of A or ASU. I only played them in sports
from SDSU, but I guarandamntee you there is a Beer Valley something or
other after most games. {;-)

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

1561. Re: Any freeware UHF+ PCB layout stuff around?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: Feico de Boer <fdboer@baan.nl>
Message-ID: <3250CA51.7B9B@baan.nl>
Source record: 102043

Stephen Muther wrote:

> In article <1996Sep29.143120.647@main03>, Joe Landis <landisj@nad.com> wrote:
> >Are there any inexpensive (or freeware) PC based PCB artwork CAD packages
> >suited for UHF/microwave microstrip layout? I don't need schematic capture or
> >routing capability - just something to help visualize layout and placement,
> >with maybe some DRCing and automation in dimensioning lines WRT frequency, PCB
> >material, and desired impedance. (Too much to ask?) :)
> >
>
> Unfortunatly, I think this is way too much to ask for freeware and
> "inexpensive" CAD software. Also, DRC implies netlist traceablility
> which requires some kind of schematic capture capability.
>
> The best freeware I know of is Protel's Easytraks which you can
> get from their web site. http://www.protel.com. I notice they
> are reorganizing their web stuff so you may have to wait a bit
> before you can download from there. Easytracks is fine for digital
> stuff, but has very little flexibility for RF in the way of
> irregular polygons etc.
>
> If you are doing this for homebrew boards, you probably don't
> need gerber photoplot capability. I have heard of people doing
> boards on some of the more inexpensive software like Correl Draw
> or Illustrator. Even Paintbrush can be used.
>
> >I dont want to go head first into this and blow $$$ on a package that I may
> >rarely use.
>
> I company I work for just paid several thousand dollars for
> for a Windows based Schematic and PCB design system which includes
> some of the features you asked for. I think thats about the
> going rate right now...unfortunatly.
>
> Steve Muther WF6R

Maybe the shareware stuff from Ivex may help. Recently I downloaded the 100 pin shareware versions for evaluation. Although I enables me to hang up my computer easely, it appears to work reasonably if you try to avoid the bugs. The shareware version does not include a autorouter but makes PCB design a lot easier than creating the layout with paintbrush.

The Ivex homepage is at www.ivex.com and the unlimited pin licence appears to be +/- $500.

Greetings,

--
Feico de Boer, Technical Consultant, Baan/HP Cooperative Technology
Center
Email: fdboer@baan.nl, Phone: +31-342-428888, Fax: +31-342-428625
Baan Europe B.V., P.O. Box 143, 3770 AC BARNEVELD, The Netherlands
Baan Company on the web @ http://www.baan.com/

1562. Re: Any freeware UHF+ PCB layout stuff around?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: Feico de Boer <fdboer@baan.nl>
Message-ID: <3250CBC5.AC1@baan.nl>
Source record: 102044

Feico de Boer wrote:

> Maybe the shareware stuff from Ivex may help. Recently I downloaded the
> 100 pin shareware versions for evaluation. Although I enables me to hang
> up my computer easely, it appears to work reasonably if you try to avoid
> the bugs. The shareware version does not include a autorouter but makes
> PCB design a lot easier than creating the layout with paintbrush.
>
> The Ivex homepage is at www.ivex.com and the unlimited pin licence
> appears to be +/- $500.

Hmm, something pops up from the dark edges of my mind. I believe
UltiBoard sell a 'lite' PCB design package limited to 500 pins for $295.
Check out Ultiboard on www.ultiboard.com.

More greetings,

--
Feico de Boer, Technical Consultant, Baan/HP Cooperative Technology
Center
Email: fdboer@baan.nl, Phone: +31-342-428888, Fax: +31-342-428625
Baan Europe B.V., P.O. Box 143, 3770 AC BARNEVELD, The Netherlands
Baan Company on the web @ http://www.baan.com/

1563. JAMBOREE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: Ordenador Cuatro <aula4@cin.es>
Message-ID: <01bbaf6c$8d5c8440$160000be@uno>
Source record: 102045

we are a group of hams from spain. we will be active in the International scouts jamboree 19/20 october, our special call will bE ED2LSJ hope to see you there

1564. Car battery (13.8) to 12.0V DC regulaotor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: lumkes@cae.wisc.edu
Message-ID: <52r7si$2up0@news.doit.wisc.edu>
Source record: 102046

Hello,
I need to find or build a circuit that regulates a car battery
to always be 12.0 volts. Looking to get 2-3 amps out of it.

Any ideas?

Thanks, John
lumkes@cae.wisc.edu
AA9QP

1565. Re: hamradio-online.com EXCLUSIVE: WA State Eases Proposed Radio Restrictions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: kg7fu <kg7fu@rio.com>
Message-ID: <01bbafa6$26f8eba0$818260ce@surf.rio.com>
Source record: 102047
Cross-posted to: rec.radio.amateur.misc,wash.general,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

nrhblack <nrhblack@condate.com> wrote in article =
<01bbaf0d$c7953260$46d6e9ce@nrhblack.mpath.com>...
> Ham radio is authorized by Federal Law which overrides State law. Ham
> radio installations do not need to be certified.

Yes, but local ordinances could very well put safety and vehicle
restrictions to work which only affect the equipment as installed
not the actual operation. I've never seen it at work, but some states
have scanner laws which have been upheld consistently. Same
would be at work here. Washington State, like Washington DC,
likes to find creative new ways to tax it's citizens.

de kg7fu

1566. Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: ve9gj@nbnet.nb.ca
Message-ID: <52rfht$h54@agate.nbnet.nb.ca>
Source record: 102048

I am finishing up an amp construction that was started by someone else
a while back. I don't have the orginal design notes, plans etc.

My question is about the pi tank circut values

All values are for 40m

Hi voltage 4300v (under full load)
Plate current .46 amps
Grid current 140ma
Driving power about 110w
output to 50 ohm dummy load 1250w

The plate impendance using Bill Orr W6SAI's tables for a Q of 10
E\2I = aprox 4500 ohms, tune cap of 50pf inductance of 10.5 uh and
a load cap of 170pf.

Now for my problem (?) to get max out the load cap needs to be about
400+pf. To get any power out of this deck I needed to put 3 100pf
fixed caps in parallel with the 350pf variable cap (estimated).

What would cause this? I have seen another amp that needs alot more
load cap than the design calls for also.
What am I missing?
The amp seems to be OK with this extra cap shunted across the output
so I could just leave it alone but I am curious why this is.

Any ideas?

73 and Thanks

Glenn ve9gj@nbnet.nb.ca

1567. D/A converter HDS0810 Needed urgently

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <52raa2$v41@mercur.foa.se>
Source record: 102049

HI
we (our company) needs a replacement for a faulty D/A-converter Analog
Devices HDS 0810.
This part is now obsolete (naturally), accordingly to Analog Devices.

If you have such a part, new or in working order, PLEASE contact me!
If you don't have it but KNOW where to find it PLEASE contact me!

Sincerely
Lasse SM5GLC

1568. Re: Any freeware UHF+ PCB layout stuff around?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <52rb9l$utf@mercur.foa.se>
Source record: 102050

Yes microwave CAD packages are too expensive! My company uses as an
low cost solution Superstar (to compliment the much bigger HP/EESOF
which we also uses) which cost "only" 1500-6000 US dollars.

I would as a very low-cost solution use the Visio drawing package.
They have someting called smartshapes and stenciles. One can have a
"toolbox" with corners and traces plus some foot-prints of
transistors. The layout is produced by drag-and-drop techniques. Once
you have the standard shapes defined you should be able to design a
circuit in no-time. It would even be great to trade foot-prints and
shapes amongst us here!!!

Using ordinary (i.e. digital) CAD programs are a real pain in the butt
for producing analogue circuits.
73 de Lasse SM5GLC

stevem@best.com (Stephen Muther) wrote:

>In article <1996Sep29.143120.647@main03>, Joe Landis <landisj@nad.com> wrote:
>>Are there any inexpensive (or freeware) PC based PCB artwork CAD packages
>>suited for UHF/microwave microstrip layout? I don't need schematic capture or
>>routing capability - just something to help visualize layout and placement,
>>with maybe some DRCing and automation in dimensioning lines WRT frequency, PCB
>>material, and desired impedance. (Too much to ask?) :)
>>

>Unfortunatly, I think this is way too much to ask for freeware and
>"inexpensive" CAD software. Also, DRC implies netlist traceablility
>which requires some kind of schematic capture capability.

>The best freeware I know of is Protel's Easytraks which you can
>get from their web site. http://www.protel.com. I notice they
>are reorganizing their web stuff so you may have to wait a bit
>before you can download from there. Easytracks is fine for digital
>stuff, but has very little flexibility for RF in the way of
>irregular polygons etc.

>If you are doing this for homebrew boards, you probably don't
>need gerber photoplot capability. I have heard of people doing
>boards on some of the more inexpensive software like Correl Draw
>or Illustrator. Even Paintbrush can be used.

>>I dont want to go head first into this and blow $$$ on a package that I may
>>rarely use.

>I company I work for just paid several thousand dollars for
>for a Windows based Schematic and PCB design system which includes

>some of the features you asked for. I think thats about the
>going rate right now...unfortunatly.

>Steve Muther WF6R

1569. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <52rhoe$ed2@nadine.teleport.com>
Source record: 102051

In article <32509890.17273611@eskinews.eskimo.com>,
wrt@eskimo.com (Bill Turner) wrote:

>. . .
>I've used this technique to
>find shorts inside multi-layer PCBs and it works great. Now, FIXING these
>shorts is something else.... :-)

Drill through 'em.

Roy Lewallen, W7EL

1570. Re: Any freeware UHF+ PCB layout stuff around?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: Madjid VE2GMI <mboukri@CAM.ORG>
Message-ID: <32513E9D.22F8@CAM.ORG>
Source record: 102052

Stephen Muther wrote:
>
> In article <1996Sep29.143120.647@main03>, Joe Landis <landisj@nad.com> wrote:
> >Are there any inexpensive (or freeware) PC based PCB artwork CAD packages
> >suited for UHF/microwave microstrip layout? I don't need schematic capture or
> >routing capability - just something to help visualize layout and placement,
> >with maybe some DRCing and automation in dimensioning lines WRT frequency, PCB
> >material, and desired impedance. (Too much to ask?) :)
> >
>
> Unfortunatly, I think this is way too much to ask for freeware and
> "inexpensive" CAD software. Also, DRC implies netlist traceablility
> which requires some kind of schematic capture capability.
>
> The best freeware I know of is Protel's Easytraks which you can
> get from their web site. http://www.protel.com. I notice they
> are reorganizing their web stuff so you may have to wait a bit
> before you can download from there. Easytracks is fine for digital
> stuff, but has very little flexibility for RF in the way of
> irregular polygons etc.

There is also this "Freeware" from IVEX (I did not test it!)
HTTP://www.ivex.com/free.html

and CIRCAD Demo (Good for quick & Dirty small designs)
at ARRL Ftp (BBs/programs CCDEMO.ZIP)

I suppose you know about the TXLine for microstrips etc
from http://www.appwave.com/

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows found there

1571. Want "Modulated CW" technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: muenzlerk@uthscsa.EDU
Message-ID: <01BBAFA5.1D399C00@muenzlerk.uthscsa.edu>
Source record: 102053

David Johnson <KB5YLG@why.net> writes:

-I want to be able to connect my mfj-557 code practice key+oscillator
-from its earphone jack to my dual-bander FM rig to send FM cw. The idea
-is to hold practice sessions to help interested codeless techs to
-upgrade to tech+ etc...by holding practice sessions on 2M repeaters and
-simplex frequencies...

-Do you know of an article or circuit that could help me?

Well since you sending a single tone to your microphone input
you don't have to worry too much about fidelity, or lack
thereof caused by the impedance mismatch, but you don't want
to overdrive your microphone input. Go to Radio Shack
and buy their attenuating patch-cord. This will work pretty
well to prevent overdriving your microphone pre-amp. Then
you just need to adjust the volume level on your oscillator
for a good deviation level. Works great for me! I'm
using a Yaesu FT-290 with an adapter for the microphone plug
doing the same thing.

Kevin, WB5RUE

1572. Re: Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: Stephen John Farthing <stephen@stevef.demon.co.uk>
Message-ID: <1QXtNBAj5VUyEwnn@stevef.demon.co.uk>
Source record: 102054

> latest Popular Electronics at a friends
Can anyone advise me where I can get this mag in the UK?
--
Stephen John Farthing MBCS G0XAR
Melksham, Wiltshire UK
RSGB G-QRP 7766

1573. Re: DC-DC Converter IC needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <52s9ru$ag1@blixen.aquilagroup.com>
Source record: 102055

john.ackermann@daytonOH.ncr.com (John Ackermann) wrote:

>I need to generate 15-18 volts DC at 50 milliamps from an input that
>fluctuates from 11.5 to about 13.0 VDC.

I'd use a Linear Tech LT1072, available from Digikey.

You'll also need an inductor, a 1N5817 schottkey diode, and a couple
of low ESR caps.

Whatever part you use, try to read LT1070 design manual. It has
everything you need to know about non-isolated switching regulators.

-KF-

1574. Re: Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-01 00:00:00 UTC
From: Ramon Gandia <rfg@nome.net>
Message-ID: <3251E926.5D18@nome.net>
Source record: 102056

Glenn Taylor wrote:
>
> I am finishing up an amp construction that was started by someone else
> a while back. I don't have the orginal design notes, plans etc.
>
> My question is about the pi tank circut values
>
> All values are for 40m
>
> The plate impendance using Bill Orr W6SAI's tables for a Q of 10
> E\2I = aprox 4500 ohms, tune cap of 50pf inductance of 10.5 uh and
> a load cap of 170pf.
>
> Now for my problem (?) to get max out the load cap needs to be about
> 400+pf. To get any power out of this deck I needed to put 3 100pf
> fixed caps in parallel with the 350pf variable cap (estimated).
>

Glenn,

I don't have the tables here with me, but for 40 meters the capacity values, both the plate and the load capacitor, seem a bit skinny. Most pi-networks I dealt with had 1000 pf load for 80 meters, whcih would be 400 - 500 for 40 meters. The values you suggest sound to me like for 20 meters or so. Double check your values. It is possible there is a missprint in the book, these things do happen.

If you have acces to a grid dip meter, turn off the set and grid dip the final tank, make sure it resonates on 40. You might be doubling in the final tube from 40 meter exciter to 20 meter output.

And using fixed capacitors across the output is a time honored way of doing it. The designs I've seen, have a switch assembly that switches in fixed capacity steps of less than the variable, so you can get any value from (nearly) 0 pf to say 1000 pf. The Johnson Viking was one of these.

A more modern solution, brought about mainly by the Japanese tube-type transceivers, was to put in the fixed capacitor with the band switch. This arrangement does not have much range in the way of impedance matching, but is fine for 50 ohms with swr up to 2 or 3. In the old sets, with the separate switch, you could just about load any piece of wire, as long as the variable capacitor did not arc over.

In one of my setups, I took a wire somewhere in the 100 ft range and ran it out my 2d story window to a tree and plugged it into the

antenna jack in back. Could match any band, 160 thru 10 and load up. Other lengths sometimes needed pruning, which is easy if the far end of the wire is on a pulley and you just reel in a couple of feet and snip it!

Watch yourself with the 4-1000 amplifier. Lethal voltages and big, nasty r.f. arcs and burns can result. I set a tree on fire one time with the end of my antenna touched the branches and my 1 kw pair of push-pull 810's. 40 meters.

Ramon, AL7X, Nome, Alaska

1575. Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: markn@ms8.hinet.net
Message-ID: <52sh4q$6ss@netnews.hinet.net>
Source record: 102057

I heard that there's a longwave amateur band somewhere around 100 kHz or 200 kHz for experimenters.

Could someone tell me the exact frequency range of the band? Also, I heard that it's not really an amaeur band, but actually it's open for anyone to use, as long as a few restrictions are kept. Could someone tell me what the restrictions are? Also, is only CW allowed, or is AM and LSB/USB also permissible?

In addition, could someone tell me where I can get schematics for a homebrew transmitter for this band?

Thanks in advance.

Mark Nagel, N3FRP

1576. Re: What happened to Heathkit anyways?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: who3@concentric.net
Message-ID: <869.6848T1367T1878@concentric.net>
Source record: 102058

>In article <qX1muD4w165w@ham.island.net>, rs@ham.island.net writes:

>>Well, they basically priced themselves out of the market. Why would you
>>spend a lot of time building equipment that wasn't as good as stuff you
>>could buy off the shelf for less?
>>
>>The reason kits were made in the first place was because hams liked
>>building them, and minus the labour of assembly, they could be sold
>>cheaper than ready built items. (And hams were always...errr frugal)
>>
>>By the 1970's there was no longer any financial advantage in kits.
>>
>>

>As a former Heath contract engineer I can give a little more insight on
>this.

I hate to trouble you but i am down to my last straw.

I need the manual, or the scams, or the acutal device (working or not)
that HeathKit produced called a Component TRACER. If you have any advice
please forward.

Excuse my intrusion.
Wes

1577. FOR SALE: KAY 100 DB ATTENUATOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <52snob$g57@cletus.bright.net>
Source record: 102059

I HAVE FOR SALE A FEW KAY MODEL 439A ATTENUATORS. 4 EA 20 DB STEPS ANS 1
EA 10, 5, 3, 2 AND 1 DB STEPS. 50 OHM IN/OUT, DC TO 1.5 GHz, BNC IN/OUT.
GREAT FOR ATTENUATING RECEIVED SIGNAL FOR FOX HUNTS, OR LOWERING INPUT
SIGNAL TO TRANSVERTERS. $35 EACH
DE NORM, N8RGR

1578. Re: Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: bartelar@telkom04.telkom.co.za
Message-ID: <52t0mh$ju7@news1.saix.net>
Source record: 102060

Stephen John Farthing <stephen@stevef.demon.co.uk> wrote:

>I would like to make a device for measuring the vales of inductors and
>capacitors. Essentially I like making radios and need to be able to
>measure (and match) components to within 1% or so. Can someone point me
>at a suitable homebrew design?
>--

Electronics & Wireless World had a design for a capacitance meter with
this sort of accuracy in a recent edition (August ?)

Cheers
Adrian

"It does not do to leave a live dragon
out of your calculations." -- Tolkien

1579. Re: Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <52tr82$7o1@newsbf02.news.aol.com>
Source record: 102061

In article <52rfht$h54@agate.nbnet.nb.ca>, ve9gj@nbnet.nb.ca (Glenn Taylor) writes:

>
>The plate impendance using Bill Orr W6SAI's tables for a Q of 10
>E\2I = aprox 4500 ohms, tune cap of 50pf inductance of 10.5 uh and
>a load cap of 170pf.

That looks ok. It takes a capacitive reactance of just over 45 ohms to make
a Q of 10. Most people simplify the formula to Rp/Q = Xc, which would then be 45 ohms.

The Q should be a minimum of *one plus the square root of Rp/Rload* for the network to operate reliably as a pi, so you really need a Q of 10.5 or more. I'd be safe and use a Q of 12 or 14, you are below the normal edge of operation.

You need about 61 pF anode C, 9 uH and 355 pF load minimum, and I'd probably use even more capacitance and less inductance to be safe. At lower drive levels or lower load impedances, or with a load is slightly inductive, you will need even more loading C, even if you get the anode Q right. Also remember the plate tuning capacitor is shunted by the anode capacitance and choke reactance, so it may be several pF off from the calculated value.

>Now for my problem (?) to get max out the load cap needs to be about
>400+pf. To get any power out of this deck I needed to put 3 100pf
>fixed caps in parallel with the 350pf variable cap (estimated).
>
>What would cause this? I have seen another amp that needs alot more
>load cap than the design calls for also.
>What am I missing?

The Q is too low and remember the formula you used to determine the operating impedance is a VERY rough approximation. The true anode impedance is NOT E/ 2 Ip for any stage, unless you are a very lucky guy. The correct value is generally quite a bit differnt, and can only be found by doing a Chaffe analysis of the tube.

Since you are running the tube in a mode that is not documented in any of Eimac's, I could only do a Chaffe analysis by plotting the constant current curves of the tube. So Can't help you there.

My best guess is the anode impedance is a bit higher than 4500 ohms, since the approximation Orr uses is really almost a guess. All of these little errors add up, and to me it looks like you are too far on the "light" side

of capacitance.

By the way, the gain you are seeing is typical of a 4-1000A at that anode voltage in grounded grid. They are not very high gain tubes because the driving impedance is pretty high in grounded grid.

73 Tom

1580. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: stevem@best.com
Message-ID: <52u5mg$r90@shellx.best.com>
Source record: 102062

In article <52sh4q$6ss@netnews.hinet.net>, <markn@ms8.hinet.net> wrote:
>I heard that there's a longwave amateur band somewhere around 100 kHz or
>200 kHz for experimenters.
>
>Could someone tell me the exact frequency range of the band? Also, I
>heard that it's not really an amaeur band, but actually it's open for
>anyone to use, as long as a few restrictions are kept. Could someone tell
>me what the restrictions are? Also, is only CW allowed, or is AM and
>LSB/USB also permissible?
>
>In addition, could someone tell me where I can get schematics for a
>homebrew transmitter for this band?
>
>Thanks in advance.
>
>Mark Nagel, N3FRP
>

Its not an amateur band. It is a part 15 section experimenters band
which extends from 160 to 190KHz. If memory serves, power is restricted
to 1W max dc input and the antenna is limited to 15 meters in length
including the feedline. As for modulation, anything goes as long as
you are within the band confines.

As for gear, search for some of the VLF and LOWFER web pages.
Lots of stuff there.

Steve M. WF6R

1581. AB pot and TYPE'S (allen bradley ?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: MattZ@pond.com
Message-ID: <52u5mc$akg_002@vf.pond.com>
Source record: 102063
Cross-posted to:
rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi ....

Well Im sitting here looking at some old AB pots and was wondering if they are
any good for audio work... or anything... they seem to be pretty well made.
they are sealed with something (are they carbon tracking? btw) and what does
"TYPE J" mean ?? is that lin or log ?

if you can give me the low down
thanks if you know..

mattz@pond.com

1582. CB Radio to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: Susan Driggers <insight@concentric.net>
Message-ID: <3252D204.6850@concentric.net>
Source record: 102064

I have heard that it is possible to convert a cb to 10 meter . Is this possible and if so where can I get more information on this. Thanks.

1583. Re: Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <52uloo$akg@library.airnews.net>
Source record: 102065

ve9gj@nbnet.nb.ca (Glenn Taylor) wrote:

>Now for my problem (?) to get max out the load cap needs to be about
>400+pf. To get any power out of this deck I needed to put 3 100pf

Assuming you output impedance is very close to 50 Ohms, you may have the right components there now. I played with your tube operating conditions (instead of doing what I should be doing) and, for the desired output network phase shift of -135 degrees in the 4.5K-5K-to-50 Ohm range, the output C should be about 500 Pf and the L should be 7.5-7.8 uh. The operating Q calculated out at 14, 70 pf to tune. I imagine you have 20 pf in strays. Sounds like you're right where your wanted to be--no matter how you got there.

FRED

JFRILEY@airmail.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

1584. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <52ut85$bad@News.IDT.NET>
Source record: 102066

> stevem@best.com (Stephen Muther) writes:
> In article <52sh4q$6ss@netnews.hinet.net>, <markn@ms8.hinet.net> wrote:
> >I heard that there's a longwave amateur band somewhere around 100 kHz or
> >200 kHz for experimenters.
> >
> >Could someone tell me the exact frequency range of the band? Also, I
> >heard that it's not really an amaeur band, but actually it's open for
> >anyone to use, as long as a few restrictions are kept. Could someone tell
> >me what the restrictions are? Also, is only CW allowed, or is AM and
> >LSB/USB also permissible?
> >
> >In addition, could someone tell me where I can get schematics for a
> >homebrew transmitter for this band?
> >
> >Thanks in advance.
> >
> >Mark Nagel, N3FRP
> >
>
> Its not an amateur band. It is a part 15 section experimenters band
> which extends from 160 to 190KHz. If memory serves, power is restricted
> to 1W max dc input and the antenna is limited to 15 meters in length
> including the feedline. As for modulation, anything goes as long as
> you are within the band confines.
>
> As for gear, search for some of the VLF and LOWFER web pages.
> Lots of stuff there.
>
>
> Steve M. WF6R
>
>
>>>>
You might try LWCA on your search engine for Long Wave Club of America.. Very Interesting..
Have been Lowfering for years, much fun and as technical as you want to get.
73 and See You There, daveaa1a@pcix.com

1585. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <52uta8$bad@News.IDT.NET>
Source record: 102067

> markn@ms8.hinet.net () writes:
> I heard that there's a longwave amateur band somewhere around 100 kHz or
> 200 kHz for experimenters.
>
> Could someone tell me the exact frequency range of the band? Also, I
> heard that it's not really an amaeur band, but actually it's open for
> anyone to use, as long as a few restrictions are kept. Could someone tell
> me what the restrictions are? Also, is only CW allowed, or is AM and
> LSB/USB also permissible?
>
> In addition, could someone tell me where I can get schematics for a
> homebrew transmitter for this band?
>
> Thanks in advance.
>
> Mark Nagel, N3FRP
>
>
>>>>
Mark,
Try LWCA on your search engine and see if that does it, if not E-Mail me, 73 de
daveaa1a@pcix.com

1586. Electronic Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: john fleenor <jlfleenor@why.net>
Message-ID: <32533E52.537B@why.net>
Source record: 102068

visit john's ham page at http://www.why.net/home/jlfleenor for free web page graphics, ham software, ham links, electronic projects and more!

1587. Modification Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: Ryan Snyder <ryan@nmt.edu>
Message-ID: <3252A3C3.7009@nmt.edu>
Source record: 102069

Hello,
Does anyone know how to modify an IC-2GXAT to get other frequencies
not
on the HAM Bands?

Thanks,
RS
KC5WDT

1588. Re: CB Radio to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.961002220936.17257C-100000@ban.libertel.montreal.qc.ca>
Source record: 102070

On Wed, 2 Oct 1996, Susan Driggers wrote:

> I have heard that it is possible to convert a cb to 10 meter . Is this
> possible and if so where can I get more information on this. Thanks.
>
>
It is possible. It was done in the early days of CB, by changing crystals,
because the rigs even then were cheaper than similar ham transceivers.

Then there was little mention of the concept in the ham magazines, until
nearly twenty years ago when the change to 40 channels and the later bust
meant there were plenty of CB rigs cheap.

If you look in 73 magazine in the late '70s/early '80s, there were plenty
of articles about converting specific CB sets. Once the idea got going,
people started converting all different sorts, from crystal controlled to
crystal-based synthesized to PLL synthesizers. Find someone or something
(like a library or ham club) with a good collection of back issues, and
start studying.

ONe thing to watch. Later CB sets were designed so they could not
be moved easily if at all. The idea was to eliminate unlicensed operation
with out of band CB sets, but it had the side effect of making newer
CB sets directly useful to hams.

Michael VE2BVW

1589. RE: Car battery (13.8) to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-02 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8C98021.03670008AB.uuout@sourcebbs.com>
Source record: 102071

>-I need to find or build a circuit that regulates a car battery
>-to always be 12.0 volts. Looking to get 2-3 amps out of it.

Hi John,

I have done this very effectively by using a three lead low current regulator to control N-P-N transistor that will handle the load you have. This circut can be as few as three components(resistor, transistor, and regulator).

73 de KE4QOK
Bob

* SLMR 2.1a * Virgin wool comes from ugly sheep.

1590. Re: Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: emesis@gatecoms.gatecom.com
Message-ID: <52vfl6$1e8@www.gatecom.com>
Source record: 101985

Stephen John Farthing (stephen@stevef.demon.co.uk) wrote:
: I would like to make a device for measuring the vales of inductors and
: capacitors. Essentially I like making radios and need to be able to
: measure (and match) components to within 1% or so. Can someone point me
: at a suitable homebrew design?
: --
: Stephen John Farthing MBCS G0XAR
: Melksham, Wiltshire UK
: RSGB G-QRP 7766

--

Stephen, check out the November 1996 issue of Popular Electronics.
Easy plans for both capacitance and inductance meter adapters that
work great!
73
de KB8ZLZ

1591. Remote Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: modinaf@swsupp.ico.olivetti.COM
Message-ID: <199610031134.EAA18241@mail.ucsd.edu>
Source record: 101986

I am looking for schematics of remote tuner for HF operation (160-10m) as
to SGC 230 or others.
Thanks.

73 de IK1VCF Fabrizio

IK1VCF@AMSAT.ORG

1592. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: steve@borisone.DEmon.co.UK
Message-ID: <Pine.LNX.3.91.961003210819.8578C-100000@borisone.demon.co.uk>
Source record: 101987

```
unsubscribe steve@borisone.demon.co.uk
```

1593. Re: Ideas for MILLI-OHMETER?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <325425ea.12879938@eskinews.eskimo.com>
Source record: 102072

w7el@teleport.com (Roy Lewallen) wrote:

>In article <32509890.17273611@eskinews.eskimo.com>,
> wrt@eskimo.com (Bill Turner) wrote:
>
>>. . .
>>I've used this technique to
>>find shorts inside multi-layer PCBs and it works great. Now, FIXING these
>>shorts is something else.... :-)

>Drill through 'em.
>
>Roy Lewallen, W7EL

Perhaps I should have mentioned I work in the avionics industry. Who'd like to fly on an airplane with PCBs repaired that way....raise your hands.

Our policy is any PCB with an inner-layer short is scrapped, no exceptions. The technique is useful for proving that is indeed what is wrong. For personal, use at home stuff, well, maybe.

73, Bill W7LZP
wrt@eskimo.com

1594. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: markn@ms8.hinet.net
Message-ID: <52vbb1$osa@netnews.hinet.net>
Source record: 102073

I found it! It's http://users.aol.com/lwcanews/

Thank you very much.

Mark

1595. Re: Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: cvictor@hooked.net
Message-ID: <52vb5h$cg8_001@ppp.hooked.net>
Source record: 102074

Dear Glenn ve9gj@nbnet.nb.ca

I have a small supply of perfect vacum variables for your amp design.

If you need 'em, let me know. Resonable prices ///

wa6suy

1596. Re: RE: Filter k & q derivation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: Larry Martin <larrym@wco.com>
Message-ID: <52vgtq$s9a@news.wco.com>
Source record: 102075

stoskopf@tri.NET (Lawrence Stoskopf) wrote:
>Have been playing with some various XTAL filter designs. I have Zverev's
>excellent standard, but would like to do one with more poles than in his
>tables, especially the gaussian and gaussian to -12 dB. Anyone know how to
>calculate the k & q values? I suspect I'm looking at the method in his book
>and don't see it, but with a Pentium Pro 200 and Mathcad, suspect I have
>more firepower than he used for his derivations! (Not the equations)
>
>FWIW, have had a good time running thru some old data from published
>articles, in HR, Liao's amplifier book, some old vertical formulas and
>seeing the problems with rounding or smoothing in graphs.
>
>Lawrence E. Stoskopf, M.D.
>N0UU
>
You can probably simply repeat the inner sections of the filter with good
results. I have used this technique with good success for Butterworth
and other filter types.

Good luck-
Larry

larrym@wco.com

1597. Re: AB pot and TYPE'S (allen bradley ?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: Scott Robinson <spr@earthlink.net>
Message-ID: <52vk8r$8m2@chile.earthlink.net>
Source record: 102076
Cross-posted to:
rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <52u5mc$akg_002@vf.pond.com> BadB, MattZ@pond.com writes:
>
>Well Im sitting here looking at some old AB pots and was wondering if they are
>any good for audio work... or anything... they seem to be pretty well made.

Allen-Bradley AB and Ohmite type J industrial pots are very high quality
items. They use, I think, a graphite brush for a wiping contact on
composition elements, rather than a metal brush on a deposited carbon
element.

HP and Tek gear uses these. Need I say more?

Scott Robinson
spr@earthlink.net

1598. C 50DSK: qexresp. ported anyone from C26?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: rrrath@aol.com
Message-ID: <530b7u$5o0@newsbf02.news.aol.com>
Source record: 102077

Hi,
As I have only the TMS320 C50 DSK has anybody ported said
pgn described in QEX??

73s Robert
DJ0RA

1599. Re: Modification Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: Dick Flanagan <dick@merlin.libelle.com>
Message-ID: <3253F01B.11AF@merlin.libelle.com>
Source record: 102078

Ryan Snyder wrote:
>
> Does anyone know how to modify an IC-2GXAT to get other frequencies
> not on the HAM Bands?

Remove D13, D14 and then reset the microprocessor.
--
Dick Flanagan W6OLD CFII (dick@merlin.libelle.com) Minden, Nevada

1600. Re: DC-DC Converter IC needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: hamlab@enterprise.net
Message-ID: <3253f64d.1082736@194.72.192.4>
Source record: 102079

On Mon, 30 Sep 1996 17:18:05 GMT, john.ackermann@daytonOH.ncr.com
(John Ackermann) wrote:

>Howdy --
>
>I need to generate 15-18 volts DC at 50 milliamps from an input that
>fluctuates from 11.5 to about 13.0 VDC. Can anyone suggest a DC-DC
>converter chip that would work for this application?
>
>Thanks!
>
>John Ackermann AG9V
>john.ackermann@daytonOH.ncr.com

An easy one!
I use the LM78S40 for similar aplications, it should be possible to
use the chip's internal switching transistor and diode. This would
then require only the addition of a few resistors, capacitors and of
course an inductor.

Best of luck...Steve G6ALU

1601. Re: Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <32541544.55A1@vcd.hp.com>
Source record: 102080

Chris Victor wrote:
>
> Dear Glenn ve9gj@nbnet.nb.ca
>
> I have a small supply of perfect vacum variables for your amp design.
>
> If you need 'em, let me know. Resonable prices ///
>
> wa6suy

Hi OM,

Noticed you had some vac. variables. I am looking for >300 PF at
>20KV, for a transmitting loop antenna project. Do you have anything in
that category, and if so, what would you be asking for it?
TNX in advance,

73,
Don, W6JL
Camas, Washingon

1602. Antenna Coax Routing Ideas Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: webbte <ted.webb@columbiasc.ncr.com>
Message-ID: <Dyps71.7o2@ncrcae.ColumbiaSC.NCR.COM>
Source record: 102081

The subject may be a misnomer. Since buying a new (to me) house, I have pondered the eternal question of how and where to route 4 coax lines and 1 rotor control cable. I've considered (and rejected) the old "remove a pane of glass, substitute plexiglas and route connectors thru it" method because I'm working with both internal and storm window setup. The other method is either through the attic or under the floor in the crawl space (shack is on first floor) but the delimma is how to feed into shack. I've checked the only catalogs currently available to me for connector feedthru arrangements on both sides of an aluminum plate attached to either floor or ceiling but can't find what I'm looking for. Admittedly, my collection of catalogs is meager at the moment having cleaned house (at XYL's insistance prior to moving). I know a solution exists for a "clean" arrangement. Anyone have a solution or point me in the right direction? Any help would be appreciated. I've already missed almost a years worth of DX chasing and "Closet Contesting" work and my shack is still in storage for another 2 weeks or so. I'd like to get this setup complete before the furniture arrives.

Thanks for any help.

73 / ted w4NE (ex-AC4CS/WA4KWG)

1603. Info on 900mhz hybrid amp module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Oct3.193153.650@main03>
Source record: 102082

I recently purchased a 900mhz "stick-amp" which utilizes a PF0011 (Hitachi?) hybrid power module - supposedly good for 10W. I'd like to use this as a 903mhz linear amp for SSB/CW. Question: does anyone have a data sheet for this device, or at least know whether it's suitable for class AB operation and what the supply voltage requirements are?
Thanks!
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

1604. For Sale MF8CCN Switch Capacitor Filter IC's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <531ni4$l1l@newsbf02.news.aol.com>
Source record: 102083

I have 57 MF8CCN switch capacitor filter IC's. They are currently selling in the $4 each in 25 quantity range. They are new in sleeves. I will sell them for $125 plus $4 postage.

Email

Pbunn624@aol.com

1605. Re: Adjustable attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-03 00:00:00 UTC
From: Yvon Roy <rextel@sympatico.ca>
Message-ID: <325485B1.7550@sympatico.ca>
Source record: 102084

Mike Willis wrote:
>
> ml@radiodesign.se wrote:
> >
> > Looking for a circuit to build an electrically adjustable attenuator at 450 MHz.
> >
> > Anyone??
> >
> > Thanks!
> >
> > Micke
>
> Mini-Circuits. PAS-1 electronically adjustable attenuator.

If you want a constant impedance variable attenuator, Hewlett Packard
has an application note using PIN diodes. Regards. Yvon.
<rextel@sympatico.ca>

1606. Help with Hamtronics R139 WxSat Rx

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: pfleming@tiros.manawatu.planet.co.nz
Message-ID: <0d1dvkr60@tiros.manawatu.planet.co.nz>
Source record: 101988
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.space

Hi,

I'd be interested in hearing from anyone who is using or constructed
the Hamtronics R139 Weather Satellite Receiver.

I'm having trouble getting the RF amplifier FET, to amplifly signal.
All the oscillator circuit is tuned ok, I've replaced FETs but still
can't get gain. Has anyone else encounterd/solved this problem?

Any help is appreciated.
--
Philip Fleming (ZL2VAX) pfleming@tiros.manawatu.planet.co.nz

"The past always looks better than it was. It's only pleasant
because it isn't here."

1607. Re: 1 KW Tuner Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: Luc Favre <lfavre@generali.fr>
Message-ID: <3254FD38.646E@generali.fr>
Source record: 101989

Butch Magee wrote:
>
> Does anyone know where I might pick up the plans and part nos. for an
> antenna tuner similar to the old Johnson's? You know, two air-variable
> capaciters, 1 roller inductor a turns counter and NONE of this tapped
> inductors/etc..etc... I feel like building something and the old
> Johnsons' were so simple and so good!
>
> Butch KF5DE

You can find a lot of plans and parts nos in any ARRL Handbook or in ARRL antenna book. I was faced of handling 1 KW and the hit is the ability to support high voltages when SWR and/or line impedance ist high. The mentionned books are remarkable for this subject.

73 de F6HJO

1608. Bridge rectifier ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: Keith Piercey <kpiercey@atcon.com>
Message-ID: <5332cp$r1o@thor.atcon.com>
Source record: 101990

Anyone have info on a bridge rectifier which has the following two numbers on it:

LT 229

PBL 405

It's in a Power Tronic model TK-4230DC computer power supply made by Powertech Electronic Co., Ltd.

I tried an AT&T 1-800 search and a couple of other sources...no luck.

1609. Cush-Craft A3

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <532pgl$i9p@mercur.foa.se>
Source record: 101991

Hi
a few months ago I got (almost for free) a Cush Craft A3 beam, but
with no manual. Is there any kind soul that coud fax or e-mail me some
dimensional data on the antenna so I can get it up in the air soon.
The antenna is now dismantled and needs all its clamps to be renewed
(rust). Things would be so much easier knowing the dimensions of the
elements and markings of the traps.
73 Lasse SM5GLC

1610. Re: Homebrew Capacitance/inductance Meter/Bridge?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: djwang@ginger.mmrrcc.upenn.edu
Message-ID: <5334d3$kb0@netnews.upenn.edu>
Source record: 101992

Check out the article in "Electronics Now" that appeared in June or July this year. It described a PIC chip design based on 16C61 and a 16x1 LCD display. The design is excellent and if you like to build from scratch you can even download the code from their ftp site!!

DJ Wang/ n2ykp/3

1611. Re: Car battery (13.8) to 12.0V DC regulaotor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <5332e8$p2k@sf18.dseg.ti.com>
Source record: 101993

I'm curious... why do you need exactly 12.0 Volts?

What you're asking for will be mighty difficult to do properly. Regulators require an input of at least a couple of Volts higher than the desired output to maintain regulation. A car battery will not provide this unless you are charging it at the same time with a higher voltage. A fully-charged car battery will be around 14 Volts, and it discharges to less than that, so the regulator will not be able to maintain regulation.

If you're running any kind of radio gear (ham, CB, commercial, scanner, etc) that's designed for "12 V" service, it will do just fine at up to about 15 Volts. Keep in mind that the normal operating voltage of a car electrical system is about 14 Volts when the engine is running.

- Dean KC5NG

In article <52r7si$2up0@news.doit.wisc.edu>, lumkes@cae.wisc.edu says...
>
>Hello,
>I need to find or build a circuit that regulates a car battery
>to always be 12.0 volts. Looking to get 2-3 amps out of it.
>
>Any ideas?
>
>Thanks, John
>lumkes@cae.wisc.edu
>AA9QP
>

1612. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <5332nf$p2k@sf18.dseg.ti.com>
Source record: 101994

Mark,

The band you are referring to is the 1,750 Meter band (170 to 190 KHz).
Operators on this band call themselves LOWFERs.

You're allowed to use ANY mode of transmission, with a maximum output
power of one Watt. The TOTAL LENGTH of the antenna AND feedline may not
exceed fifty feet (most LOWFERs use a 50' wire, or have the transmitter
located at the base of a 50' vertical with no feedline). This part of
the frequencyt spectrum is VERY noisy, so some sort of low-noise receive
antenna is a must (a ferrite loop, for example).

There are no licenses required, although the FCC encourages hams to use
their callsigns as identifiers when on that band.

There have been some articles in the ham magazines in recent years about
the 1,750 Meter band. Check back issues of QST, 73, etc.

73 de KC5NG

In article <52sh4q$6ss@netnews.hinet.net>, markn@ms8.hinet.net says...
>
>I heard that there's a longwave amateur band somewhere around 100 kHz or
>200 kHz for experimenters.
>
>Could someone tell me the exact frequency range of the band? Also, I
>heard that it's not really an amaeur band, but actually it's open for
>anyone to use, as long as a few restrictions are kept. Could someone tell
>me what the restrictions are? Also, is only CW allowed, or is AM and
>LSB/USB also permissible?
>
>In addition, could someone tell me where I can get schematics for a
>homebrew transmitter for this band?
>
>Thanks in advance.
>
>Mark Nagel, N3FRP
>

1613. Re: Info on 900mhz hybrid amp module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <533cnl$nvp@canyon.sr.hp.com>
Source record: 101995

Joe Landis (landisj@nad.com) wrote:
: I recently purchased a 900mhz "stick-amp" which utilizes a PF0011 (Hitachi?)
: hybrid power module - supposedly good for 10W. I'd like to use this as a 903mhz
: linear amp for SSB/CW. Question: does anyone have a data sheet for this device,
: or at least know whether it's suitable for class AB operation and what the
: supply voltage requirements are?

I don't have a data sheet for that part number but I do have 10 watt
900 MHz modules by Mitsubishi, Toshiba and Matsushita. These are
functionally identical, about 2 1/2" long with 5 leads. The Toshiba is
an S-AU11 which may bear some resemblance in numbering to what you have.

If these are similar to what you have, I suspect you can count on them
as being class C devices with three stages internally. Only the first
stage is likely to be biased for small signal use.

I have successfully rebiased similar amplifiers for class A-B service
but it requires some surgery. There's no guarantee that they will be
as linear as might be possible either.

I don't know of any linear power bricks for the 900 MHz band like those which
are available at 400 and 1200 MHz.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| http://www.tapr.org/~n6gn/index.html |

1614. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <533fo5$rg7@hpscit.sc.hp.com>
Source record: 101996

In article <5332nf$p2k@sf18.dseg.ti.com>,
Mustang Maniac <kc5ng@dlep1.itg.ti.com> wrote:
>
>There are no licenses required, although the FCC encourages hams to use
>their callsigns as identifiers when on that band.
>
>There have been some articles in the ham magazines in recent years about
>the 1,750 Meter band. Check back issues of QST, 73, etc.

I thought I read in one of those articles that you are *not*
supposed to use ham callsigns on 1750, rather use your initials
or something.

Rick N6RK
(Still trying to figure out how to get down to 160 meters)

1615. Re: Cush-Craft A3

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <325565AB.6200@vcd.hp.com>
Source record: 101997

Lars Moell wrote:
>
> Hi
> a few months ago I got (almost for free) a Cush Craft A3 beam, but
> with no manual. Is there any kind soul that coud fax or e-mail me some
> dimensional data on the antenna so I can get it up in the air soon.
> The antenna is now dismantled and needs all its clamps to be renewed
> (rust). Things would be so much easier knowing the dimensions of the
> elements and markings of the traps.
> 73 Lasse SM5GLC

Lasse,

Why not call/write/fax Cushcraft and get a copy of their manual?

73, Don, W6JL

1616. Re: Antenna Coax Routing Ideas Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <32556512.2E4D@vcd.hp.com>
Source record: 101998

webbte wrote:
>
> The subject may be a misnomer. Since buying a new (to me) house,
> I have pondered the eternal question of how and where to route 4
> coax lines and 1 rotor control cable. I've considered (and
> rejected) the old "remove a pane of glass, substitute plexiglas
> and route connectors thru it" method because I'm working with
> both internal and storm window setup. The other method is either
> through the attic or under the floor in the crawl space (shack
> is on first floor) but the delimma is how to feed into shack.
> I've checked the only catalogs currently available to me for
> connector feedthru arrangements on both sides of an aluminum
> plate attached to either floor or ceiling but can't find what
> I'm looking for. Admittedly, my collection of catalogs is meager
> at the moment having cleaned house (at XYL's insistance prior to
> moving). I know a solution exists for a "clean" arrangement.
> Anyone have a solution or point me in the right direction? Any
> help would be appreciated. I've already missed almost a years
> worth of DX chasing and "Closet Contesting" work and my shack is
> still in storage for another 2 weeks or so. I'd like to get this
> setup complete before the furniture arrives.
>
> Thanks for any help.
>
> 73 / ted w4NE (ex-AC4CS/WA4KWG)

Hi Ted OM,

The easiest/best method I have found is the most direct one. Select a spot in the outside shack wall, and bore a hole through to the outside. Stay away from obvious areas of conflict
like near an AC outlet, to avoid internal wiring. Make a small pilot hole to check for obstructions before using a flat bladed wood drill to make the larger hole(s). If there is insulation in the wall, bore the drywall side large hole first, then push the insulation out
of the way, and complete the drilling of the outside hole through the sheathing and siding. The cables can be brought through one or more 1 to 1-1/2 inch holes. This is not as drastic as it sounds; these holes are easily caulked when the cables are through them, and are easily
repaired later on if you move or decide to move the cables. I also run 450 ohm ladder line directly through one of these holes, with no noticeable effect at 1KW. (There is nothing but
wood or drywall near it). For a whole lot of cables, a rectangular hole can be sawed after boring the four corners, and a nice metal plate installed with bulkhead conectors. I trimmed

around the plate with moulding to match the rest of the room. This is also easily repaired if/when you move. I did this at my last QTH.
If you have access to the crawl space underneath and can find a convenient place to get the cables into the crawl space, you can bore a hole up through the floor, close to a wall, and bring the cables up that way. If the floor is carpeted, cut the carpet with an "X" shape
with a carpet knife first, then pin the carpet out of the way while boring the hole. Later on if you change the location, the carpet can be made to lay flat again with very little noticeable effect after you plug the hole in the flooring.
It is incredible the extremes I have seen some ops go to to avoid the obvious best solution: make a hole!

73 and GL,
Don, W6JL

1617. Re: CB Radio to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961004161119.19437A-100000@primeline.net>
Source record: 101999

On Wed, 2 Oct 1996, Susan Driggers wrote:

> I have heard that it is possible to convert a cb to 10 meter . Is this
> possible and if so where can I get more information on this. Thanks.

Yes it is possible. check through back issues of QST and 73 , to find some
info.

Depending on the rig ,it might be harder because some PLLs are designed
for CB use only.

Gary Tait , VE3VBF

1618. Re: ICOM R-7000 12 VOLT DC OPERATION

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: bills@mail.zilker.net
Message-ID: <NEWTNews.844468618.23403.bills@zilker.net>
Source record: 102000

In Article<4sk2mk$gu@news.flinet.com>, <billh@flinet.com> writes:
> Path: zilker.net!news.sprintlink.net!news-stk-200.sprintlink.net!news.sprintlink.net!news-stk-11.sprintlink.net!news.sprintlink.net!new-news.sprintlink.net!newsreader.sprintlink.net!news.sprintlink.net!news-chi-13.sprintlink.net!newsfeed.internetmci.com!news.flinet.com!news
> From: billh@flinet.com (Bill Hayhurst)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: ICOM R-7000 12 VOLT DC OPERATION
> Date: Thu, 18 Jul 1996 00:45:20 GMT
> Organization: Florida Internet
> Lines: 8
> Message-ID: <4sk2mk$gu@news.flinet.com>
> NNTP-Posting-Host: wpb31.flinet.com
> X-Newsreader: Forte Free Agent 1.0.82
>
> Does anyone know the wiring of this radio for 12 volts dc?
>
> Icom offers a kit for $30.00.
>
> Seems like it should be simple. Any help???
>
> Thanks. Bill Hayhurst KE4IDU
>
The Icom kit just consists of an external connector and plate to mount on
the back of the radio with attached power cable. The other end plugs into
an existing socket on the power regulator board.
Bill Smotrilla

1619. Re: Antenna Coax Routing Ideas Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: "Larry R. Babb" <babblarr@isu.edu>
Message-ID: <3255CAEB.7A8F@isu.edu>
Source record: 102001

> Don, W6JLHi.. I work in Broadcast Electronics.. one of the ways that we bring cables in from outside, is to have a contractor make a round hole with a concrete saw in the foundation and lay sewer pipe from the tower base to the foundation. From there it is possible to either bring the cables up through the floor, or to dress them into the wall and bring them out in a metal box. What I personally prefer is to stub up a piece of 1 1/2 inch conduit from the shack into the floor above the hole in the foundation, and bring the cables up to a junction box. They could be terminated there, and the uhf fittings put on a plate to the junction box, or they can be brought to the operating bench in a cable bundle and dressed into the equipment.. some thoughts of mine.. hope it helped.. 73 es cu en ss de k7nha

1620. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDyt7M6.2tv@netcom.com>
Source record: 102002

in <5332nf$p2k@sf18.dseg.ti.com>, Mustang Maniac wrote:
: The band you are referring to is the 1,750 Meter band (170 to 190 KHz).
: Operators on this band call themselves LOWFERs.

: You're allowed to use ANY mode of transmission, with a maximum output
: power of one Watt. The TOTAL LENGTH of the antenna AND feedline may not
: exceed fifty feet (most LOWFERs use a 50' wire, or have the transmitter
: located at the base of a 50' vertical with no feedline).

: There are no licenses required, although the FCC encourages hams to use
: their callsigns as identifiers when on that band.

Three mistakes. First, it's 160 kHz to 190 kHz. Next, it's 1 watt of INPUT power to the final stage (and the 15 meters/50 feet includes the ground line, too). And Third, you DON'T USE YOUR FULL HAM CALL. That would indicate that you are operating under Part 97 which would be illegal in this frequency range. Most of the stuff I've read or beacons I've heard use the ham calls with the letter prefix droppped.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1621. Re: ATV on 10 GHZ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199610040902.TAA23208@oznet02.ozemail.com.au>
Source record: 102003

At 04:30 AM 28/09/96 PDT, you wrote:

>Date: Sat, 28 Sep 96 01:24:28 GMT
>From: marwynn@phoenix.net (Marwynne Kuhn)
>Subject: ATV on 10 GHZ
>
> I am looking for information on how to set up 10 GHZ ATV. I would like to
>use Gunplexers and build a interface for the video to transmit. I would like
>to know how to get a quality picture off the the gunplexer. I would also like
>to here from someone who has done this.
>
>Thanks in advance for the help ....WB5PWG.......... Webster, Texas
>
>God made Earth and rested
>God made Man and rested.
>God made Woman and ever since neither God or Man has rested. :)
>
>Marwynne Kuhn WB5PWG
>marwynn@phoenix.net
>

Hello,

I found that if the capacitor was removed from across the GUNN_DIODE/GND
connection
the picture was improved 10 fold! Must have acted as a filter and reduced
the bandwidth
presented to the gunn_diode for osscillation???

I used a simple video modulated powersupply and an alarm module gunn diode
unit for the TX
side and a modified Ku band LNC and NEC1022a Sat RX for the RX side.

Full Colour/Quieting pictures where received over a very small 15m distance
with NO antenna
on either the TX or RX side, just open wave guide.

Best of luck

73

Mark

ax25net : vk3jma@vk3ksd.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au

1622. WANTED: Schematic, P.C. Board or kit for Modulated CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-04 00:00:00 UTC
From: markn1wes@juno.COM
Message-ID: <19961004.112552.4711.0.markn1wes@juno.com>
Source record: 102004

Hello,

I'm looking for a schematic, p.c. board or kit that would allow the use
of a straight
key or paddles and keyer to generate modulated CW and key an FM rig to
transmit.
I would prefer a semi-break-in design.

73 de markn1wes@juno.com

1623. Re: Car battery (13.8) to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <325aae13.5383854@eskinews.eskimo.com>
Source record: 102005

bob.roach@sourcebbs.com (BOB ROACH) wrote:

> >-I need to find or build a circuit that regulates a car battery
> >-to always be 12.0 volts. Looking to get 2-3 amps out of it.
>
>Hi John,
>
>I have done this very effectively by using a three lead low current
>regulator to control N-P-N transistor that will handle the load you
>have. This circut can be as few as three components(resistor,
>transistor, and regulator).

You can get away with only three components if you locate the regulator fairly close to the battery, say within a foot or so. Any farther away and you should place a .1 mfd capacitor from the input to ground to prevent oscillation. It's also a good idea to put one on the output to ground, but you might sneak by without that one. Personally, I figure they're cheap, put 'em in.

73, Bill W7LZP
wrt@eskimo.com

1624. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: wmc@worldnet.att.net
Message-ID: <534v0s$63h@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 102006

rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>In article <5332nf$p2k@sf18.dseg.ti.com>,
>Mustang Maniac <kc5ng@dlep1.itg.ti.com> wrote:
>>
>>There are no licenses required, although the FCC encourages hams to use
>>their callsigns as identifiers when on that band.
>>
>>There have been some articles in the ham magazines in recent years about
>>the 1,750 Meter band. Check back issues of QST, 73, etc.

>I thought I read in one of those articles that you are *not*
>supposed to use ham callsigns on 1750, rather use your initials
>or something.

That's what I've heard, too. DO NOT use your ham callsign on the 1750M
band!

>Rick N6RK
>(Still trying to figure out how to get down to 160 meters)

Wayne Cronin
wmc@worldnet.att.net

1625. For Sale: Hombrew Ham Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: Lonnie Domnitz <maniac@sirius.com>
Message-ID: <01bbb28f$46f01ff0$dfe386cd@polaris>
Source record: 102007

TOO MANY TO LIST HERE, Please take a look at my web site:
www.sirius.com/~maniac for the complete list

This list is updated daily since stuff is moving fast and I am adding
general electronic parts and equipment.

I have some homebrew and Heathkits and other commercial gear

1626. im lookin to build a 0-12v regulated power supply ,,,need schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: ht2watch@aol.com
Message-ID: <53537t$rlq@newsbf02.news.aol.com>
Source record: 102008

i need to build a fairly good 0-12vdc adjustable power supply....my
brother
has a radio shack one that has dual outputs, but the schematics are not
avail
and the parts have no numbers (i wonder why they did that....lol)
any way if anyone can help i would love to hear from them

thanks

bob

1627. Re: Filter k & q derivation?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <535rpp$30n@newsbf02.news.aol.com>
Source record: 102009

Wes Haywards L and X software calculates these values out to 40 poles or so.

W4ZCB

1628. Re: Antenna Coax Routing Ideas Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <3256E1CD.5501@worldnet.att.net>
Source record: 102010

My .02 .... It is gennerally a good idea to enter a structure at a single point for power, telephone and feed lines. If you cut the (larger) hole mentioned in another reply, you could mount to it an aluminum sheet (silicone caulk it) with bulkhead coax connectors feeding through. The plate should tie directly to a good ground with a large crimp connected wire. With this setup the feed lines can be disconnected at the wall if maximum lightning protection is desired. Have Fun! 73, Woody

--

de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722

.

1629. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961005100845.3827B-100000@spork.callamer.com>
Source record: 102011

Hi Dave and Mark. The address for the Longwave Club of America is:
http://users.aol.com/lwcanews/
You will find what you need to get started there. Also, Dave, nice to see
your comments in the latest LOWDOWN issue! 73 to both Cliff K7RR

On 2 Oct 1996 daveaa1a@pcix.com wrote:

> > markn@ms8.hinet.net () writes:
> > I heard that there's a longwave amateur band somewhere around 100 kHz or
> > 200 kHz for experimenters.
> >
> > Could someone tell me the exact frequency range of the band? Also, I
> > heard that it's not really an amaeur band, but actually it's open for
> > anyone to use, as long as a few restrictions are kept. Could someone tell
> > me what the restrictions are? Also, is only CW allowed, or is AM and
> > LSB/USB also permissible?
> >
> > In addition, could someone tell me where I can get schematics for a
> > homebrew transmitter for this band?
> >
> > Thanks in advance.
> >
> > Mark Nagel, N3FRP
> >
> >
> >>>>
> Mark,
> Try LWCA on your search engine and see if that does it, if not E-Mail me, 73 de
daveaa1a@pcix.com
>
>
>
>

1630. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961005101238.3827C-100000@spork.callamer.com>
Source record: 102012

Yes you are right---do not use ham calls on 1750 meters as it is NOT a ham band! We do use the last letters of the ham call for id since that does help identify the author. In my case I use HDO on 187.65 since my previous call was W6HDO. Cliff Buttschrdt now K7RR Morro Bay, CA

On Sat, 5 Oct 1996, Wayne Cronin wrote:

> rkarlqu@scd.hp.com (Richard Karlquist) wrote:
>
> >In article <5332nf$p2k@sf18.dseg.ti.com>,
> >Mustang Maniac <kc5ng@dlep1.itg.ti.com> wrote:
> >>
> >>There are no licenses required, although the FCC encourages hams to use
> >>their callsigns as identifiers when on that band.
> >>
> >>There have been some articles in the ham magazines in recent years about
> >>the 1,750 Meter band. Check back issues of QST, 73, etc.
>
> >I thought I read in one of those articles that you are *not*
> >supposed to use ham callsigns on 1750, rather use your initials
> >or something.
>
> That's what I've heard, too. DO NOT use your ham callsign on the 1750M
> band!
>
>
> >Rick N6RK
> >(Still trying to figure out how to get down to 160 meters)
>
> ----
> Wayne Cronin
> wmc@worldnet.att.net
>
>
>

1631. Vacumn Variables & Re: Help with Hi power HF amp (4-1000a) pi tank

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: cvictor@hooked.net
Message-ID: <5369p3$cps_001@ppp.hooked.net>
Source record: 102013

Sry, the max voltage on these is 5 ~ 7.5KV. I've seen the ones your asking
for at a recent SF Bay area flea mkt, and they wanted ~$100 or so. Rather big
but definately built to take it!!

de WA6SUY cvictor@hooked.net

>Hi OM,
>
> Noticed you had some vac. variables. I am looking for >300 PF at
>>20KV, for a transmitting loop antenna project. Do you have anything in
>that category, and if so, what would you be asking for it?
> TNX in advance,
>
> 73,
> Don, W6JL
> Camas, Washingon

1632. Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: gbostick@luna
Message-ID: <536gk8$o4j@news.usf.edu>
Source record: 102014
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In many of the HF amps for amateur radio there is a cw/ssb switch that changes the plate voltage from low on cw to high on ssb. I have read that this is to maintain efficiency at the different power inputs used. The high plate voltage makes sense, in that for a given power level a lower current would be required. To run at a lower voltage, thus requiring a higher current at a given power does not make sense. So, if you can run 1000W input with 2500V @ 400MA, what is the reason for lowering the voltage to 1700V and then having to push 588MA ? What is the criteria for selecting the lower voltage value?

This is an equal opportunity question open to all that would like to share their answers, as I am a bit weak in the hi pwr linear amp design department.

-gary
gbostick@luna.cas.usf.edu

1633. Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: stevebragg@aol.com
Message-ID: <536pvq$dro@newsbf02.news.aol.com>
Source record: 102015

Does anybody do homebrew amateur radar? I know there's got to be a FEW of us out there...
Reply if you're a "radar hack" like me. Here are some things I'm interested in:

3.5, 5.7, 24 GHz amateur bands
Pulse radar
Rocket tracking
Monopulse and sequential lobing techniques
Using used radar equipment
New developments in DSP for IF processing.

Thanks,

Steve
Steve Bragg
KA9MVA
Engineer, DARTS Rocket Tracking Radar
stevebragg@aol.com, steveb@fesi.com
"Rack 'Em, Stack 'Em, Jack 'Em & Track 'Em!"

1634. CFS & CFJ Murata ceramic filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: hi80@pipex.dial.com
Message-ID: <3256e419.3197544@newnews.dial.pipex.com>
Source record: 102016
Cross-posted to: alt.radio.scanner.uk,alt.radio.scanner,rec.radio.scanner,rec.radio.shortwave,sci.electronics.repair,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Does anyone know of a supplier of the full range of CFS or CFJ Murata filters, preferably in the UK? I know Cirkit sell them, but their range is limited; the narrowest one they sell is 1 khz, while I am looking for 300hz or 500hz. I would also like to find a supplier of Collins mechanical filters and Hy Q or similar crystal filters. Again, I know these are sold by manufacturers such as AOR or Kiwa, but they seem to rather more expensive than they should be, as they are sold as spares or accessories for their products.

I intend to replace some of the filters in my NRD535, so if anyone has the replacement Crystal filters for the 535 at a good price, I may be interested. I have a 1.8khz filter for the NRD that I would like to exchange for for the 300hz, 500hz or possibly the 1000hz.

Finally, I am looking for a design of a loop antenna similar to the KIWA MW loop. Unfortunately, I can't possibly afford the 350 UKP price of the KIWA, much as I would like to buy it, so building a similar design(balanced loop with DG Mosfet amplifier and bandwidth control) is the only alternative. Has anyone built a design by GF Maynard called the "WQ medium wave loop". This appeared in the UK "Shortwave magazine" in November 1986, and looks very impressive. However, the construction is VERY complex, so I would like to gather any opinions before starting on the project myself.

TIP FOR UK LOOP FANATICS:
Any experimenters with loops might like to know that ARGOS sells a product called a "TV Turntable" for around 7UKP, which is perfect for mounting a rotating loop, especially if it's completed project and a smart appearance is needed. AFAIK it is only available at ARGOS superstores. I have had difficulty in finding very wide diameter plastic pipe(12 to 24 inches) or something similar, again for loops. Any ideas?

Regards,

Joe Kirlew

1635. NRD 535 crystal filters wanted /to exchange

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: hi80@pipex.dial.com
Message-ID: <3258ef84.6121785@newnews.dial.pipex.com>
Source record: 102017
Cross-posted to: alt.radio.scanner.uk,rec.radio.shortwave,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.amateur.equipment

I intend to replace some of the filters in my NRD535, so if anyone has the replacement Crystal filters for the 535 at a good price, I may be interested. I also have a 1.8khz filter for the NRD that I would like to exchange for for the 300hz, 500hz or possibly the 1000hz, so if you have these, but are mainly interested in SSB, please contact by email

Also wanted, the Bandwidth Control Board for the NRD535.
I am in the UK.

Regards,

Joe Kirlew

1636. FS 6AG7's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <5370qa$gbp@newsbf02.news.aol.com>
Source record: 102018

I have a large quantity of new General Electric 6AG7's which are used in many vintage transmitters and transmitter projects,

$2 each or 10/$15

Email PBUNN624@aol.com

1637. Re: The Handicapper General & the Morse key of the Oppressed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-05 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <534oaneie1@mhadg.production.compuserve.com>
Source record: 102019

I never thought of it in the way you discribe. However since we both went
to boot camp (in both ways) what would you think of sailing with guys who
passed on boot camp? Would you feel safe wondering if he would follow orders
or maybe just debate them with whoever was giving them? For me personaly,
I had a tough time with CW at first. After talking with a few people and
reading some REALLY old QSTs I figured out that the old technique of starting
of fast and jsut learning a few letters at a time was the key. I picked
up my advanced in short order. After this I tried this trick on a room full
of teenagers who wanted to learn S-O-S. I'm talking Jr High kids with
attention spans of about 1/2 second max. In a couple of 1 hour sessions they
were able to copy code groups of 12 of the letters at 16 wpm! None of them
was told that CW was hard or sucked or whatever. Anyway I didn't like
boot camp. Would I like to ship out with some "civilians"?
More important what "good" is CW? I happen to think it is relevent today.
Look at the work on VHF+ Yes, I know a lot of guys think all the work is
FM or maybe SSB. Not much voice on Moonbounce, or Meteor Scatter! A lot
of the week signal work is CW. I've made a handfull of contacts on 1296.
All CW! On HF count the number of stations on phone (and just for grins the
space they use up) than count the number of stations on CW. Surprise! While
it might not be 50-50 it is a hell of a lot closer than many people want to
admit. Now look at the space the phone boys use up. CW to me is relevent.
I also think 5wpm IS no code. Heck Uncle Wayne points out that at this speed
you might as well write down the dits and dahs. Or if you learned it wrong
like I did (at first) the Dots and Dashs. Once you learn it well enough for
it not to be a torture I think you might be pleased to meet some of the people
on the bottom of the band. They are Ladies and Gents! Can't say that about
all the phone users. Oh well. Enough said.
BTW Camp Berry Great Lakes?
--
73, Jay WB0VNE - AAV5TH

1638. Data over HAM radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: JaiDeeZ <jaideez@unix.cde.com>
Message-ID: <01bbb326$8dfcba60$cbb6a0cd@cde.com.cde.com>
Source record: 101935

Umm, I really know VERY little about Ham and stuff, but a friend and I are looking to get into it, and we would like to set up a computer network over the radios, probably using packet i suppose. So, does anyone know of any good web sites that have information on this? Or companies I could get catalogs from? What agencies do I need to contact to get certified for this stuph? Thank (_)!!!!!
-=:/JaiDeez\:=-
of the GenXer Alliance!
jaideez@unix.cde.com
-=-=-=-=-=-=-=-=-=-=-=-=-
-=(�/\u[) �0�z)=-

1639. Re: Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: <>
Message-ID: <537840$1hcc@news-s01.ca.us.ibm.net>
Source record: 101936
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <536gk8$o4j@news.usf.edu>, gbostick@luna (Wish I knew) writes:
>In many of the HF amps for amateur radio there is a cw/ssb switch that
>changes the plate voltage from low on cw to high on ssb. I have read that
>this is to maintain efficiency at the different power inputs used. The
>high plate voltage makes sense, in that for a given power level a lower
>current would be required. To run at a lower voltage, thus requiring a
>higher current at a given power does not make sense. So, if you can run
>1000W input with 2500V @ 400MA, what is the reason for lowering the
>voltage to 1700V and then having to push 588MA ? What is the criteria for
>selecting the lower voltage value?
>
>This is an equal opportunity question open to all that would like to share
>their answers, as I am a bit weak in the hi pwr linear amp design
>department.
>
>-gary
>gbostick@luna.cas.usf.edu

Hi,

It changes the operating point of the tube, like class A, AB, B, C. In CW you typically run class C. It's a point on the characteristic curve of the tube that dictates how much plate current flows with a certain level of bias. (grid voltage) Go with the higher voltage, and tune the plate to keep within the legal limit. Most tubes drive easier with a higher plate voltage. Go to your local library or maybe some local old timer may have the Eimac 'Care and Feeding of Power Grid Tubes'. It does a great job of explaining the whole deal with load lines, impedances, and all. They're not too tough to understand. Only the Gate 2 Vanity Call operation is beyond comprehension. Cheers!

Jim - WD9AHF

1640. Re: Car battery (13.8) to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <32577977.2BB@hevanet.com>
Source record: 101937

Bill Turner wrote:
>
> bob.roach@sourcebbs.com (BOB ROACH) wrote:
>
> > >-I need to find or build a circuit that regulates a car battery
> > >-to always be 12.0 volts. Looking to get 2-3 amps out of it.
> >
> >Hi John,
> >
> >I have done this very effectively by using a three lead low current
> >regulator to control N-P-N transistor that will handle the load you
> >have. This circut can be as few as three components(resistor,
> >transistor, and regulator).
> ---
> You can get away with only three components if you locate the regulator fairly
> close to the battery, say within a foot or so. Any farther away and you
> should place a .1 mfd capacitor from the input to ground to prevent
> oscillation. It's also a good idea to put one on the output to ground, but
> you might sneak by without that one. Personally, I figure they're cheap, put
> 'em in.
>
> 73, Bill W7LZP
> wrt@eskimo.com

In general, you CAN'T get 12.0V out of a car battery using a linear
regulator unless you plan on leaving the motor running and use a
PNP pass transistor or very low drop-out regulator.
Also, in an automotive environment, you need to worry about protection.
Sticking an IC on the +13.6V line is likely to eventually end up a shorted device.
Use some inductance and a big cap in addition to the protection diodes
required by the regulator itself.
Thre's a lot more to this than meets the eye.
miker

1641. Re: CFS & CFJ Murata ceramic filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: John Evans <john.evans@uteshack.demon.co.uk>
Message-ID: <U31xpGAPI4VyEwYk@uteshack.demon.co.uk>
Source record: 101938
Cross-posted to: alt.radio.scanner.uk,alt.radio.scanner,rec.radio.scanner,rec.radio.shortwave,sci.electronics.repair,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <3256e419.3197544@newnews.dial.pipex.com>,
hi80@pipex.dial.com writes
>Finally, I am looking for a design of a loop antenna similar to the
>KIWA MW loop. Unfortunately, I can't possibly afford the 350 UKP price
>of the KIWA, much as I would like to buy it, so building a similar
>design(balanced loop with DG Mosfet amplifier and bandwidth control)
>is the only alternative. Has anyone built a design by GF Maynard
>called the "WQ medium wave loop". This appeared in the UK "Shortwave
>magazine" in November 1986, and looks very impressive. However, the
>construction is VERY complex, so I would like to gather any opinions
>before starting on the project myself.
>
Joe, Graham Maynard has several ready made loop antenna design's and
builds them to customer preferences.

For info on these and other loop items, contact....

reprints@spacemen.demon.co.uk

This is the reprint service of the Medium Wave Circle, a UK based club
specifically catering for the Medium / Longwave listener. Magazine
reprints are available which cover a vast number of topics pertaining to
the Medium and Longwaves.

Regards,
--
John Evans. G7CEC. "....tis better to have listened and not heard,
than never to have listened at all."

1642. TWT Bandwidth

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: "J.Manuel Rivas Rodriguez" <manel@redestb.es>
Message-ID: <3257BF46.6B7E@redestb.es>
Source record: 101939

Has anybody tried to use an TWT amplifier for 12 to 18 GHz in 10368 MHz.
I supose that 12 to 18 Ghz is the bandwidth specified for the
manufacturer for full specifications. I want to use one for 10 GHz. EME
and I have the oportunity to buy one.
Any previus experience.

Thanks EA1BLA.

1643. surplu component source(s) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <3258265F.4E46@mwt.net>
Source record: 101940

Now that Dan's Small Parts is gone, anybody know of a source of parts
like MFE131 (40673 MOSFET sub.), NP0 caps, small air variable caps, etc.?
Sure is making homebrew QRP items tough these days. 73, N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

1644. 6M amp using 4-1000A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <32582BC9.1183@mwt.net>
Source record: 101941

Anybody have a good design for using a 4-1000A tube on 6 Meters? I plan to drive it with 50 Watts from my Kenwood TS-690S. With the available drive, I guess it would be better to run grounded grid? If so, would it be possible to get around 800-1000 Watts out with this amount of drive? I've seen a design (common cathode) that drives the grid with 10 Watts and 1000 out or so. I'm leery of the design as I might forget to lower my output to 10 Watts and fry my 4-1000A. Worst case, I'd like something that could take the full 50 Watts of drive and give me anything above about 700 Watts out. Any good ideas? Fax a schematic to me at 608-634-2594 or contact via email to arrange other methods of getting info to me (acepilot@mwt.net). Thanks...this will be my winter project...N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

1645. Re: Info on 900mhz hybrid amp module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <538hdk$487@news3.microserve.net>
Source record: 101942

Try Down East Microwave, I have one of their old catalogs and
they list that hybrid as a linear 903 Mhz 10mW in 10W out module.
Sorry I don't have their number but I am sure you could find it
in QST.

73 Steven Kerns N3FTI
skerns@mail.talon.net
Penn Biomedical Support, Inc.
300 Ben Franklin Hwy E.
Douglssville, PA 19518
610-404-0100

In article <1996Oct3.193153.650@main03>, landisj@nad.com says...
>
>I recently purchased a 900mhz "stick-amp" which utilizes a PF0011 (Hitachi?)
>hybrid power module - supposedly good for 10W. I'd like to use this as a
903mhz
>linear amp for SSB/CW. Question: does anyone have a data sheet for this
device,
>or at least know whether it's suitable for class AB operation and what the
>supply voltage requirements are?
>Thanks!
>Joe - AA3GN
>--
>landisj@nad.com - speaking only for myself, of course
>No, this is not a sig.

1646. Re: Info on 900mhz hybrid amp module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Paul Smith <paul.smith@xtra.co.nz>
Message-ID: <325720F6.2807@xtra.co.nz>
Source record: 101943

Joe Landis wrote:
>
> I recently purchased a 900mhz "stick-amp" which utilizes a PF0011 (Hitachi?)
> hybrid power module - supposedly good for 10W. I'd like to use this as a 903mhz
> linear amp for SSB/CW. Question: does anyone have a data sheet for this device,
> or at least know whether it's suitable for class AB operation and what the
> supply voltage requirements are?
> Thanks!
> Joe - AA3GN
> --
> landisj@nad.com - speaking only for myself, of course
> No, this is not a sig.

PF0011(ceramic) and PF0031(plastic) modules 10mw in 6-10 Watt out.

Will run class AB ie OK for SSB. The unit will require 13.6 as the
supply voltage and there is a pin next to the input pin that you can use
to vary the gain of the device. It will take 0 to 8 volts to vary the
gain according to my data sheet. I am currently awaiting a module
myself for my DownEastMicrowave Transverter on 922 - 928Mhz.

DE Paul ZL2UGR

1647. NATIONAL 1-10 SUPER REGEN. REC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Arthur Garabedian <westernmobiletel@worldnet.att.net>
Message-ID: <3257ED24.29B1@worldnet.att.net>
Source record: 102020

I have 2 ea. National 1-10 receivers, one the large tunning dial
is on the right side and the other radio has it on the left side!
Does anyone have any information on them? Thanks ARTHUR . . . KC6KUK

1648. S&S TAC-1 QRP Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Mark Fossum <n0nsv@amsat.org>
Message-ID: <325819D5.1A77@amsat.org>
Source record: 102021

Hi!

Has anyone out there built one of of the TAC-1 QRP Kits from S&S Engineering? I'm thinking about purchasing the kit and I'd like to hear some input on the kit.

Thanks!!!

Mark Fossum n0nsv@amsat.org

1649. By request: AM Synch schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: three@3rdplanet.com
Message-ID: <three-0610961549020001@ppp-dialup22.3rdplanet.com>
Source record: 102022

Here have new IP after crash of old one. (just too much trouble to place phone call whenever I needed to post:)

I was wondering if anyone had any success with Synch AM Demod, using SD5002 in S/H ckt???

Also, believe were several requests for schematic that I didn't get to, due to fax machine problems.

If someone who received the schematic could agree to post it as an attachment as a binary file, I would greatly appreciate it, as all my schematics here are on hardcopy, and faxing pages individually is flaky at best.

That would permanently remove me and anyone else from the faxing loop. Also, realized had couple of mistakes on schematic, but competent ham should be able to get the gist of it, and get it working on any reasonable IF freq.

Rob. N3FT

1650. Re: Expanding foam (urethane?) where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <53925j$un9@n0jcf.com>
Source record: 102023

In <dgfDy0B0u.4L4@netcom.com>, dgf@netcom.com (David Feldman) writes:
>I'm working on mounting several VHF radios into a ZERO/Halliburton type
>"suitcase" cabinet. I'd like to use urethane (expanding) foam to position
>the radios, instead of building some complicated metal structure (the
>radios are various ICOM IC-?02 series VHF/SSB rigs). Anyway, where do
>you buy the stuff? As I recall, it's two chemicals, and when you mix them,
>they make a foam that then hardens. You can form the stuff by pumping it
>into a heavy duty plastic bag, forming it around the equipment you want
>to package, and then let it harden. Then after it's hardened, you can cut
>it with a knife to make openings (for cables), adjustments, and such.
>
>Anyway, is this stuff bought at hardware stores, paint stores, or where?

'round here you can find it at most any home center under the name
of Great Stuff. It comes in a red can with a yellow snap off lid
(like a can of spray paint). It is already mixed and begins to
expand the instant you let it out of the can. Although, I once found it
packaged in a cardboard box with two seperate canisters inside
and a tube to dispense it from. It mixed in the tube as
you dispensed it. I have not seen it this way in the last couple years
however.

It's really aggressive stuff... sticks to absolutely everything.
I would be really, really certain that whatever equipment
you are going to foam in is safely sealed in some kind of bag or wrapper.
It will most certainly ruin the finish (or front panel!!) of
any piece of gear it contacts.

Another idea is to visit one of these mailing/shipping/packing
stores. The one's around here go by the name of Packaging
Store. They have the two part, foam-in-place stuff on tap
and will package things for shipment using it. They also
wrap the item in fairly heavy plastic or put it inside a plastic
bag before foaming. We have packaged and shipped several
pieces of test equipment over seas this way.

Good luck... but be careful with that Good (and nasty) Stuff !

73, Chris
--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

1651. Wanted: Test Equip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <32587D9E.2001@millcomm.com>
Source record: 102024

Hello,

We are a manufacturer of CNC controls for machine
tools. We'll trade brand new controls or control
components with full warranty, for test equipment.

If you've been wanting to add CNC capability to your
shop, and have some unwanted test equip sitting
around, please let us know. This might be a good
deal for schools, universities, or large corp's with
surplus test equip on hand. Individuals welcome also.

Items WANTED:

-Tek current probes, A6202 w/AM503 amp. 2-6 pieces.

-7104 mainframe, especially w/7A19-7A29-7B10-7B15 plugins

-2467, A, B Tek scope w/probes.

-Modern Digital Scope. Open to suggestions

-In-circuit emulator for 486. must be complete & working.

-Spectrum Analyzer, standalone or 7000 type plugin
Like 491, 492, 7L5, 7L12, 7L14, etc..

-Also interested in low-freq FFT type for vibration and
control system analysis. Like HP, Stanford Research, etc.

-RF Generator, like HP8640, etc. 1 or 2 units covering
10khz to 1ghz.

-Function gen w/lin-log sweep, minimum top freq. of 11mhz.
-Pulse Gen, 50mhz min, 100mhz prefered. w/variable risetime.
-Sweep Gen, 1-500mhz

-Tek curve tracer, 576. Hi-pwr fixture a plus.
577/D1 is a possible alternative.

-Tek DCS01 capture camera.

-Good universal freq/period counters, like HP5315/16, 5345, etc.

-Tek TM500 plugins for scope cal setup:
Sweep gen plugin
Time mark gen plugin
Dual trace Scope plugin
500mhz counter plugin

Leveled sine wave gen.
FGxxx function gen for TM5xx, prefer FG504.

-Tek 7000 series equip:
7A12/7A26 2-ch plugins
7A42 4-ch plugins
7B53A timebases
7B92A timebases
7T11A and 7S11 sampling plugins
7B10/7B15 timebases
7000 series cal fixtures and equip
7000 series spectrum analysers, 7Lxx

-Regular Tek scope probes, 6105, 6106, etc..

-Other equip will be considered also, for example:
Fluke 8060A DMM's or equiv. And/or good bench DMM.
Temp measurement stuff, especially IR thermometers.
Grid Dip Meter, LCR meter/bridge, Q-meter, ???

-Also looking for some older stuff for personal
restoration project: 564B, 3T77A or any 3Tx

Please send email to address below, attention Richard.
Info on CNC controls is at the web site address below.

Thanks!

Richard
--

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

1652. vacuum variable tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: three@3rdplanet.com
Message-ID: <three-0610962300190001@ppp-dialup1.3rdplanet.com>
Source record: 102025

Saw article nervously asking about vacuum variables someone bought at flea-market.

Here, I have been very lucky in finding ones (like 2000pf @ 3kv and 500pf @15kv at that non-descript "junk store" in Sacramento, Ca. in 1987. Both for $75 and now in my 8877 amp.

Those kinds of deals still exist, but you really need to be careful to buy units that do not have the seals broken.

First indication of a good vacuum variable is the sight of perfect unoxidized copper surfaces inside the device. Sometimes its hard to see the insides, due to wear, etc on the outside of the unit. I've bought some that looked as if they had dark brown copper metal on the inside, only to find that it was some film on the glass making it look that way.

On the other hand, I have bought units that looked like perfect unoxidized copper on the inside, only to find that the unit glowed purple when installed in an amp.

>>>> The only way you can be sure is to buy either from some well known company, like Peter Dahl, or make yourself a simple high voltage AC source from an old TV flyback transformer, that you can operate off 6 D batteries in series, and take to the hamfests. It might look silly, but you'll have the last laugh when you get that incredible vac variable deal.

There have been alot of articles about HV sources from TV flyback transformers, but the simplest is to wind extra 10T and 1T windings on the bottom of one, and then hook the 10T one between collector of 2N3055 and 12VDC supply, while connecting the 1T winding between GND and 1.0uf polyprop cap to base of the 2N3055. A 1.0mh choke goes between junction of 1.0uF cap with base, to ground, and the emitter of 2N3055 is grounded.

With 12v applied, you should get 10-30kv or so. In fact, may need to put resistor in series with 2N3055 base, to limit HV!!.

You figure out how to put it into simple box for carrying around at hamfests, or suprising your friends when they grab that doorknob.... just kidding, will usually resonate arount 30-40khz, which is way above human electrocution frequency potential.

Good luck to you with some Tesla technology at your disposal!!! Rob.

1653. Re: CB Radio to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Ramon Gandia <rfg.at.nome.dot.net@no.spam.please>
Message-ID: <3258A774.2456@no.spam.please>
Source record: 102026

Gary Tait wrote:
>
> On Wed, 2 Oct 1996, Susan Driggers wrote:
>
> > I have heard that it is possible to convert a cb to 10 meter . Is this
> > possible and if so where can I get more information on this. Thanks.
>
> Yes it is possible. check through back issues of QST and 73 , to find some
> info.
>
> Depending on the rig ,it might be harder because some PLLs are designed
> for CB use only.

For the most part they do not make good ham 10 meter rigs. They
are channelized, so they do not have continuous coverage. Also,
they are mostly a.m. sets, although there are ssb ones out there.
Most of the ssb sets are not very good. The filters are broad as
there is no close by interference on CB...only the next channel
which is pretty far away. They have no provisions for CW. Their
power is low. They are "built to a price" and usually are not very
reliable.

Ramon AL7X ---> e-mail reply to: rfg.at.nome.dot.net

1654. Re: 6M amp using 4-1000A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Ramon Gandia <rfg.at.nome.dot.net@no.spam.please>
Message-ID: <3258AA94.2EC5@no.spam.please>
Source record: 102027

scott wrote:
>
> Anybody have a good design for using a 4-1000A tube on 6 Meters? I plan
> to drive it with 50 Watts from my Kenwood TS-690S. With the available
> drive, I guess it would be better to run grounded grid? If so, would it
> be possible to get around 800-1000 Watts out with this amount of drive?
> I've seen a design (common cathode) that drives the grid with 10 Watts
> and 1000 out or so. I'm leery of the design as I might forget to lower my
> output to 10 Watts and fry my 4-1000A. Worst case, I'd like something
> that could take the full 50 Watts of drive and give me anything above
> about 700 Watts out. Any good ideas?
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !

I've flown one of those!

Okay, with just 50 watts you do not want grounded grid, but actually drive your 4-1000 grid. This could be a very simple circuit.

On grounded grid you would need an input tuned circuit; you will not need this on grid driven with 50 watts to spare. You could do this:

Calculate if 50 watts across 50 ohms is enough voltage to drive the 4-1000. If it is, then put a 50 ohm dummy in the amplifier and hook your grid to it, via a capacitor so you don't short out the bias voltage, which has to be fed via a choke. Or, you could do it the other way, feed the bias to the grid via the 50 ohm resistor. Put a bypass capacitor from the bias supply end of the resistor to ground. The hot end (grid end), connect to the center conductor of your input coax connector with a capacitor to block DC. A good mica capacitor of 500 pf, or .001 mf will do. Check to make sure it does not get hot in operation, and check your input swr.

If your calculations indicate that you cannot develop the rf voltage at the grid, you will need to find out what resistance with 50 watts across it will work. Say it needs 200 ohms. Do all the above steps, except between the amplifier and the exciter you need a ferrite unun, or unbalanced to unbalanced rf transformer. These can be bought, or you can wind one up with a little toroid core. Instructions in the ARRL handbook and Antenna Book. Don't use a Balun. It must be Unun. Possibly the simplest is to wind several turns of wire on the toroid core, hot end to the capacitor feeding the grid, other end to ground. Tap the coax connector on the windings until you find the

magic spot of 1:1 swr. Test the swr at low power with the 4-1000 amp off.

The 4-1000A might be a bit marginal for efficiency at 50 mHz. Have you checked this? The resistive input circuit I described will give you very stable operation, but be sure your filaments are properly bypassed to ground for VHF, and so is the screen, or it will break into oscillation and commit Hara-Kiri before you can reach the big switch!

Ramon. AL7X, Nome, AK. ---> e mail replies to: rfg.at.nome.dot.net

1655. Re: JAN Crystals- don't blame me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Ramon Gandia <rfg.at.nome.dot.net@no.spam.please>
Message-ID: <3258AB9F.2D53@no.spam.please>
Source record: 102028

three@3rdplanet.com wrote:

>
> As a service to JAN Crystals, I am willing to take a compilation of
> responses in the newsgroup and fax them to JAN. Its only fair to them.
> We need as many domestic electronic manufacturers now-a-days as possible,
> and its not really in the spirit of ham radio (20m SSB excepted) to
> criticise them without a chance for a response, since they are not on the
> net.

Let me see if I have this straight. You are taking responses, sending
them to JAN so they can sue the underwear off the people that
made critical posts....

I have no experience with JAN crystals, but what you are doing is
not exactly fair to the folks that tried to help you out.

Ramon, AL7X [To foil SpamBots, my address is not machine readable.
Nome, Alaska [Send your e-mail replies to: rfg.at.nome.dot.net

1656. Looking for IC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: grandall@phase2net.com
Message-ID: <32581283.0@news.intercenter.net>
Source record: 102029

Hello and thanks for reading this msg.

I am looking for a MC4016 cound donw decade counter, I know
they are old, but I only require one.

Anyone knows where I can purchase one or has one please
let me know here or via email : grandall@phase2net.com

Thanks
Gary
KD4VRZ

1657. Re: surplu component source(s) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: dtmiller@dsmnet.com
Message-ID: <09960906115912.OUI70.dtmiller@dsmnet.com>
Source record: 102030

Hi Scott,

In article <3258265F.4E46@mwt.net>, From scott <acepilot@mwt.net>, the
following was written:
> Now that Dan's Small Parts is gone, anybody know of a source of parts
> like MFE131 (40673 MOSFET sub.), NP0 caps, small air variable caps,
> etc.? Sure is making homebrew QRP items tough these days. 73, N0EDV.

I was just about to place a parts order with Dan's (I've never ordered
from the place) and your message sorta woke me up.<g>

So, I called the phone number for Dan's Small Parts, and Dan (I think it
was) answered and was somewhat surprised that he was gone. He seems to
think he's still in business.

Where did you hear of Dan's demise?<BG>

--

-- Dean -- from Des Moines ---- Using: OUI TE 1.5 from http://www.dvorak.com

1658. Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: markn1wes@juno.COM
Message-ID: <19961006.173344.5095.0.markn1wes@juno.com>
Source record: 102031

I have heard of a band called LOWFER; as in low frequency. All I know is it is limited
power and limited antenna size. Not sure about much more. It is sort of an enigma.

1659. *NEW* Online Hamfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: ke7gh@primenet.COM
Message-ID: <01BBB3BE.06C5B900@ip162.phx.primenet.com>
Source record: 102032

Just added an "Online Hamfest" area to the web site.
Classifications, categories, etc will come as interest
develops...

Only a few ads there so far, but let me know and your ad
will be there also 100% *FREE* service.

Just email your For Sale/Wanted/Announcement etc ad to:
ke7gh@primenet.com

Check out the new ads at: http://www.primenet.com/~ke7gh
'Click' on 'Online Hamfest' in the BitBucket section...

Please help make this a success...

ke7gh@primenet.com >or< http://www.primenet.com/~ke7gh

1660. Re: Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <32572CE5.42A@fyi.net>
Source record: 102033
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Wish I knew wrote:
>
> In many of the HF amps for amateur radio there is a cw/ssb switch that
> changes the plate voltage from low on cw to high on ssb. I have read that
> this is to maintain efficiency at the different power inputs used. The
> high plate voltage makes sense, in that for a given power level a lower
> current would be required. To run at a lower voltage, thus requiring a
> higher current at a given power does not make sense. So, if you can run
> 1000W input with 2500V @ 400MA, what is the reason for lowering the
> voltage to 1700V and then having to push 588MA ? What is the criteria for
> selecting the lower voltage value?
>
> This is an equal opportunity question open to all that would like to share
> their answers, as I am a bit weak in the hi pwr linear amp design
> department.
>
> -gary
> gbostick@luna.cas.usf.eduIn the pre 1500W out days...effort was made so that you would
run 1000 in on cw and in order to run 2kw "PEP" and keep the
plate impedance/efficiency the same, plate voltage was switched.
I don't think you would tune for the 588ma, but some lower number
that would give the same plate load impedance. I think most
tubes like the higher volts.which makes the amp easier to
drive with lower grid current, ssb or cw... Leave the switch
in ssb for all modes.

1661. Re: Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-06 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <537345$djp@library.airnews.net>
Source record: 102034

gbostick@luna wrote:

>What is the criteria for selecting the lower voltage value?

First Part: Back in the bad old days we were allowed to run 1 KW input as measured on meters of 1/4 second time constant. Which meant that you could run as much input as you wanted as long as the meters didn't show more than 1 KW indicated. Unless you whistle a pure note, the average power in communications work is less than the peak power. Well, it all got interpreted by a host of folks to mean that, in general, you could run 2 KW input power on SSB and still keep within the power limits. Never worked that way--but that was the logic involved.

Second Part: The result of the above was that you wanted the amplifier tuned properly for two different input powers. If you use the same anode voltage and two different currents, you have (about) a 2:1 impedance shift. So, the easy way to keep the same tuning components in service at two different power levels was simply to change the anode voltage for 1 KW to 70% of the value for 2 KW. 70% voltage gives 70% current which is half power. (Tetrode amplifiers also had to switch the screen voltage.) Hence, the CW tap on the power transformer.

Third Part: People don't usually find a 3 db difference to be critical. Most times, in fact, folks could operate at lower input (and output) power to keep within the rules requiring the minimum power necessary to communicate. (A value I've always found to be about 10 KW. That's a joke, folks!)

Fourth Part: Some amplifiers weren't amenable to operating on SSB in the CW position. Unless the bias for both anode voltages was correct, you could have significantly higher IMD when operating at the lower voltage. In fact, most some--but certainly not all--amplifiers had too much bias for proper SSB operation at the CW voltage tap. The Collins 30S-1 actually changed the bias in the CW position to above cutoff (Class B-C region) to improve the PA efficiency.

1662. Nichrome wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: FCVP32A@prodigy.com
Message-ID: <539n3i$1nrs@usenetw1.news.prodigy.com>
Source record: 101944

I am rebuilding a very small high heat oven. Does anyone know where I
can get Nichrome wire to complete the job?

Joe Schwob
KB8TV

1663. Re: Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <325c60d6.11428327@eskinews.eskimo.com>
Source record: 101945
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Robert Morris <robrk@fyi.net> wrote:

>Wish I knew wrote:
>>
>> In many of the HF amps for amateur radio there is a cw/ssb switch that
>> changes the plate voltage from low on cw to high on ssb. I have read that
>> this is to maintain efficiency at the different power inputs used. The
>> high plate voltage makes sense, in that for a given power level a lower
>> current would be required. To run at a lower voltage, thus requiring a
>> higher current at a given power does not make sense. So, if you can run
>> 1000W input with 2500V @ 400MA, what is the reason for lowering the
>> voltage to 1700V and then having to push 588MA ? What is the criteria for
>> selecting the lower voltage value?
>>
>> This is an equal opportunity question open to all that would like to share
>> their answers, as I am a bit weak in the hi pwr linear amp design
>> department.
>>
>> -gary
>> gbostick@luna.cas.usf.eduIn the pre 1500W out days...effort was made so that you would
>run 1000 in on cw and in order to run 2kw "PEP" and keep the
>plate impedance/efficiency the same, plate voltage was switched.
>I don't think you would tune for the 588ma, but some lower number
>that would give the same plate load impedance. I think most
>tubes like the higher volts.which makes the amp easier to
>drive with lower grid current, ssb or cw... Leave the switch
>in ssb for all modes.

Efficiency is part of the reason, but linearity is another part. In my
AL-1200, the plate idling current is 75 ma in the SSB mode, but only 25 ma in
CW. When driven to the same output, the CW mode is more efficient, but the
SSB mode is more linear. Personally, I leave it in the SSB mode all the time
because linearity is good for CW too... it reduces the tendency to generate
key clicks.

73, Bill W7LZP
wrt@eskimo.com

1664. www.hamradio-online.com - new features all the time

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <539ruv$6hb@kanga.accessone.com>
Source record: 101946
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

If you have not visited Ham Radio Online in a while, stop on by. We keep adding new features and new stories all the time. We've just added a new ham radio photo gallery, made updates to the humor and newsletter sections and updated the library. Plus of course, new stories are added all the time. We've got many new stories in preparation, some mini-product reviews, and some ideas for new features you won't find anywhere else on the Net. We've even been sketching some ideas for a hilarious cartoon strip about ham radio and techie topics (but it will probably be a while before we have time to get this feature added!).

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Ed (KF7VY) and Kim (N7VPL) Mitchell
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1665. Re: Nichrome wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <53aduo$4ij@nadine.teleport.com>
Source record: 101947

In article <539n3i$1nrs@usenetw1.news.prodigy.com>,
FCVP32A@prodigy.com (Joe Schwob) wrote:
>I am rebuilding a very small high heat oven. Does anyone know where I
>can get Nichrome wire to complete the job?
>
>Joe Schwob
>KB8TV
>
Try your local appliance dealer. He'll have replacement elements for electric dryers, and probably other appliances that get hot. They're relatively inexpensive. Or you could buy old or broken appliances (hair dryers, popcorn poppers, irons, whatever) at the Goodwill store or garage sales.

Roy Lewallen, W7EL

1666. Re: Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <53agfu$nbd@newsbf02.news.aol.com>
Source record: 101948

In article <536gk8$o4j@news.usf.edu>, gbostick@luna (Wish I knew) writes:

>In many of the HF amps for amateur radio there is a cw/ssb switch that
>changes the plate voltage from low on cw to high on ssb. I have read that

>this is to maintain efficiency at the different power inputs used. The
>high plate voltage makes sense, in that for a given power level a lower
>current would be required. To run at a lower voltage, thus requiring a
>higher current at a given power does not make sense. So, if you can run
>1000W input with 2500V @ 400MA, what is the reason for lowering the
>voltage to 1700V and then having to push 588MA ? What is the criteria
for
>selecting the lower voltage value?
>
>This is an equal opportunity question open to all that would like to
share
>their answers, as I am a bit weak in the hi pwr linear amp design
>department.
>
>-gary

Hi Gary,

The reason for the high/low voltage was in the early days a PA could only run 1kW dc plate INPUT on key down carrier CW (about 500-700 watts out with normal PA's) , and 1 kW maximum indicated dc plate power input at modulation crests on SSB (at least 2 kW PEP plate INPUT power on SSB, and about 1200 watts or so PEP output).

If the high voltage was increased the correct amount for SSB the following would happen:

1.) The user could tune the PA on CW, and flip the switch to SSB without breaking the law by tuning at much higher power on carrier.

2.) The highest crest the PA meters would reach on SSB would be 1 kW on SSB and CW, both legal.

3.) The tube output impedance (and hence the tank control settings) would remain the same because the ratio of RF anode voltage to RMS anode current would remain the same.

This feature was slowly phased out of most amplifiers when the FCC changed the power rules.

By the way, this is why so many people "blow up" SB-220's. The SB-220 was designed to operate at 500-600 watts CW output, while dissipating about

400-500 watts in the tubes. The same with the L4B Drake.

It is also why most of the tuners sold today have exaggerated power ratings. They were rated to match the power amplifiers years ago, when a 2 kW PA would really only run 500 or 600 watts output. Most 2 kW antenna tuners really only handle 500-600 watts of CW carrier.

73 Tom

1667. Re: CFS & CFJ Murata ceramic filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: Clough@javiaton.demon.co.uk
Message-ID: <844685989snz@javiaton.demon.co.uk>
Source record: 101949
Cross-posted to: alt.radio.scanner.uk,alt.radio.scanner,rec.radio.scanner,rec.radio.shortwave,sci.electronics.repair,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <3256e419.3197544@newnews.dial.pipex.com> hi80@pipex.dial.com writes:

Joe,

> Does anyone know of a supplier of the full range of CFS or CFJ Murata
> filters, preferably in the UK? I know Cirkit sell them, but their
> range is limited; the narrowest one they sell is 1 khz, while I am
> looking for 300hz or 500hz. I would also like to find a supplier of

Murata in the UK are in Fleet. Phone number is 01252 811666 but unless you
want to open an account with a turnover of several K you won't get
very far :-(

There are several distributors who you could try. Eurodis/HB Electronics
(01204 555000) being one in Bolton although Murata should be able to point to more local
ones (if your not in the NW !)

If you know the specific filter you are after Murata should be able to
tell you which distributors have or have had that particular item. If Murata
or a distributor have no stock you will probably be stuck with minimum order
via a distributor for a few hundred pieces.

> Collins mechanical filters and Hy Q or similar crystal filters.
> Again, I know these are sold by manufacturers such as AOR or Kiwa, but
> they seem to rather more expensive than they should be, as they are
> sold as spares or accessories for their products.

Even if you do find distributors with stock they may well be rather more
commercial that you wish and have minimun order value or qty in which case
getting the single units from AOR and the like can be your best bet.

Good luck with your projects.

--
Cheers,
/--\
Jonathan Clough	HF/VHF/UHF Receivers & Scanners
Javiation,	from all the leading manufacturers
Bradford, UK	Full coverage, "unblocked" scanners Including
Tel: +44 (0)1274 732146	PRO-26/43, UBC-3000XLT, AR5000/7030/8000, WS-1000
Fax: +44 (0)1274 722627	http://www.demon.co.uk/javiation/
Compu$$erve: 100117,53 \---
Internet : Clough@javiaton.demon.co.uk (PGP Key available on request)
\--/

1668. Re: JAN Crystals- don't blame me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: three@3rdplanet.com
Message-ID: <three-0710960556410001@ppp-dialup10.3rdplanet.com>
Source record: 101950

In article <3258AB9F.2D53@no.spam.please>,
rfg.at.nome.dot.net@no.spam.please wrote:

>
>Let me see if I have this straight. You are taking responses, sending
>them to JAN so they can sue the underwear off the people that
>made critical posts....
>

Actually, found that Drake still sells 160M, 10M, and WARC crystals for R4/T4 series for $15/pc. I also understand that they do not have any crystals for ranges outside the ham bands.

Like I said a month ago, sorry to ever bring up the subject of JAN on this group. I was hoping to be the "good guy" after seeing several posts very critical of JAN, and thought I'd get lots of positive posts if I asked for others' opinions who ordered from them.

Then I could send in my order and add my "positive" two cents on this group in response to the nay-sayers.... ...and everyone would live happily-ever-after... ...and the new sunspot cycle would miraculously start next week, peaking on the CQWW weekends at an averaged number of 160... ... with geomagnetic fields quiet.... and the FCC announcing that all HF bands will be expanded by 100khz... with the code requirement being abolished and the 30byte/min ASCII copying requirement being added in response to need for ops copying the new digital modes in times of emergency per new FEMA guidelines...

in la la land, 73

1669. Re: *********Homebrew Tube Amp*********

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: Robert Ganter <ganter@ens.ascom.ch>
Message-ID: <3258DB9D.264B@ens.ascom.ch>
Source record: 101951

JSmith5435 wrote:
>
> Does anyone have schematics and assembly procedures for a tube linear
> amplifier for the 10 to 60 meter bands? If so Please email me. I'm looking
> for a project that's easy to understand and build for an 18 year old with
> minimal technical knowledge.

Puuh! I am working on two linears for 2m and 70cm at the moment. My advice: keep Your hands off a tube PA as long as You don't have enough experience with electronics. All tube amplifiers use very high voltages (1000V to over 3500V), which is ABSOLUTELY LETHAL. Try to start with a low power transistor PA to get an idea. The Motorola RF databooks have very interesting application notes about that (most from Helge O. Granberg, K7ES).

If You definitely want to build a tube PA: the ARRL handbook has some designs. Older ones have a design using TV deflection tubes. Advantage: 'low' Plate voltage (800V), cheap (but nowadays hard to find tubes).

Try to get advice from tube specialists. I am in luck here and I can tell You, that I would have made everything smoking, if I hadn't have my plans revised by some very experienced radio amateurs.

Hope this helps

Regards

Robert HB9NBY

1670. Re: Car battery (13.8) to 12.0V DC regulaotor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <53b8dd$f6d@dfw-ixnews3.ix.netcom.com>
Source record: 101952

In <DywF8F.94K@pe1chl.ampr.org> rob@pe1chl.ampr.org (Rob Janssen)
writes:
>
>In <5332e8$p2k@sf18.dseg.ti.com> kc5ng@dlep1.itg.ti.com (Mustang
Maniac) writes:
>
>>I'm curious... why do you need exactly 12.0 Volts?
>
>>What you're asking for will be mighty difficult to do properly.
Regulators
>>require an input of at least a couple of Volts higher than the
desired out-
>>put to maintain regulation. A car battery will not provide this
unless you
>>are charging it at the same time with a higher voltage. A
fully-charged car
>>battery will be around 14 Volts, and it discharges to less than that,
so the
>>regulator will not be able to maintain regulation.
>
>Special "low drop" versions of the regulators exist that don't have
>this problem. For example the "48xx" series with similar type numbers
>as the standard "78xx" series regulators.
>
>Rob
>--

Are we making this a bit complex? If the load is consistant .ie a
specific application wouldn't a simple crowbar regulator
with a 12 volt zener diode work?

Sparky KI5GY

1671. Re: Car battery (13.8) to 12.0V DC regulaotor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <32592A77.45CE@staffnet.com>
Source record: 101953

Rob Janssen wrote:
>
> In <5332e8$p2k@sf18.dseg.ti.com> kc5ng@dlep1.itg.ti.com (Mustang Maniac) writes:
>
> >I'm curious... why do you need exactly 12.0 Volts?
>
> >What you're asking for will be mighty difficult to do properly. Regulators
> >require an input of at least a couple of Volts higher than the desired out-
> >put to maintain regulation. A car battery will not provide this unless you
> >are charging it at the same time with a higher voltage. A fully-charged car
> >battery will be around 14 Volts, and it discharges to less than that, so the
> >regulator will not be able to maintain regulation.
>
> Special "low drop" versions of the regulators exist that don't have
> this problem. For example the "48xx" series with similar type numbers
> as the standard "78xx" series regulators.
>
> Rob
> --
> +-----------------------------------+--------------------------------------+
> | Rob Janssen pe1chl@amsat.org | WWW: http://www.knoware.nl/users/rob |
> | AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
> +-----------------------------------+--------------------------------------+

13.8 to 12V yes. Battery will eventually drop to 12V (or less) after
charging stops - then you need a zero drop regulator.

The only possibility is and "inverter" type circuit that would increase
the 12 volts to something higher and then regulate it back down to 12
volts again.

1672. Re: *********Homebrew Tube Amp*********

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDywywL.7u5@netcom.com>
Source record: 101954

In article <3258DB9D.264B@ens.ascom.ch> Robert Ganter <ganter@ens.ascom.ch> writes:
>JSmith5435 wrote:
>>
>> Does anyone have schematics and assembly procedures for a tube linear
>> amplifier for the 10 to 60 meter bands? If so Please email me. I'm looking
>> for a project that's easy to understand and build for an 18 year old with
>> minimal technical knowledge.
>
>If You definitely want to build a tube PA: the ARRL handbook has some
>designs. Older ones have a design using TV deflection tubes. Advantage:
>'low' Plate voltage (800V), cheap (but nowadays hard to find tubes).

If you want to take the TV deflection tube approach, just consider "weird"
filament voltages. Tube types 23LQ6, 31LQ6, etc., are still readily
available at a good price (typically USD 4-10 each) from commercial
sources (such as antique electronic supply)...

73 Dave WB0GAZ dgf@netcom.com

1673. Re: Antenna Coax Routing Ideas Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3259251d.265653701@news.santafe.edu>
Source record: 101955

Don Huff <donh@vcd.hp.com> wrote:

>
> The easiest/best method I have found is the most direct one. Select a spot in the outside
>shack wall, and bore a hole through to the outside. Stay away from obvious areas of
conflict

snip..

> 73 and GL,
> Don, W6JL

I have found a useful extension of this idea if you tinker with/add
antennas. I made a 2" diameter hole and put a section of PVC pipe in
it. On the outside I use a 90 degree elbow pointed downward to keep
rain out and force a drip loop. If rodents are a problem you can stuff
something removable in to seal the hole. For coax a metal pipe works
too. And, if you ground it might help keep lighning out of the shack.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

1674. Re: im lookin to build a 0-12v regulated power supply ,,,need schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <53b9mn$bcp@newsgate.sps.mot.com>
Source record: 101956

Use an LM317 or similar adjustable voltage regulator on any transformer
with a rectified no-load output less than 35 volts.

You can find the schematic for this everywhere.

There are also some higher current versions of the LM317 available
if 1.5 amps isn't enough.

N6OTQ

1675. Re: vacuum variable tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961007105633.23081C-100000@spork.callamer.com>
Source record: 101957

When trying to determine if a vacuum variable capacitor is good, do not forget the obvious---it should have vacuum! After determining that the copper inside has not tarnished, unscrew the leadscrew that activates the internal assembly through the bellows. Insert the leadscrew in place and attempt to pull apart the plates. When pressure is released, the activator should return all the way with considerable pressure. If not the capacitor is an ordinary one, not vacuum! Cliff Buttschardt K7RR

1676. Re: im lookin to build a 0-12v regulated power supply ,,,need schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <32594D86.326@hevanet.com>
Source record: 101958

Jim wrote:
>
> Use an LM317 or similar adjustable voltage regulator on any transformer
> with a rectified no-load output less than 35 volts.
>
> You can find the schematic for this everywhere.
>
> There are also some higher current versions of the LM317 available
> if 1.5 amps isn't enough.
>
> N6OTQOne of the problems is that a 317 won't go to 0 volts without a lot
of help. Power dissipation is a big problem at any reasonable current.
miker

1677. Re: im lookin to build a 0-12v regulated power supply ,,,need schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <53brpa$ir@abyss.West.Sun.COM>
Source record: 101959

In article <32594D86.326@hevanet.com>,
miker in Tigard, OR. <mreiney@hevanet.com> wrote:
>Jim wrote:
>>
>> Use an LM317 or similar adjustable voltage regulator on any transformer
>> with a rectified no-load output less than 35 volts.
>>
>> You can find the schematic for this everywhere.
>>
>> There are also some higher current versions of the LM317 available
>> if 1.5 amps isn't enough.
>>
>> N6OTQOne of the problems is that a 317 won't go to 0 volts without a lot
>of help. Power dissipation is a big problem at any reasonable current.
>miker

One way to build a power supply that combines the good transient
response and low noise of a linear regulator with the high efficiency
of a switching supply is to use a switching supply to regulate the
raw power supply down to about one or two volts higher than the
desired output voltage, then use a linear regulator at the desired
output voltage.

Though I haven't tried it, it shouldn't be too hard to make the
switcher track the linear supply, so you'd only need one voltage
adjustment.

Using a PNP pass element would allow a very small differential
on the linear supply (under 1V).

This isn't that hard of a project, though it isn't a single-chip
one-evening job.

Have a look at the Texas Instruments Linear Databook for some
excellent material on designing power supplies.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

1678. Re: TWT Bandwidth

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: "K.R.Burtchaell" <kburt@telis.org>
Message-ID: <53aqa8$j1o@mentor.telis.org>
Source record: 101960

There are TWTs specified for 12-18Ghz that will work quite well at 10Ghz.
If you can't get info for a specific about a tube,you would probably have
to try it to know. 73 Ken W6GHV

1679. Re: Your opinions are not your own anymore

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: markn1wes@juno.COM
Message-ID: <19961007.102234.5103.0.markn1wes@juno.com>
Source record: 101961

>
>three@3rdplanet.com wrote:
>
>>
>> As a service to JAN Crystals, I am willing to take a compilation of
>> responses in the newsgroup and fax them to JAN. Its only fair to
>them.
>> We need as many domestic electronic manufacturers now-a-days as
>possible,
>> and its not really in the spirit of ham radio (20m SSB excepted) to
>> criticize them without a chance for a response, since they are not
>on the
>> net.
>

You have got to be kidding me. Several people voice their opinions and
personal
experiences with a particular company and you want to notify that
company of each
and every one who has done so.

Try this hypothetical. I go to club meeting and ask about a particular
brand radio. Then I write down the calls of every HAM with a negative
opinion and when I get home I run each call through a CD ROM database and
then send a list of names and home
addresses to that manufacturer. How does that sound. I think it sounds
fascist.

I just wonder how many honest responses will come back to the newgroup if
this
practice continues. DON'T KILL THE NEWSGROUPS! BE RESPONSIBLE!

1680. Re: CB Radio to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: bruce muscolino <w6toy@erols.com>
Message-ID: <53c2jp$nbd@boursy.news.erols.com>
Source record: 101962

Converting CBs to 10 meters was a popular pastime back in the late 70s and early 80s. There were a number of articles on the topic in 73 magazine during that period. Check with your local library.

The most common conversions used the "crystal synthesized" rigs. In these rigs a set of 6 crystals is mixed with another set of crystals to generate the various CB channels. By changing one or both sets of crystals a series of "channels" could be created in the 10 meter band. I don't think there was ever a standard set of "channels", however I doubt this would be much of a problem if 10 was open.

73,
Bruce

1681. Re: S&S TAC-1 QRP Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: bruce muscolino <w6toy@erols.com>
Message-ID: <53c36k$nbd@boursy.news.erols.com>
Source record: 101963

I built the S&S TAC-1 40 meter kit and wrote up the experience for Worldradio. It was published in July 1996. I'd suggest you try to find a copy.

In general the TAC-1 is a very high quality radio. All components are full commercial spec and the quality rivals mil-spec in many respects. It is not a difficult kit to build, even if you have little or no experience, if you go slowly enough. My advice to prospective builders was to follow the carpenter;s rule: Measure twice and cut once! The most uncompromising part of this kit is the use of multi-layer boards with plated through holes. They are a joy to solder, but woe unto you if you stick the wrong part in the wrong hole. They are an absolute &%$)*@@ to unsolder.

Follow the instructions. Chack and double check the part before soldering. Go slowly. NEVER believe you have a better way than S&S to do something.

I use mine frequently. I like it very much -- it's a keeper. I even popped for the accessory keyer!

I know Dick and Kathy peronally. It would be hard to find a more dedicated pair. They are honest, willing to help, and a joy to work with.

73 and good luck,

Bruce -- W6TOY/3
Still QRP, Really! (c)

1682. Wanted Coaxial relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: g6der@aol.com
Message-ID: <53c550$a8a@newsbf02.news.aol.com>
Source record: 101964

I need a couple of relays with sma conectors that are good to 10Ghz.
Anyone know of a supply of surlpus units please?
Email to G6DER@aol.com Thanks Keith.

1683. Looking for MuRata 455J1 filter.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <53c1d4INNebl@sepia.wv.tek.com>
Source record: 101965

I'm trying to locate a source for the MuRata 455J1 filter
used for the Epiphyte-2 SSB QRP radio. Apparently this isn't
actively marketed in the US (thats what I've heard).
I need 3 or 4 for a few friends that are also interested
in building up these cute little rigs featured in QRPp.

I've decided that perhaps life isn't too short for QRP ;^)
Any ideas? anyone else have luck finding them?
I'm not oposed to ordering from a source in Europe if
necessary, although finding them in the US would be a plus.

Thanks greatly,
Ed Burress
KC7GFX

1684. Re: surplu component source(s) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: "Eric R. Howell" <erhowell@avana.net>
Message-ID: <3259C7EA.332@avana.net>
Source record: 101966

scott wrote:
>
> Now that Dan's Small Parts is gone, anybody know of a source of parts
> like MFE131 (40673 MOSFET sub.), NP0 caps, small air variable caps, etc.?
> Sure is making homebrew QRP items tough these days. 73, N0EDV.
>
> --
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !

Give Allen a call. He has all kinds of pieces-parts. His web site is;

http://www.aaow.com/mgs/

73's
Eric

1685. Any QRP trancievers for 2 meters or 440 mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: JA Glasscock <glass@televar.com>
Message-ID: <01bbb4d7.209aba00$048a08d0@glasscock>
Source record: 101967
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Are There any QRP(Low-Power) Transeivers for the 2 meter, or 70 cm(420-450 mhz) bands? I would like one that is CW only. Thank you.

Vance Glasscock
KC7QHH

1686. 201-A grid leak resistors, Crosley "Pup" & other impertinences

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: nyoung@desire.wright.edu
Message-ID: <1996Oct7.212001@desire.wright.edu>
Source record: 101968

Ok, so now I understand how the grid leak leaks and how the resistors resist, but I still don't understand this old radio. Youze may remember that I'd picked up a home-brew one-tuber at a local antique fleas market. It had an 201-A in it... and the tube even still has a filament. But it had been rewired a couple times (I figure) and someone had stuck a 1/4" phone jack in the front panel.

So here's the deal(s): What is the composition of Ebonite? I figure that the front panel is Ebonite, but it's kinda like been bleached or something. It's now kinda brownish/tan color, but under the knobs and on the inside of the box it's black. So I figure that it's Ebonite. Seems fairly heat resistant. (I'd replace it with tempered Masonite, but for I wanna have evidence when I croak that I did not destroy a family hairloom to fix it up.)

2. I had to desolder the grid leak C&R pair from one of the capacitors and put it back on the board what the radio was built on. Only one problem: the resistor measures about 2.5 k instead of 2 M Ohms. It's one of them old-fashioned thangs with a green body, a dot of brown in the middle and a dot of black on one end. (And yes, I do have old books to see what it was s'possed to be.) SO... if the tube is a 201-A (like it says on the base), am I asking too much that the grid leak resistor be 2 Megohms? I can't figure that a garden variety triode like the 01-A or a 45 (I think it is) had such a grid cut-off point that it'd use a 2.5 kOhm as a grid leak. Any hints?

3. The panel has two variable caps and two sets of switch points for taps on the coil. I hooked the beast up with antenna straight to one set of taps (the ones closest together) and rigged the two caps like in the MRL #2 crystal set. That meant that the other set of taps (more widely spaced) let me tune the 500-1600 kHz range and hear pretty much like a crystal set (with a 1N270 diode instead of the tube...I ain't that far along yet). Seems to work. I'm now having to consider finding a vintage RFC and plate RF by-pass capacitor, among other follies, in order to at least get close to what this beast might have been. SOmeone suggested the Crosley "Pup." Anyone wanna front me a copy of a schemo for one of them puppies?

4. All suggestions to take this to rec.radio.antique.old.geezer. brainless.pioneer.wacko have been followed. That's why I'm back here: t' pester yew young pups lack yer parints shoulda

in da first place if they hadn't kept me from my tapioca. SO
there!

73
Nils
WB8IJN &c
(I just found out that the Hallicrafters S38E that I had as
a kid is now considered a "vintage" radio! Damn, I ain't that old!)

1687. Re: vacuum variable tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: three@3rdplanet.com
Message-ID: <three-07109621534700001@ppp-dialup25.3rdplanet.com>
Source record: 101969

In article <Pine.GSO.3.95.961007105633.23081C-100000@spork.callamer.com>,
Clifford Buttschardt <cbuttsch@slonet.org> wrote:

>When trying to determine if a vacuum variable capacitor is good, do not
>forget the obvious---it should have vacuum! After determining that the
>copper inside has not tarnished, unscrew the leadscrew that activates the
>internal assembly through the bellows. Insert the leadscrew in place and
>attempt to pull apart the plates. When pressure is released, the
>activator should return all the way with considerable pressure. If not
>the capacitor is an ordinary one, not vacuum! Cliff Buttschardt K7RR

Is very good point. However, levels of air contamination that cause
problems are so small that devices may carry a vacuum for years and still
not function as a capacitor- more like an OA2 tube. HeNe laser tubes
suffer from the same problems, but sometimes if you're lucky, gas is
absorbed after bias applied over a few weeks or so. Doesn't seem very DX
friendly, though, if you have to wait a few weeks to transmit for that
elusive QSL.

1688. Re: NRD 535 crystal filters wanted /to exchange

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: SHAWN AXELROD <saxelrod@mb.sympatico.ca>
Message-ID: <3259CF30.3A01@mb.sympatico.ca>
Source record: 101970
Cross-posted to: alt.radio.scanner.uk,rec.radio.shortwave,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.amateur.equipment

hi80@pipex.dial.com wrote:
>
> I intend to replace some of the filters in my NRD535, so if anyone has
> the replacement Crystal filters for the 535 at a good price, I may be
> interested. I also have a 1.8khz filter for the NRD that I would like
> to exchange for for the 300hz, 500hz or possibly the 1000hz, so if you
> have these, but are mainly interested in SSB, please contact by email
>
> Also wanted, the Bandwidth Control Board for the NRD535.
> I am in the UK.
>
> Regards,
>
> Joe Kirlew

The best places I know of this side of the pond are at Gilfer radio and
the Best of the Best is from KIWA electronics. Kiwa is at

www.wolfw.net/~kiwa

73 from the colonies?!?! Shawn

1689. PARTS???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <53cd7k$sc8@news1.mnsinc.com>
Source record: 101971

Say guys - doesn't anyone ever buy and sell parts through this Usenet group?

It would seem like a natural!

I am looking for variable capacitors in the 50 pF or 150 pF range.
Maybe could use a 200 or a 350 pF also.

I need FT-243 crystals for the 80 meter and 40 meter CW bands too.

Bry, AF4K

1690. WTB 7L12 Plug In

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-07 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <53l7q7$a4s@buffnet2.buffnet.net>
Source record: 101972
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.antenna

Hi,

Anybody know of any reasonably priced 7L12 Tek plug ins for sale??

Reply to daveb@buffnet.net

Thanks !!

1691. FAX SSTV RTTY WEFAX with SoundBlaster: OK!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: "Brian E. Cauchi" <briane@dream.vol.net.mt>
Message-ID: <01bbb553$986b4320$0923a6c2@gateway>
Source record: 101885
Cross-posted to: alt.ham-radio.digital-voice,es.rec.radio.amateur,fido7.hamradio,rec.radio.amateur,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,su.org.ham

Hello.
I've just updated my FTV program, which does FAX & SSTV using a SoundCard, to decode Baudot using the same (FM) demodulation engine.

Here is a run down of the more interesting features:

(1) It keeps the demodulated signal in memory, so that the signal can be analysed again at a different keying rate or polarity! Garbage can be resampled on the fly, which means that minutes of received signals decoded at the wrong baud rate or keying polarity are recovered, on the fly, while still receiving.

(2) Keying rate and polarity are analysed automatically - standard baud rates are automatically set following analysis.

(3) Tuning oscilloscope available at all times, without loss of copy.

(4) Program works in real time.

(5) I wrote it, and I love it - I myself can't believe it works so well!

Download your copy of FTV from my web site, at:
http://www.geocities.com/SiliconValley/2504

System requirements, and the standard features of FTV are described in the following page:
http://www.geocities.com/SiliconValley/2504/ftv.htm

By the way, AM signals from low orbiting weather satellites are also decoded - no extra interfaces needed. Demodulation mode is user selectable in software.

Hope you all have a load of fun receiving 'words and pictures' - I hope to get some feedback !

All the best from Brian, 9H1JS, on the Island of Malta.

1692. Re: Heil Mic on Icom ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DyyrrE.CLq@encore.com>
Source record: 101886

Hello Pedro,

l38217@alfa.ist.utl.pt (Pedro Pedroso) writes:

> Hello to all !
> I'm planning to buy an Heil HC-4 for contest operation, but I've
> been told that the HC-4 cannot be conected directly to an Icom
> transceiver because it needs a capacity to adapt.
> Since I own an IC-725, I would like to know the value of the
> capacitor and if it is connected in paralell or series.
> 73 + Good DX + Good Contest !

Hello Pedro,
I use an HC-4 element with an IC735. A .047 or .1uf capacitor
should go in series with the microphone element to isolate it from the
8 volt DC supply voltage that is fed through the mike line. This is
the purpose of the capacitor. As long as it is large enough to pass
audio frequencies, all is well. If it is too small a value it will
attenuate low frequencies (which the HC4 already does, so this would be
too much).
Will be searching for you 26th-28th, or if we get our amplifier
working maybe you'll find us first!

Regards,
Pete
KS4XG (W4ATC during CQWW)

1693. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <325AC14A.2DA0@erols.com>
Source record: 101887

SteveBragg wrote:
>
> Does anybody do homebrew amateur radar? I know there's got to be a FEW of
> us out there...
> Reply if you're a "radar hack" like me. Here are some things I'm
> interested in:
>
> 3.5, 5.7, 24 GHz amateur bands
> Pulse radar
> Rocket tracking
> Monopulse and sequential lobing techniques
> Using used radar equipment
> New developments in DSP for IF processing.
>

Tony, N3JLI, and I were discussing topics such as this. I own a pair of MA/COM Gunnplexers. I was thinking of using them in some kind of chirp radar arrangement. Tony lives near Baltimore, I live near Washington. If you're anywhere near this area, we'd be interested in corresponding with you. We are well equipped to try building something, should curiousity get the better of us.

73,

Jake Brodsky, mailto:frussle@erols.com
PP-ASEL IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

1694. Re: TWT Bandwidth

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Wes Atchison <wes@iphase.com>
Message-ID: <325A8967.5F8@iphase.com>
Source record: 101888

J.Manuel Rivas Rodriguez wrote:
>
> Has anybody tried to use an TWT amplifier for 12 to 18 GHz in 10368 MHz.
> I supose that 12 to 18 Ghz is the bandwidth specified for the
> manufacturer for full specifications. I want to use one for 10 GHz. EME
> and I have the oportunity to buy one.
> Any previus experience.
>
> Thanks EA1BLA.
In my experience TWT's are very braod band. I use a 6GHz tube
at 2GHZ, 3GHz, and 10 Ghz. I get 8 watts, 10 watts and 10 watts
respectively, out of the 18 watt 6ghz tube. This tube has N type
connectors.

Waveguide RF connections tend to limit the band width. But the tubes
I have seen have waveguide that has a lower limit at 10GHz which menans
that they still work at 10386 Ghz. The seem to work quite well. If you
can try it out it would be best.

73's

Wes
WA5TKU

1695. Help on diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Teun <pa3fvw@euronet.nl>
Message-ID: <325ABED2.6E75@euronet.nl>
Source record: 101889

Hi everybody,

I am looking for the equivalent type diode >>RLS 135<< in kenwood
ts 850 BAND PASS circuit.

Who can help me out.
73 Teun, Pa3fvw.

1696. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Madjid VE2GMI <mboukri@CAM.ORG>
Message-ID: <325AD342.209A@CAM.ORG>
Source record: 101890

Try
http://members.aol.com/lwcanews/index.html

Madjid VE2GMI

1697. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961008170940.532E-100000@spork.callamer.com>
Source record: 101891

Good gravy AF4K, your negative and wrong! The LOWFER band covers 160 to 190 Kilohertz. The Europeans have 73 KHz on a case by case basis. On our 1750 meter band here in the US we communciate hundreds of miles each and every day with homebuilt equipment and of course respecting the limitations of these frequencies. The record extends over 1000 miles. Do check out http://www.users.aol.com/lwcanews/ before making such claims!!
Cliff Buttschardt K7RR ex W6HDO
On Tue, 8 Oct 1996, AF4K wrote:

> markn1wes@juno.COM (Mark K Flanagan) whistled a happy tune like:
>
> |>I have heard of a band called LOWFER; as in low frequency. All I know is
> |>it is limited
> |>power and limited antenna size. Not sure about much more. It is sort of
> |>an enigma.
>
> Not really!
> In the US it is on 190 kHz
> In England it is 73 kHz
>
> Signals generally travel a distance of about 50 feet then disappear!
>
> But if you have nothing else to do, why not!
>
>
>
>
>

1698. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Allen Wallace <allen_wallace@powertalk.dtint.com>
Message-ID: <325aa4f3.0@itchy.itsnet.com>
Source record: 101973

In article <536pvq$dro@newsbf02.news.aol.com> SteveBragg,
stevebragg@aol.com writes:
>Does anybody do homebrew amateur radar? I know there's got to be a FEW of
>us out there...
>Reply if you're a "radar hack" like me.

I'm intrested in this! I want to make a remote DF for 121.5 Mhz ELTs,
using no moving parts, using monopulse DF. I also dabble in lots of
microwave misc. I'd love to bounce several of my ideas off of a group of
hams like you!

Allen Wallace

1699. Software for Radio / DJ's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: Robert Morton <76524.1450@compuserve.com>
Message-ID: <01bbb4ac$eef181c0$20c989cc@cyberg8t.cyberg8t>
Source record: 101974
Cross-posted to: pl.rec.radio,pt.rec.radio.amadorismo,rec.ham-radio,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.broa

PRESS RELEASE

Visit http://www.gosupersonic.com to download a fully functional trial
version of SuperSonic.
SuperSonic v2.01 is a very poweful and very inexpensive alternative to
expensive radio
hardware. It can be used to create attended and fully unattended complex
audio feeds.
Beta tested on Eagle Radio Networks, SuperSonic is a powerful tool for
radio broadcasters, internet audio broadcasters, and amateur/pro disc
jockeys.

Morton Software
http://www.gosupersonic.com

1700. PCB designer's for Hire!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <53ck1d$hrv@newsbf02.news.aol.com>
Source record: 101975

Computer generated PC board layout and routing by degreed engineers, from schematic or netlist. Will provide Gerber files or artwork. Copper pour capability. FAST/CHEAP. Circuit design support available. Contact KHN96@aol.com or Pdrunen@aol.com for details.

1701. Heil Mic on Icom ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: l38217@alfa.ist.utl.pt
Message-ID: <53dfeu$a3s@ci.ist.utl.pt>
Source record: 101976

Hello to all !
I'm planning to buy an Heil HC-4 for contest operation, but I've
been told that the HC-4 cannot be conected directly to an Icom
transceiver because it needs a capacity to adapt.
Since I own an IC-725, I would like to know the value of the
capacitor and if it is connected in paralell or series.

73 + Good DX + Good Contest !

--

Pedro Pedroso	
l38217@alfa.ist.utl.pt	CT1ELP
Eng. Electrotecnica e Computadores	Founder member of GPDX
(Telecomunicacoes e electronica)	

| Address: P.O.Box 116 , 2806 Almada Codex , PORTUGAL |

1702. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <53dbcb$gjg@news1.mnsinc.com>
Source record: 101977

markn1wes@juno.COM (Mark K Flanagan) whistled a happy tune like:

|>I have heard of a band called LOWFER; as in low frequency. All I know is
|>it is limited
|>power and limited antenna size. Not sure about much more. It is sort of
|>an enigma.

Not really!
In the US it is on 190 kHz
In England it is 73 kHz

Signals generally travel a distance of about 50 feet then disappear!

But if you have nothing else to do, why not!

1703. HELP: problem with tx on v.f.o. swan 250c

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: kf4dte@aol.com
Message-ID: <53dlg8$pc3@newsbf02.news.aol.com>
Source record: 101978

hello and thanks for reading,
i have a swan 250 c six meter radio. i am having a problem with the
transmit being on frequency. the radio receives fine but i can not get the
transmit to line on freq.
if anyone has had similar problems, or have any suggestions, please
e-mail a response.
any help is appreciated and all mail will be answered as promptly as
possible.

tx and 73
mike prevatt
kf4dte
mulberry, fl

1704. [Q] Xtal suppliers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: az736@freenet.uchsc.edu
Message-ID: <53dtug$7u5@tali.UCHSC.edu>
Source record: 101979

I just found that the crystal supplier that I had used
in the past now has a $50US minimum order.

So, who do _you_ order small quantity crystals from?

tnx es 73

Jonesy W3DHJ

--
SK

--
Marvin L Jones | Denver, Colo: az736@freenet.uchsc.edu
Jonesy | Gunnison, Colo: jonz@rmii.com
W3DHJ | CompuServe: 72103,443
| snail-mail: 81230-1371

1705. SCHEMATIC FOR DOPPLER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: patrick dumais <va2fru@infini.net>
Message-ID: <325A8DB3.538E@infini.net>
Source record: 101980

Hello,

i am looking for some schematic plans for me to built a doppler
for my next fox hunt.

So if ouy got one send it to me or tel me where i could find it
on the net.

thank you

Patrick Dumais (VA2 FRU)
va2fru@infini.net

1706. Re: S&S TAC-1 QRP Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: "ir003432@worldnet.att.net" <ir003432@worldnet.att.net>
Message-ID: <325B1647.2477@worldnet.att.net>
Source record: 101981

Mark Fossum wrote:
>
> Hi!
>
> Has anyone out there built one of of the TAC-1 QRP Kits from S&S
> Engineering? I'm thinking about purchasing the kit and I'd like to hear
> some input on the kit.
>
> Thanks!!!
>
> Mark Fossum n0nsv@amsat.org
I havge the TAC-1 and the ???? (I forget the model number but it's the
40-meter rig, the first one theyput out).

I built both of them and operate them both. (Right now I am off the air
because I am in themidst of moving from Northern Virginia to east
Tennessee.)

Anyway, I highly recommend the S&S Engineering kits.

- They use only top quality parts.
- The designs are excellent.
- ON the air performance is top notch. In half my contacts I am asked
about the rig and get compliments on the keying.
- Building the kits is not simple but not difficult. Be careful. Read
the directions, look at what you are doing, double check, work slowly.
These are full-featured radios and the circuit boards are packed.

Go for it. You will not regret it.

1707. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: "L. Booth" <lbooth@comm.net>
Message-ID: <325B14A9.1F52@comm.net>
Source record: 101982

markn@ms8.hinet.net wrote:
>
> I heard that there's a longwave amateur band somewhere around 100 kHz or
> 200 kHz for experimenters.
>
> Could someone tell me the exact frequency range of the band? Also, I
> heard that it's not really an amaeur band, but actually it's open for
> anyone to use, as long as a few restrictions are kept. Could someone tell
> me what the restrictions are? Also, is only CW allowed, or is AM and
> LSB/USB also permissible?
>
> In addition, could someone tell me where I can get schematics for a
> homebrew transmitter for this band?
>
> Thanks in advance.
>
> Mark Nagel, N3FRP
I believe that England now has an authorized ham band down at 80 or
100khz, with some power restriction and only CW. Seems like I read this
in QST recently. There is a move to get the FCC to give US hams an
assignment on VLF. It would be interesting if we could run enough power
to overcome the necessarily inefficient antennas most would have to live
with. Still, there is a kinda magic about VLF.

Lioenl N5LB

PS I've never heard anything on the LOWFER band with my TS850 other than
light dimmers and who knows what.

1708. Re: 201-A grid leak resistors, Crosley "Pup" & other impertinences

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <53e0i2$se7@nadine.teleport.com>
Source record: 101983

In article <1996Oct7.212001@desire.wright.edu>,
nyoung@desire.wright.edu wrote:

>. . .

>2. I had to desolder the grid leak C&R pair from one of the
>capacitors and put it back on the board what the radio was
>built on. Only one problem: the resistor measures about 2.5 k
>instead of 2 M Ohms. It's one of them old-fashioned thangs with
>a green body, a dot of brown in the middle and a dot of black
>on one end. (And yes, I do have old books to see what it was
>s'possed to be.) SO... if the tube is a 201-A (like it says
>on the base), am I asking too much that the grid leak resistor
>be 2 Megohms? I can't figure that a garden variety triode
>like the 01-A or a 45 (I think it is) had such a grid cut-off
>point that it'd use a 2.5 kOhm as a grid leak. Any hints?

Check out them old books, sonny, and you'll see you described a 500 ohm
resistor. Sounds like a cathode resistor t'me.

<Wheeze>

Roy Lewallen, W7EL

1709. Re: CFS & CFJ Murata ceramic filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-08 00:00:00 UTC
From: brat@interlog.com
Message-ID: <53e9pe$6do@news.interlog.com>
Source record: 101984
Cross-posted to: alt.radio.scanner.uk,alt.radio.scanner,rec.radio.scanner,rec.radio.shortwave,sci.electronics.repair,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <3256e419.3197544@newnews.dial.pipex.com>, hi80@pipex.dial.com wrote:
>I have had difficulty in finding very wide diameter
>plastic pipe(12 to 24 inches) or something similar, again for loops.
>Any ideas?

You could try the very heavy/strong cardboard tubes used for cement work.

Bernie

--
Bernie Rataj brat@interlog.com qth://toronto.on.ca
Member: Ontario DX Association, Tsuruoka Canadian Budokai
--

1710. LowFer Band Beacon near Boston

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <53h7i4$2cf@News.IDT.NET>
Source record: 101835

Gudday fellow HomeBrewers..

Just revived my Old Lowfer Transmitter and it is on 186.700 khz. +/- .5 hz..

I am 20 miles south of Boston on Coast with the ID on CW being '1A'
Soon will have the CCW and DSP Hooked up..
Can anyone around New England hear me ??
My grid is FN42pb

73 and Happy Listening..

If you are interested in LowFer schtuff try 'LWCA' on your search engine to get
the LOWDOWN and other related files..

de Dave AA1A Marshfield, Mass.

1711. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <53h7qm$2cf@News.IDT.NET>
Source record: 101836

> "L. Booth" <lbooth@comm.net> writes:
> markn@ms8.hinet.net wrote:
> >
> > I heard that there's a longwave amateur band somewhere around 100 kHz or
> > 200 kHz for experimenters.
> >
> > Could someone tell me the exact frequency range of the band? Also, I
> > heard that it's not really an amaeur band, but actually it's open for
> > anyone to use, as long as a few restrictions are kept. Could someone tell
> > me what the restrictions are? Also, is only CW allowed, or is AM and
> > LSB/USB also permissible?
> >
> > In addition, could someone tell me where I can get schematics for a
> > homebrew transmitter for this band?
> >
> > Thanks in advance.
> >
> > Mark Nagel, N3FRP
> I believe that England now has an authorized ham band down at 80 or
> 100khz, with some power restriction and only CW. Seems like I read this
> in QST recently. There is a move to get the FCC to give US hams an
> assignment on VLF. It would be interesting if we could run enough power
> to overcome the necessarily inefficient antennas most would have to live
> with. Still, there is a kinda magic about VLF.
>
> Lioenl N5LB
>
> PS I've never heard anything on the LOWFER band with my TS850 other than
> light dimmers and who knows what.
>
>>>>
Gudday, Try tuning 160-190 khz or go to your search engine and dial in 'LWCA' 'LOWFER' and see all the files jump out at you and the fun there is to have there.
Am just returning to the band and have a beacon on 186.700 +/- .5 hz.. ID is '1A'
Qth 20 miles south of Boston on Coast..
You can go DSP CCW BPSK CW whatever 1 watt and 50' antenna..

73 de Dave AA1A

1712. hamcomm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: 100604.1242@CompuServe.COM
Message-ID: <961009202615_100604.1242_GHW83-2@CompuServe.COM>
Source record: 101837

Hi there
I read in a newsgroup that there is a program called HAMCOMM that can
copy/transmit 9600 Bd packet-radio. Is this true?

tnx de HB9SLV Angel

1713. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: ke4krt@radio.org
Message-ID: <53h8at$ucs@news.radio.org>
Source record: 101838
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <53f8km$oq6@news.wko.com>, rdb <rdb@wko.com> writes:
>30 years ago, I was enamored by the prospect of soldering together a
>handful of components and ending up with a functional transmitter,
>receiver or some other magical electronic device. For me that love has
>yet to fade. Recently while discussing the world of homebrew with a ham

>factory-built stuff, lazy hams or whatever you like. My question is this:
>Are we who enjoy the technical aspects of the hobby headed for
>extinction? What do you think?
>Roger,WF4N
>

We're alive and well and nightly (in winter) on 1997.5 kHz. Drop
by sometime. Most who drop by have total homebrew stations.

Phil

+--------------------------------------+
| Phil Heaton, KE4KRT, ke4krt@radio.org |
| Three can keep a secret, if two are dead |
+--------------------------------------+

1714. Cellular Motorola /CarKit for old large Handhleld cellphone FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Scott Smith <smitties@ix.netcom.com>
Message-ID: <325B8E6A.8D9@ix.netcom.com>
Source record: 101839
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateurm.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

For the original Motorola hand held cellphones. Probably could be converted to newer models.
New in the box never used. All packing/accesories/etc. Mounts handleld in car.
Was $500 when new. I'll accept any reasonable/best offer. How about $100???
N2CQQ Scott
smitties@ix.netcom.com

1715. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <53gtvv$oia@sf18.dseg.ti.com>
Source record: 101840
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

Hi, Roger.

I, too, am still quite enamored with homebrewing, modifying, and repairing equipment. I am in my 20th year as a licensed ham, and I have a 2-year degree in EE. I work as a computer programmer, pure software, so all of my EE work is at home, related to hamming.

I am a pure CW operator on HF. I love QRP operating, and I enjoy building QRP equipment from kits and magazine/book articles. I also like restoring "boat anchor" gear, especially old Heath gear. I have a well-stocked junk collection from all my years of doing this, and I have a network of friends who also have similar interests and well-stocked junkboxes that I can raid.

Yes, I think that we are a dying breed, for many reasons.

It is virtually impossible for even an experienced "home technician" like us to repair much of today's ham gear. I had the cover off my TS-870S when I first got it last winter. I took one look inside, and swore I'd never open it again! There's no way I'd attempt to repair it, should it ever develop a problem. Nearly all of today's gear is that complex inside.

While there is always another interesting project or two showing up every month in QST, 73, or one of the other journals, too many of today's hams have little or no electronics background, and many of the articles are of a higher caliber than a beginner would want to attempt. Over the years, a great many construction articles have been related to that other dying art, operating CW. Too few of today's hams have enough serious interest in CW, coupled with their limited technical knowledge, and that makes the old CW rig construction articles worthless. TNCs, ATV, digital stuff, DSP filtering, all are too technical for the beginner. Heck, some of that stuff's too technical for me too! Another problem is a lack of "elmering" by us old-timers (yeah, I know, I'm not really an old-timer by general standards, but 20 years qualifies me as one for the newbies). I try to "elmer" anyone who wants the help, and I know of some others who do the same. But there's sure not as much of it going on as there was ten, fifteen, or twenty years ago. What happened? We sit and complain about the no-code license, VE testing making it too easy to get a ticket, lack of technical knowledge, et cetera, then we sit back and do nothing about it. This could change, but will it? I'm not faulting the newbies. They come from widely varied backgrounds, most of which aren't related to electronics or communications. Nobody knows anything unless they are taught, right? WE need to do the teaching, or it won't get done. Used to be, you had to do your homework to get a ham ticket. We had to KNOW the rules, electronics theory, radio wave propagation principles, and such. We didn't have the question pool available to memorize. That isn't the case any more. You

really don't have to know anything except how to read and memorize things nowadays. I personally think that's a bad thing.

On the bright side, a local ham just built (from scratch!) a super-regen receiver as a project with his two young sons, ages about 7 and 5. They scrounged my junkbox for some of the parts, and bought the rest. Their receiver uses transistors and ICs, but it's still just as hard to tune and fickle to operate as the old two-tubers were. It warmed my heart to see this project go together. They built a wooden box with a Lexan front panel, so you can see all of the components. It's built point-to-point and it's ugly as sin, but it has that certain curious beauty about it, a beauty only a home-brewer can appreciate. (that's a shame)

Suppose the newbie finds a project that he/she wants to build. At least a lot of the projects these days use parts available at Radio Shack or from a mail-order supplier such as Mouser. But let's uppose that this project is not something from last month's QST, but instead is from an old ARRL Handbook from the 1960s. Where is that poor sucker going to find the old style parts to build that whoosy-whatsis? High-voltage parts, tubes, and other old-style parts are too hard to find, and when you do find them, they are way expensive. Too many of the "old timers" have passed on, and their junkboxes (which were filled with wonderful old parts that are now worth their weight in gold) were simply emptied into the dumpster once the commercially-made ham gear was sold off. The resources are drying up.

There's also this perception that anything that doesn't contain a bunch of ICs is not useful, so no one bothers. Hey, tube gear may be old and not sophisticated, but it still works. And, it's still fun to build, even just for the nostalgia value. The digital revolution has brainwashed too many of the new and prospective new hams. The desire these days is for more and more features, and the older gear, whether homebuilt or not, doesn't deliver this. I don't know how to change the perception. Maybe we can't.

I apologize for rambling on so.

Thanks for listening!

73 de KC5NG (Dean)

kc5ng@dlep1.itg.ti.com

PS: I couldn't use the "reply via email" feature due to limitations of my news server, so I hope you actually get to read this. -DWH

1716. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Brian Kline <kline@hybrid.com>
Message-ID: <325C733E.3C19@hybrid.com>
Source record: 101841
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

Winfield Hill wrote:
>
> Can you identify an 4-terminal component called a ACR Z0-28F and
> looking something like a RF power transistor?
>
> I just purchased two military 100 (200?) watt wideband linear
> "preamplifiers" (that's what they're labelled!) which seem to work
> fairly well. They work so well they burned out my 40 watt attenuator,
> forcing me to bring out my BIG loads! The amplifier uses a pair of
> MRF466 for the input and MRF429 for the output. These are
> "gull-winged" RF transistors with a bottom that reminds me of a TO-66
> for transferring heat.
>
> Anyway, for my application (flipping atom spins in a condensed-matter
> trap) I'd like to reduce the 3rd harmonic distortion of the amplifier.
> The amplifier has an external input for biasing the transistors toward
> class A operation. Each push-pull CE stage is base-biased with the
> above-mentioned unusual component, which has four terminals: the 1st
> one to ground, the 2nd to the two bases (bypassed with 22uF and via an
> rf isolating xfmr), the 3rd to a 200-ohm trimmer to the 4th terminal,
> which goes to the external connector for bias control.
>
> With 0V to the external input, the amplifier draws no current.
> Applying +5 to +12 volts to the external biasing input changes the
> total current from to 1 to 4 amps, for example (while taking 0.5A on
> the control input). Although the unusual part is performing a "dc"
> function, it is manufactured as a high-performance RF part with 4 gull
> wings, just as the MRF466, and is bolted to the heat sink as well.
>
> What is this unusual part and how does it work? Also, if I keep
> increasing the class A bias, at what point will I be in danger of
> thermal runaway and destruction? The amplifier's heat sinking is
> massive.
>
> --
> Winfield Hill hill@rowland.org
> The Rowland Institute for Science _/_/_/ _/_/_/_/
> 100 Edwin Land Blvd. _/ _/ _/_/ _/
> Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
> _/ _/ _/ _/ _/
> http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

I believe the part that you are referring to was called a Byristor by CTC (Communications Transistor Corp.) I think the CTC Part number was BY-1. It is a diode with the construction of the base emitter junction of a RF transistor, and a resistor from the anode to the second terminal. It was intended to be used in the base bias network of linear amplifiers to temperature compensate the bias with the same characteristics a the RF transistors base emitter junction. Motorola application notes use the base emitter junction of a power transistor that is bolted to the heat sink to do the same job. I remember the device being discussed in a article in Ham Radio magazine in the 70's and in an issue of RF design magazine in the 80's. I hope this helps. Regarding converting the bias to class A It depends on the device, check the Motorola application notes for info on this topic. RCA had a good application note on the topic in there old RF power data book. The basic issue was hot spotting which is improved by emitter ballast resistors in the RF transistor. I suspect though that you will not get as much improvement as you hope going to full class A. I suspect that increasing the negative feedback and other distortion canceling techniques will give better results. I hope this helps

Brian Kline
WA6QDP
kline@hybrid.com

1717. Re: HELP: problem with tx on v.f.o. swan 250c

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <325B2637.15B3@magg.net>
Source record: 101892

KF4DTE wrote:
>
> hello and thanks for reading,
> i have a swan 250 c six meter radio. i am having a problem with the
> transmit being on frequency. the radio receives fine but i can not get the
> transmit to line on freq.
> if anyone has had similar problems, or have any suggestions, please
> e-mail a response.
> any help is appreciated and all mail will be answered as promptly as
> possible.
>
> tx and 73
> mike prevatt
> kf4dte
> mulberry, flHi Mike,

I owned a Swan years ago and as I recall the RX and TX share the same
VFO- a 13 Mhz VFO I believe they then tripled this to 39 and mixed it
with a 10.7 IF (the Swan 250 was slightly different IF as I recall).

Because RX and TX use the same VFO I am not sure how they could differ
in frequency by any significant amount. Have you put it in tune position
and placed a counter on with a dummy load to look @ TX freq?

Just some thoughts. Too Many years ago for anything more detailed.

73, Dale WA2YPY

1718. NEED INFO ON GE PORTAMOBILE 49MHZ RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <53f8ao$so8@news1.iamerica.net>
Source record: 101893

Hello,
We have a GE Portamobile Radio on 49Mhz. Is anyone familar with
this radio? All we have is the radio on 49.180 Mhz and the AC
powersupply that clips on to the bottom. The radio does transmit 10
watts but we do not have a receive xtal. The model # is HN44LA833
TX data ET61A and RX data is ER43A. Any info would be appreciated.
Will the radio tune up on 6M? Does anyone have realigning
instructions? Copies of the service manual?

Thanks
AB5LG

1719. BELCOM LS202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Paolo Petrini <paolope@alfa.cdc.it>
Message-ID: <325B5972.5037@alfa.cdc.it>
Source record: 101894

Anybody knows how to modify LS202 in order to have a better SSB
Thanks
Paolo IW1CCZ

1720. Re: Info on 900mhz hybrid amp module??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: cunliffe@frontiernet.net
Message-ID: <53eu4j$vpi@cheatum.frontiernet.net>
Source record: 101895

glenne@sr.hp.com (Glenn Elmore) wrote:

snip<>
>I don't know of any linear power bricks for the 900 MHz band like those which
>are available at 400 and 1200 MHz.

try the MHW 932 from Motorola, 100mW in and 32W out linear.
John
==========
John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.net/~cunliffe

1721. Re: Your opinions are not your own anymore

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <53fm6s$kpv@newsbf02.news.aol.com>
Source record: 101896

In article <19961007.102234.5103.0.markn1wes@juno.com>, markn1wes@juno.COM (Mark K Flanagan) writes:

>
>I just wonder how many honest responses will come back to the newgroup if
>this
>practice continues. DON'T KILL THE NEWSGROUPS! BE RESPONSIBLE!
>
>

Manufactures SHOULD hear what users think about their products. It helps them do better jobs.

In all fairness, manufacturers should be told directly first, and given an opportunity to address the concerns.

Things changes for the better more often when one gives feedback, good or bad.

73 Tom

1722. Re: Wanted: FOX transmitter design for rocket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: "Frank W. van Wensveen" <fwensveen@lucent.com>
Message-ID: <325B9212.167EB0E7@lucent.com>
Source record: 101897

Rob Janssen wrote:

[Homing TX for model rocket wanted]
> >- Use of 144Mhz is required.
> >
> Why? Did you get a license for this band?

Even with a licence, use of homing transmitters for this purpose in the 144 MHz band is not allowed in the Netherlands. Organized foxhunts are covered by the regulations, but this type of use of the 144 MHz band isn't. I don't expect any trouble if power is low and the duration of the transmission is short, but strictly spoken, it's not allowed.

As far as I know (but I am not sure of this) there are a few telemetry channels in the 27 MHz band which may be used for this purpose. The ISM band at 70 cm is also a possibility.

> Amateurs normally build these from "junk box" parts using whatever
> design suitable at that time. The generation of a suitable modulation
> tone and on/off sequence (to make it harder to find) is usually much more
> complex than the actual transmitter. And these designs are not made
> with your objectives in mind, they rest quietly behind a bush or in
> a tree.
Still it should be no problem. A simple XO built with SMD components and encased in foam or something like that is inexpensive and can take an awful beating, provided the PCB has been soldered correctly. Power is also no problem, 10 or 20 mW should cover a 3 km area easily.

[Wildlife tagging transmitters]
> You may have more luck with those. Probably they have some acceleration
> robustness requirement. Otoh, the battery lifetime should be measured
> in months rather than minutes, so probably you could do with smaller
> batteries.
Wildlife taggers transmit short pulses (200 ms in a 2s period, for example) to conserve batteries.
You could conserve power by doing that with a rocket homing TX, and simplify the design and power consumption by using an unmodulated signal. It's a bit harder to find with a foxhunt receiver, but you could adapt your RX design...

73 de PA3GMP

1723. Help finding replacement Schottky Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@LaRC.NASA.gov>
Message-ID: <325B958A.7343@LaRC.NASA.gov>
Source record: 101898

Hi,

TIA for reading this. I have a dead Schottky mixer diode,
Mfg ALPHA Model DMF5139 that I need to replace. Can anyone cross
reference this to any other mfg's & part munbers? Does anyone
have a mailorder vendor who might be able to supply these?

Thanls again,
KO4LW
--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

1724. Re: Help finding replacement Schottky Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@LaRC.NASA.gov>
Message-ID: <325B9626.5924@LaRC.NASA.gov>
Source record: 101899

Hey, its 8AM and I haven't had any coffee yet! Sorry for the typos.

> Hi,
>
> TIA for reading this. I have a dead Schottky mixer diode,
> Mfg ALPHA Model DMF5139 that I need to replace. Can anyone cross
> reference this to any other mfg's & part NUMBERS Does anyone
> have a mailorder vendor who might be able to supply these?
>
> THANKS again,
> KO4LW

--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

1725. Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: hill@rowland.org
Message-ID: <53g96m$bft@shore.shore.net>
Source record: 101900
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

Can you identify an 4-terminal component called a ACR Z0-28F and looking something like a RF power transistor?

I just purchased two military 100 (200?) watt wideband linear "preamplifiers" (that's what they're labelled!) which seem to work fairly well. They work so well they burned out my 40 watt attenuator, forcing me to bring out my BIG loads! The amplifier uses a pair of MRF466 for the input and MRF429 for the output. These are "gull-winged" RF transistors with a bottom that reminds me of a TO-66 for transferring heat.

Anyway, for my application (flipping atom spins in a condensed-matter trap) I'd like to reduce the 3rd harmonic distortion of the amplifier. The amplifier has an external input for biasing the transistors toward class A operation. Each push-pull CE stage is base-biased with the above-mentioned unusual component, which has four terminals: the 1st one to ground, the 2nd to the two bases (bypassed with 22uF and via an rf isolating xfmr), the 3rd to a 200-ohm trimmer to the 4th terminal, which goes to the external connector for bias control.

With 0V to the external input, the amplifier draws no current. Applying +5 to +12 volts to the external biasing input changes the total current from to 1 to 4 amps, for example (while taking 0.5A on the control input). Although the unusual part is performing a "dc" function, it is manufactured as a high-performance RF part with 4 gull wings, just as the MRF466, and is bolted to the heat sink as well.

What is this unusual part and how does it work? Also, if I keep increasing the class A bias, at what point will I be in danger of thermal runaway and destruction? The amplifier's heat sinking is massive.

--
Winfield Hill hill@rowland.org
The Rowland Institute for Science _/_/_/ _/_/_/_/
100 Edwin Land Blvd. _/ _/ _/_/ _/
Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

1726. Re: S&S TAC-1 QRP Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Mark Fossum <n0nsv@amsat.org>
Message-ID: <325B9EFD.79D9@amsat.org>
Source record: 101901

Okay! Thanks for the information. The 40m version is exactly the one
that I'm thinking about.

Mark

> Anyway, I highly recommend the S&S Engineering kits.
>
> - They use only top quality parts.
> - The designs are excellent.
> - ON the air performance is top notch. In half my contacts I am asked
> about the rig and get compliments on the keying.
> - Building the kits is not simple but not difficult. Be careful. Read
> the directions, look at what you are doing, double check, work slowly.
> These are full-featured radios and the circuit boards are packed.
>
> Go for it. You will not regret it.

1727. Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: rdb <rdb@wko.com>
Message-ID: <53f8km$oq6@news.wko.com>
Source record: 101902
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

30 years ago, I was enamored by the prospect of soldering together a handful of components and ending up with a functional transmitter, receiver or some other magical electronic device. For me that love has yet to fade. Recently while discussing the world of homebrew with a ham friend, he challenged me to show proof that there is still a viable audience out there in the world of hamdom for material that introduces hams to the how and why of equipment construction and repair. Now since this is a subject that's near and dear to my heart (I think proof of ownership of a soldering iron and signal generator should be required to obtain a ham ticket - please don't flame me for that opinion), I naturally assumed the thing I like most about ham radio is popular with most other hams. After considerable thought, I'm not so sure. An unscientific survey of our local club, 40+ members, reveals that fewer than five do any work at all on their own equipment,much less any homebrew work! Checks with hams in other area clubs reveal a similar percentage of hams who still heat a soldering iron on a semi-regular basis. Blame unrepairable micro-miniature equipment, the impossibility of homebrewing gear that can compete cost or feature wise with the factory-built stuff, lazy hams or whatever you like. My question is this: Are we who enjoy the technical aspects of the hobby headed for extinction? What do you think?
Roger,WF4N

1728. Microwave Equipment for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: rass@flash.net
Message-ID: <53f4jp$137@excelsior.flash.net>
Source record: 101903

Have several pieces of Raytheon 8911B 4Ghz microwave gear. Some with Klystrons, some without. Several power supplies, service channel equipment etc. Some MUX equipment. Located near Oklahoma City, Okla. Respond via email for more details.

rass@flash.net

1729. Re: PARTS???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: steve@hi.com
Message-ID: <steve-0910961243060001@brainiac.hi.com>
Source record: 101904

In article <53cd7k$sc8@news1.mnsinc.com>, bry@mnsinc.com wrote:

> Say guys - doesn't anyone ever buy and sell parts through this Usenet group?

If one were to take the time to obtain and read the "Guide to the Personal Radio Newsgroups" via <ftp://rtfm.mit.edu//pub/usenet-by-hierarchy/rec/radio/amateur/antenna/Guide_to_the_Personal_Radio_Newsgroups>, one would discover that "The swap group is rec.radio.swap."

Regards,
-Steve

--
Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

1730. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: CHRISTOPHER CARTWRIGHT <ccart@shell1.erols.com>
Message-ID: <53gku8$lfb@boursy.news.erols.com>
Source record: 101905
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In rec.radio.amateur.misc rdb <rdb@wko.com> wrote:

: Are we who enjoy the technical aspects of the hobby headed for
: extinction? What do you think?
: Roger,WF4N

Well, I guess you can count me amongst the doomed! While I do own a few "riceboxes" only one of them (a 2M HT) was bought new. All the rest were good deals because they had something wrong with them. Fix them up, and I'm a happy ham! (and a cheap SOB) The most recent was a 2 meter rig that was given up for dead because the mic cord was too long! (i.e. broken solder joint, shorten cord, resolder) I've been melting solder for much longer that I've been a ham, and I guess it just sort of carried over. I'm building QRP rigs now, made my practice oscillator out of parts from a toasted computer monintor, have electronic "carcasses" all over the basement just "in case" I might need the parts. Tough to explain to the YL.

I think most amateurs are content to be appliance operators and I have no problem with that. It is now much more of a hobby than a service, so whatever people enjoy doing with radio, they should do. Not that I don't lament the demise of the homebrewer. It's nice to run into one once in a while and not be stared at when you say something like, "Have you seen the spec's on the new low power 602's?".

Seems that anywhere the "suits" can make money, homebrewing starts to die off. Just look at what the no code tech licence did for big three in terms of two meter offerings. Before I get flames "I SEE NO-CODE AS A GOOD THING". Most all of the builders I meet anymore are into QRP or microwave since there isn't much chance you can outdo a mass produced HF rig and there are very few commercial offerings for QRP or uwave. Both appliance operators and homebrewers have their place, but I for one am much happier being one of the homebrewing dinosaurs.

-- Christopher Cartwright, Tech. Engineer | ...our chief weapons are fear,
-- Voice 301.295.0809 N3XRV QRP-L #655 | fear and surprise, and nice
-- Mail dsc3cjc@imc220.med.navy.mil | red uniforms, oh damn!!
-- ccart@erols.com | -- Monty Python

1731. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDz0p5F.IyE@netcom.com>
Source record: 101906
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <jlowmanDz0oI6.DwJ@netcom.com> jlowman@netcom.com (Jim Lowman) writes:
>Well, Roger, I think we may be a dying breed. Homebrewing and repair seem
>to be, at best, a niche interest among today's hams. A few reasons come to
>mind:
>
>-- The growth in amateur radio today is in the Technician ranks. Until or
>unless they upgrade to operate on the HF bands, there is little homebrewing
>to be done. Most gear is readily available in plug-and-play mode, and
>conversion of surplus commercial equipment may be as close as many get. I
>do applaud Ten-Tec for introducting kits for VHF transceivers.

I guess I could add that getting on the microwaves still requires homebrewing
in almost all cases. There is very little commercial gear available that is
intended for ham usage above 1.3 GHz. Compounding the lack of commercial gear
is the difficulty in getting test equipment inexpensively. As a beginning micro-
wave builder/operator, I'm finding the experience very similar to when I
first started in ham radio in 1971, when I built my first gear and was
not easily able to verify that anything worked. The best resources I've found
are other hams in the same area (I'm grateful for that!) who already have
gotten _their_ homebrew gear on the air. If you're willing to try several
hundred mile QSOs on milliwatt power levels with gear you build yourself and
carry around in your car, microwaves might be the ticket to the homebrew itch...

73 Dave WB0GAZ dgf@netcom.com

1732. Re: Car battery (13.8) to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <53glde$6qj@villa.fc.net>
Source record: 101907

In Article <325aae13.5383854@eskinews.eskimo.com>, through puissant locution,
wrt@eskimo.com (Bill Turner) soliloquized:
>> >-I need to find or build a circuit that regulates a car battery
>> >-to always be 12.0 volts. Looking to get 2-3 amps out of it.
>
>You can get away with only three components if you locate the regulator fairly
>close to the battery, say within a foot or so. Any farther away and you
>should place a .1 mfd capacitor from the input to ground to prevent
>oscillation. It's also a good idea to put one on the output to ground, but
>you might sneak by without that one. Personally, I figure they're cheap, put
>'em in.

Greetings. ... And considering how easy it is to blow some of them, put
a 3A fuse inline with the whole assembly. EVERYTHING that feeds off the
battery MUST have a fuse (unless it goes through the fusebox or fusible
link... but that's the same thing).

Don't as how I learned... involved smoke in a closed space, and frantic
pulling off the highway while cranking the window down... only to
realize that the fuse for the power windows blew in the process of some
wires "melting".... and I had to breathe that crap for a few seconds...

:-|

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

1733. Re: Help finding replacement Schottky Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: kirkland <kirkland@nortel.ca>
Message-ID: <325BDB43.1F4C@nortel.ca>
Source record: 101908

If you know the LO drive (i.e. power) you can probably pick a mixer
out of the Mini-Circuits Catalog. They do take small orders.
Mini-Circuits
P.O. Box 350166, Brooklyn, New York
11235-0003
Phone 718-934-4500

Joseph M. Zawodny wrote:
>
> Hey, its 8AM and I haven't had any coffee yet! Sorry for the typos.
>
> > Hi,
> >
> > TIA for reading this. I have a dead Schottky mixer diode,
> > Mfg ALPHA Model DMF5139 that I need to replace. Can anyone cross
> > reference this to any other mfg's & part NUMBERS Does anyone
> > have a mailorder vendor who might be able to supply these?
> >
> > THANKS again,
> > KO4LW
> --
> Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
> NASA Langley Research Center KO4LW@amsat.org
> E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
> (757) 864-2681 (757) 864-2671 FAX

1734. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <325C0A08.7171@gte.net>
Source record: 101909
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

rdb wrote:
>
> 30 years ago, I was enamored by the prospect of soldering together a
> handful of components and ending up with a functional transmitter,
> receiver or some other magical electronic device. For me that love has
> yet to fade. Recently while discussing the world of homebrew with a ham
> friend, he challenged me to show proof that there is still a viable
> audience out there in the world of hamdom for material that introduces
> hams to the how and why of equipment construction and repair. Now since
> this is a subject that's near and dear to my heart (I think proof of
> ownership of a soldering iron and signal generator should be required to
> obtain a ham ticket - please don't flame me for that opinion), I
> naturally assumed the thing I like most about ham radio is popular with
> most other hams. After considerable thought, I'm not so sure. An
> unscientific survey of our local club, 40+ members, reveals that fewer
> than five do any work at all on their own equipment,much less any
> homebrew work! Checks with hams in other area clubs reveal a similar
> percentage of hams who still heat a soldering iron on a semi-regular
> basis. Blame unrepairable micro-miniature equipment, the impossibility of
> homebrewing gear that can compete cost or feature wise with the
> factory-built stuff, lazy hams or whatever you like. My question is this:
> Are we who enjoy the technical aspects of the hobby headed for
> extinction? What do you think?
> Roger,WF4N

Hi Roger,

I still repair all my equipment, including the solid state stuff. I also still homebrew and experiment. It remains as much fun as it always was, perhaps even more, with solid state gear and qrp projects. We need to do more club projects, teach classes in our clubs and talk it up. Your post is a good start, and I hope a large number resolve, as I am, to become more active in getting others "hooked" on building, experimenting with, and repairing, equipment. One method would be for clubs to pool their resources and set up work areas so hams can experiment, test and do repairs.

I hope others will come up with more ideas, and will begin working through their local clubs to stimulate interest and encourage hams to put their theory to practical use.

Thanks for the stimulus!

73,
Jim - AD4VL

1735. Smart battery charging circuit???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: ag121@torfree.net
Message-ID: <53gnl8$iru@news.inforamp.net>
Source record: 101910

Hope this isn't a dumb question!

I'm interested in a circuit to control the charging of a lead acid (ie car) battery. I use the battery as the power source for my packet station. It runs the radio & tnc continuously. The average drain is fairly low 1 or 2 amps, with peak load around 9A for transmit.

I have used a cheap car battery for this for a couple of years, but leaving a trickle charger connected almost all the time ended up wrecking the battery.

I am looking for a circuit that would:
a) turn off the charger when the voltage accross the battery terminals exceeds 14.4V,
b) turn the charger back on at a preset voltage - say 12V,
c) and disconnect the battery from the load if the voltage drops below a "fully discharged" voltage - around 11.4V

Has anyone any ideas on this? Thanks & look forward to your replies - here or via email.

Bryan

Homepage: http://www.projectx.com/weaver/
email: ag121@torfree.net
AMPRNET: ve3trj@bbs.ve3rpi.ampr.org
AX.25: VE3TRJ@VE3INF.#SCON.ON.CAN.NOAM

1736. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: kirkland <kirkland@nortel.ca>
Message-ID: <325BDD92.5FDB@nortel.ca>
Source record: 101911
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

Check out the Motorola Application Notes dealing with the 100 Watt
Amplifiers. They may use a similar device in their design. My guess
is that the device is bolted to the heat sink to track the thermal
characteristics of the amplifier. A 100 Watt BJT amplifier needs to
have its bias circuitry carefully designed to prevent thermal run-away.
As the amp heats up I would bet that your device reduces the bias
current. I am assuming that the MRF429s are BJTs.

By the way, where can other people get ahold of such amplifiers

kirkland@nortel.ca

Winfield Hill wrote:
>
> Can you identify an 4-terminal component called a ACR Z0-28F and
> looking something like a RF power transistor?
>

1737. boatanchors CFV passes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <53goch$apr@newsgate.sps.mot.com>
Source record: 101912

RESULT
unmoderated group rec.radio.amateur.boatanchors passes 277:31

There were 277 YES votes and 31 NO votes, for a total of 308 valid votes. There was 1 abstention and 10 invalid ballots.

For a group to pass, YES votes must be at least 2/3 of all valid (YES and NO) votes. There must also be at least 100 more YES votes than NO votes.

A five day discussion period follows this announcement. If no serious allegations of voting irregularities are raised, the moderator of news.announce.newgroups will create the group shortly thereafter.

Newsgroups line:
rec.radio.amateur.boatanchors Vacuum tube-based amateur radio equipment.

Voting closed at 23:59:59 UTC, 7 Oct 1996.

1738. Re: 201-A grid leak resistors, Crosley "Pup" & other impertinences

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <53gp4g$ri@news.calweb.com>
Source record: 101913

w7el@teleport.com (Roy Lewallen) wrote:
>In article <1996Oct7.212001@desire.wright.edu>,
> nyoung@desire.wright.edu wrote:
>
>>. . .
>
>>2. I had to desolder the grid leak C&R pair from one of the
>>capacitors and put it back on the board what the radio was
>>built on. Only one problem: the resistor measures about 2.5 k
>>instead of 2 M Ohms. It's one of them old-fashioned thangs with
>>a green body, a dot of brown in the middle and a dot of black
>>on one end. (And yes, I do have old books to see what it was
>>s'possed to be.) SO... if the tube is a 201-A (like it says
>>on the base), am I asking too much that the grid leak resistor
>>be 2 Megohms? I can't figure that a garden variety triode
>>like the 01-A or a 45 (I think it is) had such a grid cut-off
>>point that it'd use a 2.5 kOhm as a grid leak. Any hints?
>
>Check out them old books, sonny, and you'll see you described a 500 ohm
>resistor. Sounds like a cathode resistor t'me.
>
><Wheeze>
>
>Roy Lewallen, W7EL

If the tube is a 45 then sounds like someone tried to make
a transmitter. My book says a 45 is a power triode with a
2.5 volt filiment

Bill K7NOM

1739. FLECTRON?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: crshi@aloha.net
Message-ID: <53grbq$kma@nuhou.aloha.net>
Source record: 101914

Hi All, Anyone out there us FLECTRON(sp)? It is manufactured by 3M.

FLECTRON is a fabric imbedded with conductive material. It is used as RFI/EMI shield for the military. It looks and feels like very thin polyester cloth. It is reported to have great db attenuation.

I have called 3M for a price. I understand that it is very expensive.

Any info would be appreciated.

Thanks, Lawrence

1740. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Larry Keith <KQ4BY@IX.NETCOM.COM>
Message-ID: <325BBAEA.4455@IX.NETCOM.COM>
Source record: 101915
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

FWIW:

I peddle pieces/parts at hamfests. I notice that I have as many "young" customers as I do "old" customers.

As to the cause of the demise of "technically qualified" hams, I can suggest several reasons, most of which have already been posted. But, maybe the primary reason is the disappearance of Elmers, those "old timers" who took the time to tutor and coach newcomers to this hobby. Today, one studies a bit, memorizes some answers, passes the test, buys a HT, and becomes an instant ham. I am not critical of that approach to licensing but I do realize that it creates a different breed of ham.

I still tinker, repair, and brew a bit. And, I try to convince newcomers that there is some fun associated with such activities. While I can't claim to be an instant success, I have seen some of the new folks try.

73,

Larry, KQ4BY

1741. Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: "T.A.Holden" <tholden@toronto.cbc.ca>
Message-ID: <325BD767.5131@toronto.cbc.ca>
Source record: 101916
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Is it possible to setup a modem through the AT commands to transmit at high data rate in the absence of a receive carrier? I have succeeded at low data rate (300 bps) using analog loopback followed by digital loopback but cannot force a higher data rate.

Any ideas? Would appreciate e-mail and others may want posting. Thanks.

--
Tom Holden VE3MEO

tholden@toronto.cbc.ca

1742. Re: Car battery (13.8) to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <325C067B.684A@staffnet.com>
Source record: 101917

Filip M Gieszczykiewicz wrote:
>
> In Article <325aae13.5383854@eskinews.eskimo.com>, through puissant locution,
wrt@eskimo.com (Bill Turner) soliloquized:
> >> >-I need to find or build a circuit that regulates a car battery
> >> >-to always be 12.0 volts. Looking to get 2-3 amps out of it.
> >
> >You can get away with only three components if you locate the regulator fairly
> >close to the battery, say within a foot or so. Any farther away and you
> >should place a .1 mfd capacitor from the input to ground to prevent
> >oscillation. It's also a good idea to put one on the output to ground, but
> >you might sneak by without that one. Personally, I figure they're cheap, put
> >'em in.
>
> Greetings. ... And considering how easy it is to blow some of them, put
> a 3A fuse inline with the whole assembly. EVERYTHING that feeds off the
> battery MUST have a fuse (unless it goes through the fusebox or fusible
> link... but that's the same thing).
>
> Don't as how I learned... involved smoke in a closed space, and frantic
> pulling off the highway while cranking the window down... only to
> realize that the fuse for the power windows blew in the process of some
> wires "melting".... and I had to breathe that crap for a few seconds...
>
> :-|
>
> Take care.
> --
> +-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
> | http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
> | Enjoy your job, work within the law, make lots of money : Choose any two.
> | I think for myself. I listen. I make decisions. I speak what I believe.

If you've gotten away with connecting the input of a three-terminal
regulator directly to an automotive system you are lucky indeed!
Overvoltage protection and filters are often used to protect the
regulator from the dirty automotive power.

1743. Re: im lookin to build a 0-12v regulated power supply ,,,need schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <53goqh$190s@newsgate.sps.mot.com>
Source record: 101918

While it's true that you can't get an LM317 much below 2 volts --

WHAT USES LESS THAN 2 VOLTS??

It's simple enough to use a potentiometer as a voltage divider, and put
a voltmeter across ground and the wiper to read your extra-low voltage.

H-P makes some very nice programmable power supplies that go from
0 to everywhere...but I felt I was making a reasonable suggestion
with the LM317, because the requester said that the Radio Shack
adjustable supply was just fine. It's like $50; I assumed
the requester wanted a $5 solution. If this was not the case,
may I suggest the H-P Test and Measurement catalog? Should
be able to find something minimally adequate for less than $10,000.

Have a nice day.

1744. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <325C1485.7B4F@erols.com>
Source record: 101919
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

rdb wrote:
>
> 30 years ago, I was enamored by the prospect of soldering together a
> handful of components and ending up with a functional transmitter,
> receiver or some other magical electronic device. For me that love has
> yet to fade. Recently while discussing the world of homebrew with a ham
> friend, he challenged me to show proof that there is still a viable
> audience out there in the world of hamdom for material that introduces
> hams to the how and why of equipment construction and repair. Now since
> this is a subject that's near and dear to my heart (I think proof of
> ownership of a soldering iron and signal generator should be required to
> obtain a ham ticket - please don't flame me for that opinion), I
> naturally assumed the thing I like most about ham radio is popular with
> most other hams. After considerable thought, I'm not so sure. An
> unscientific survey of our local club, 40+ members, reveals that fewer
> than five do any work at all on their own equipment,much less any
> homebrew work! Checks with hams in other area clubs reveal a similar
> percentage of hams who still heat a soldering iron on a semi-regular
> basis. Blame unrepairable micro-miniature equipment, the impossibility of
> homebrewing gear that can compete cost or feature wise with the
> factory-built stuff, lazy hams or whatever you like. My question is this:
> Are we who enjoy the technical aspects of the hobby headed for
> extinction? What do you think?

Y'know, I happen to think that Ham Radio never did have very many who could really build a rig. What has happened to this hobby is that it became much more popular thanks to the much derided Japanese electronics industry. But those who homebrew haven't disappeared, they've simply been outnumbered.

Second, the motivation to build gear isn't what it once was. I look at building/repairing your gear about the same way as most of us look at the shade tree mechanic of yesteryear. It really is more complicated now. Things like chips make construction somewhat easier, but the reality is that few homebrew radios can approach the low cost and high performance of most manufactured equipment. So you do it only because you like doing it. Those folks are very few and very far between.

It also isn't easy getting started. I have an EE from Johns Hopkins. Even that isn't really well suited for homebrewing. They don't teach this stuff anywhere. You sort of learn it by doing. And to be quite honest, I'm not really sure just how one is supposed to teach homebrew techniques. It is kind of like trying to teach reason. Or legislate quality (Yes, I mean ISO 9000!). People sort of get it or they don't.

That's a rough thing to say, but I don't know how to say it better.

Thankfully, there are perhaps as many people like this today as there ever have been. There just weren't very many to begin with...

73,

Jake Brodsky, mailto:frussle@erols.com
PP-ASEL IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

1745. NEED PLANS FOR A SMALLER 80/160 DIPOLE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <53hahn$c68@news1.iamerica.net>
Source record: 101920

Hello,
Can you provide me with some info on how to make a reduced sized
80/160 dipole. Please email me.

73's
dwhowell@iamerica.net

1746. Re: Smart battery charging circuit???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961009185408.295A-100000@primeline.net>
Source record: 101921

On 9 Oct 1996, Bryan Weaver wrote:

> Hope this isn't a dumb question!
> I am looking for a circuit that would:
> a) turn off the charger when the voltage accross the battery terminals exceeds
> 14.4V,
> b) turn the charger back on at a preset voltage - say 12V,
> c) and disconnect the battery from the load if the voltage drops below a
> "fully discharged" voltage - around 11.4V

How about a LN3914 , set up to read 10 to 15 volts in .5V steps ,in bar mode. take 2 of the outputs(14.5,11.5) to control a s/r Flip-flop ,controlling a SSR, or conventional relay, which controls the charger

Also , why not use deep cycle batteries (several hams in my area use golf cart batteries), they will take the cycling better than

Gary Tait , VE3VBF

1747. Re: Nichrome wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Hal Rosser <hmrosser@csranet.com>
Message-ID: <325C6888.12DD@csranet.com>
Source record: 101922

If you lived in Augusta GA, I would suggest "FOX APPLIANCE PARTS"
but i suspect most any appliance parts place would have it.
..by the way.. I wonder if you can use that stuff for a dummy load.
...hmmmm
regards & 73's
Hal rosser KT4QE

1748. Icom IC-Delta 1A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: David Nord <dnord@inreach.com>
Message-ID: <325C3D71.2FBB@inreach.com>
Source record: 101923
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

hello all, i need schematics for the pc-to-ht cable, and accompanying
software for the Delta 1A, if you have any info, please e-mail to
dnord@inreach.com
-Thanks
-david KE6NWC

1749. Re: hamcomm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Paul O'Connor <poc64@mail.internexus.co.uk>
Message-ID: <325c2220.0@internexus1.internexus.co.uk>
Source record: 101924

HAMCOMM is actualy a MORSE/RTTY/AMTOR program and has no packet involved (unless there has been an extra version to HAMCOMM 3.0)

73 de Paul 2E0AAV/G1ZCY

1750. RE: Longwave Amateur Band... and other lunacies...&c

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: nyoung@desire.wright.edu
Message-ID: <1996Oct9.205927@desire.wright.edu>
Source record: 101925

Signals only go a couple feet and then disappear? Not here. Maybe to dissident signals in some country where the ruling hegemony would like the indigenous local people to disappear... like maybe Eastern Turkistan. Maybe there the lowfer signals go a couple feet before being "disappeared" by the organs of state security.

My own experience with lowfering includes hearing -- regularly -- the signals of two stations more than 30 miles south of my rather bleak (as lowfering goes) location. I'm right on the main drag between two concrete plants with a power distribution station (transformers &c) down the road about a mile or so. The cleaner's shop across the street has neon lights in the windows and the bank next door has those damn "bright as a sunrise on the moon" security lamps on 12 hours out of 24. Even with that junk around me, I can regularly copy YHS and one other guy (whose call I can't remember), both of whom are located at least 30 miles to the south. I have heard many whispers of other lowfer beacons, but not as regularly as these two.

And the Part 15 regs for the "medfer" guys (between 550 kHz and 1700 kHz) are just as draconian. Like I think it's maybe what, 8 ft of antoona and only 1 watt or something. If I can hear my own "wireless mic" on 1605+/- about a mile from my house, I'd bet that a real system (good ground, good antenna, efficient transmitter &c) would do better.

So there is something to trying out lowfering. If I had a better location for a transmitter (and certainly for a better receiver set up), I'd be a lot more activo than I am... which ain't that much. And on good nights in the winter, I can hear the heterodynes from what I presume are LW broadcast stations elswhere on this green planet of the clocks.

It's fun. It's weird. It ain't disappeared. It's science.

73
Nils
WB8IJN &c

1751. Re: Nichrome wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <325C5850.261C@monmouth.com>
Source record: 101926

Hal Rosser wrote:
>
> If you lived in Augusta GA, I would suggest "FOX APPLIANCE PARTS"
> but i suspect most any appliance parts place would have it.
> ..by the way.. I wonder if you can use that stuff for a dummy load.
> ...hmmmm
> regards & 73's
> Hal rosser KT4QE

Water makes a fine dummy load. I have used it a number of times to
make very high power dummy loads.
Made some for 60kw hf transmitters at the Signal school when
it was here at Fort Monmouth. We used a fifty gallon drum or a
wood barrel and just fed the open wire transmission line right down
into the water with the wire going down about 24 inches or so.
Because they froze in the winter and you had to always check the
water
they were eventually replaced by fixed resistor types (very expensive)

Most tap water is conductive enough that you dont have to add any salt
(which wouldn't be good for the steel drum). Just adjust the spacing
of the wires and the length till you get a low or zero swr.

I made a small version here at home to fully load my 1500 watt
amplifier. I used a 5-gallon plastic bucket with a flat bar laid
across it which carried an SO-239 connector with the parallel wires
soldered to the back and spaced about 6 inches apart going down
into the water. Connected it through the swr/power meter and was in
business. If you have trouble getting it to take the load make the
wires closer or add a little salt (only a tiny pinch is usually needed)

For a temporary load it works fine.
Bob ND2L
--
****
Bob Bissett rbissett@monmouth.com
****

1752. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: jlowman@netcom.com
Message-ID: <jlowmanDz0oI6.DwJ@netcom.com>
Source record: 101927
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Well, Roger, I think we may be a dying breed. Homebrewing and repair seem to be, at best, a niche interest among today's hams. A few reasons come to mind:

-- The growth in amateur radio today is in the Technician ranks. Until or unless they upgrade to operate on the HF bands, there is little homebrewing to be done. Most gear is readily available in plug-and-play mode, and conversion of surplus commercial equipment may be as close as many get. I do applaud Ten-Tec for introducting kits for VHF transceivers.

-- The demise of Heathkits is certainly a factor. While it may be argued that this is really assembly as opposed to homebrewing, the satisfaction of powering up a Heathkit and putting some mileage on something that one had a hand in making operable is still there.

-- As you pointed out, complexity of modern ham gear is a factor also. Most hams today don't own/can't afford/can't operate the sort of test equipment needed to service modern, commercially-available equipment such as produced by Icom, Kenwood and Yaesu, so it's back to the factory when they require service. I can remember that the instruction manuals for my Drake R-4/T-4X twins (which I still own and operate) not only had schematic diagrams, but also had alignment instructions. Only a VTVM and an RF Signal generator were required to perform this task; instruments that were common in the ham shack back in the 60s, when I got my General.

As an aside to the complexity issue, here's another problem: some of the newest and best HF transceivers present quite a learning curve, just to operate. When our club bought a new Icom IC-706, one of the problems we OTs discussed was the amount of work necessary to get it up and running. I'm not knocking Icom here, but someone pointed out the complexity of operation of the Icom versus some older Collins and Hallicrafters gear that had been donated to the club by the widow of a SK. On older equipment, most of the controls were located on the front panel, and had similar or identical names even from one brand to another. This is not an insignificant point, when you consider operating Field Day or any other contest, where there are numerous brands and models of transmitting and receiving equipment in use.

We can use the amount of discussion on the rec.radio.amateur.homebrew and the soon-to-come rec.radio.amateur.boatanchors newsgroups as an indication of the state of the homebrew/repair art.

One very avid group of homebrewers and assemblers today is the QRP crowd. I had the pleasure of meeting the famous Zuni Loop gang before Field Day this year, and almost everyone had a project to show. One of the recent projects involves building a 250-mw 40m CW transceiver, all of which fits

into an enclosure the size of a sardine can.

73 de Jim - KF6CR

1753. Re: Help finding replacement Schottky Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <325C82AD.1E7B@wenzel.com>
Source record: 101928

Does that diode have the removeable base? If so, maybe one of the HP diodes will work (5082-2751, 2713, 2714, HSCH-3206). I don't know if these packages are interchangeable but it is worth a look. Your diode is a x-band device tested at 9.4Ghz and 1mW LO power according to the data book. They are selected for low 1/f noise.

1754. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <325C8407.4033@wenzel.com>
Source record: 101929
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

Could they be using another RF transistor at DC to generate a
temperature-compensating bias?

1755. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Mike Snowden <mikes@fishnet.net>
Message-ID: <325C29D3.3AD7@fishnet.net>
Source record: 101930
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

While I tend to think true homebrew is becoming a lost art, there still is hope for those of us who do like to build gear. I have had no electronics training, except for watching my father build Heathkit projects when I was young. I think the major problem is that back in "those" days, build your own gear was necessary because the gear was not available. As it was stated, homebrew gear does not come close to the features of the import gear. Without the need to build your own, we new hams are not as motivated to learn how to build our gear, then add in the problem of where are we going to go to learn it. I once saw an add for video tape electronics instrustons in a magizine. I been looking for several months trying to find it again, but no luck. Guess there wasn't a market. So we new hams are stuck to tread on our own. Playing doctor on todays gear can be very expensive. I do enjoy the kits still available. My first kit was the Heathkit Weather Station. At that time it was a $650 gamble. That was a lot of money to spend to take a chance of watching it go up in smoke. As it turned out, it worked. It reflects the quality Heathkit but into the instruction manuals. Its been 8 years and its still going. While I build several of the $10 to $20 kits from Ramsey, I am sorry to say,I still do not have a complete understanding of the workings. I am currently build the 2 meter radio kit from Ten-Tec. It was featured in the August issueof 73 Amateur Radio Today magazine. It has shades of Heathkit all over it. And at $200, not a bad deal. I hope other new hams discover the fun of building you own, even though it not true homebrewing.

73 Mike, K6YPB

1756. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961009182908.29287D-100000@spork.callamer.com>
Source record: 101931

This address may be in error! try: http://users.aol.com/lwcanews/

On Tue, 8 Oct 1996, Madjid VE2GMI wrote:

> Try
> http://members.aol.com/lwcanews/index.html
>
> Madjid VE2GMI
>
>

1757. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961009220259.21509A-100000@spork.callamer.com>
Source record: 101932

I must refute my own statement written below. BOTH addresses appear to be
valid! Sorry Madjid....Cliff K7RR

On Wed, 9 Oct 1996, Clifford Buttschardt wrote:

> This address may be in error! try: http://users.aol.com/lwcanews/
>
> On Tue, 8 Oct 1996, Madjid VE2GMI wrote:
>
> > Try
> > http://members.aol.com/lwcanews/index.html
> >
> > Madjid VE2GMI
> >
> >
>
>

1758. Re: Help on diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: Brian Kline <kline@hybrid.com>
Message-ID: <325C5FE7.26A0@hybrid.com>
Source record: 101933

Teun wrote:
>
> Hi everybody,
>
> I am looking for the equivalent type diode >>RLS 135<< in kenwood
> ts 850 BAND PASS circuit.
>
> Who can help me out.
> 73 Teun, Pa3fvw.

The RLS135 is made by Rohm Co., LTD. They characterize it as a band switching diode. It is designed for low high frequency impedance and "small in-terminal capacitance". It's specifications are

P 150 mW
VR max 35V
Io 100 mA
Tj max 150 C
Tstg -55 - 150 C
VF max 1.0 V @ 10 ma
IR 100 nA @ 20 V VR
CT 1.5 PF @ 10 V VR, 1 MHz
rF 0.6 ohms at 10 mA, 100 MHz
Package LL-34 This is cylindrical glass package for surface mounting.

As for a replacement the Motorola MPN-3404 PIN diode is a possibility but I am not sure if it has a low enough on resistance and a longe enough carrier lifetime for HF applications. I hope this helps

Brian Kline
WA6QDP
kline@hybrid.com

1759. Help with Icom IC-22S service

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-09 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <53guvt$c88@login.freenet.columbus.oh.us>
Source record: 101934

Hello all.

I just picked up an Icom IC-22S free from a friend. It does not work correctly but the price was right. If I can get it working it would be and ideal rig in the shack for communicating on a few specific frequencies.

He did not have a manual with the radio, and I don't have a service manual (nor do I know if they can still be obtained; the Icom tech support line is swamped). Can anyone give me a few pointers as to common problems with this particular radio?

Problems noticed so far:

1. No RF output that I can see, although the transmit light does light up.
2. Very little audio on receive and no squelch action.
3. Unknown if the diode matrix and it's associated circuitry are functioning.

I don't have any idea what frequencies are in the radio right now. I've not had the time to go through and decipher the diode positions to figure it out.

Please reply via e-mail to tswisher@freenet.columbus.oh.us or post on the group.

Thanks in advance for any assistance.

73,

Tom Swisher, N8GQK
--
Tom Swisher, N8GQK
The Ohio Railway Museum
"Save Our Roads.... Ship It By Rail"

1760. Z80-SIO & Z8530 Datasheet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: pissaro@mail.telepac.PT
Message-ID: <1.5.4.32.19961010014405.0068ac28@mail.telepac.pt>
Source record: 101842

Hi all,

I need the Data Sheet for the IC's Z80-SIO and the Z8530. Does anyone
knows on the net where I can find these information?

Many Thanks
Joao Pissarro
ct1dbh

Joao Pissarro
Internet: pissaro@mail.telepac.pt
packet: ct1dbh@cs1aas.ctlx.prt.eu

1761. Looking for PCB diags for QRP & HF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: 9128476@pukrs3.puk.ac.za
Message-ID: <53go5j$675@pukrs7.puk.ac.za>
Source record: 101843

Hi

I am looking for a circuit diagram for a linear amp for mobile use (+-
100w) on HF.

I am also looking for a circuit diagram of a small QRP transceiver for
40m and 80m (1 to 2 watts) and with crystal control for 7.070 and /or
3.6950.

Fanx!

1762. Re: Heil Mic on Icom ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: nc1n@tiac.net
Message-ID: <53hmjn$7be@news-central.tiac.net>
Source record: 101844

l38217@alfa.ist.utl.pt (Pedro Pedroso) wrote:

> Hello to all !
> I'm planning to buy an Heil HC-4 for contest operation, but I've
> been told that the HC-4 cannot be conected directly to an Icom
> transceiver because it needs a capacity to adapt.
> Since I own an IC-725, I would like to know the value of the
> capacitor and if it is connected in paralell or series.

> 73 + Good DX + Good Contest !

Several points:

1. If you buy their Icom adapter cable, it already contains the capacitor.

2. A number of hams have found that the Heil mics don't have enough gain to drive Icom rigs, which expect preamplified microphones. The newer Icom rigs seem to be more tolerant, but expect to either (a) leave the speech processor on and keep the gain turned to max, (b) modify your rig so it requires less gain, or (c) build a preamp of your own.

If you ask Heil for information on this subject, they'll send it to you. Expect a certain degree of editorializing on Icom rigs! The Heil folks seem to have strong opinions. I just checked my copy and the IC-725 isn't explicitly mentioned.

I bought an HC-4 this summer for my IC-730. It definitely needed a preamp. I ended up building a single-FET preamp based on a schematic sent to me by Heil... they had received it from an Icom owner, who had in turn gotten it from Icom. It makes the HC-4 usable, but I still need to keep the gain at max and the speech processor on. I still can't drive the rig as strongly as with my Icom mic, and I frankly think another 10 dB would be better.

Heil is considering marketing a preamp for this purpose, but they aren't ready to commit to it yet.

There were a number of messages on the subject over the summer, some in response to my post in rec.radio.amateur.equipment. If you do a Deja News search on Heil and Icom, you can see other peoples' opinions.

The Heil mics have a great reputation, and I'm pleased with mine--I just wish the Heil folks would come up with a better solution for us (older) Icom rig owners.

--Charlie

Charlie Ross, NC1N
HOME: nc1n@tiac.net
WORK: chr0@hp0.ndhm.gtegsc.com

1763. Re: im lookin to build a 0-12v regulated power supply ,,,need schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <53hguq$8n8@peabody.colorado.edu>
Source record: 101845

In article <53goqh$190s@newsgate.sps.mot.com>, Jim <jstrohm@texas.net> wrote:
>While it's true that you can't get an LM317 much below 2 volts --
>
>WHAT USES LESS THAN 2 VOLTS??

Tunnel diodes crank at 100 mV drop - but I just sold all mine.

Sometimes it's nice to gently power something up - if you have something put in the socket backwards you find out with the current draw going through the roof with 1 v applied - and then you switch the power leads, and all is well. 2 V can be enough to smoke some things.

My power supply goes down to zero,and I use this feature all the time. But there's a cheat - it gives -15 V also, so there's a nice way to pull the ground pin of the regulator below ground, so it can deliver a nice, stiff ground, or thereabouts. For a car-battery-only system, this would need an explicit voltage inverter (like an ICL7660 or 7662).

Maybe a single-supply opamp, and a power FET? It would become high impedance down at ground, which isn't great, but it's still a $5 solution, at least - $10 tops, and could get pretty close:

He wanted schematics -

+ battery terminal -> fuse -> + 12 V

- battery terminal -> ground

50 k pot between +12 and ground. Wiper through 100 K to +input (pin 3) of single-supply opamp

Power FET drain -> +12 V
Opamp output (pin 6) -> 1 K -> gate of FET
Source of FET -> 100 K to - input (pin 2) of opamp, and also directly (no 100 K) as Supply OUTPUT
heat sink for FET depending on current draw - beware case of FET will be at +12V - so heatsink will need insulation either between it and the FET, or between it and the rest of the world.

anti oscillation: ~500 pF pin 6 -> pin 2 - maybe need more
opamp power: pin 4 = ground, pin 7 = +12 V
10 uF between pins 4 and 7, observing polarity.

FET: $2. IRF 511 (radio shack)
Opamp: CA3140, $2 ish - don't know if RS has these
pot: ten turns is nice: $4; 1 turn works: $.50
resistors, caps, heat sink
fuse holder - $0.39

car - Honda Accord - $14,499.00 (includes battery)

Bruce
N6URH

1764. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <eehqeGANwLXyEw7+@ddwyer.demon.co.uk>
Source record: 101846

In article <325aa4f3.0@itchy.itsnet.com>, Allen Wallace <allen_wallace@p
owertalk.dtint.com> writes
>In article <536pvq$dro@newsbf02.news.aol.com> SteveBragg,
>stevebragg@aol.com writes:
>>Does anybody do homebrew amateur radar? I know there's got to be a FEW of
>>us out there...
>>Reply if you're a "radar hack" like me.
>
>I'm intrested in this! I want to make a remote DF for 121.5 Mhz ELTs,
>using no moving parts, using monopulse DF. I also dabble in lots of
>microwave misc. I'd love to bounce several of my ideas off of a group of
>hams like you!
I am attracted to the possibility of passive radar.
There was an article in UK Electronics and Wireless World some years
back that involved picking up a direct radar pulse , synchronising your
own receiver from this and then processing the returns. Such a system
seems fairly uncomplicated.
An alternative requiring some processing power and two or more antennas
would employ one or more TV station signals. The system could be
operated like a parabplic mavigation system or TV modulation employed to
to determine distance (delay of shadow).

Douglas Dwyer FP Ltd Shorts Farm Northlew Okehampton Devon EX20 3NR UK
Tel+44(0)1837810590
Stop by http://ourworld.compuserve.com/homepages/Frequency_Precision/ for
information on Precision Frequency, Crystals OCKOs TCXOs and
more.

1765. Re: S&S TAC-1 QRP Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <325CD828.1446@staffnet.com>
Source record: 101847

Mark Fossum wrote:
>
> Okay! Thanks for the information. The 40m version is exactly the one
> that I'm thinking about.
>
> Mark
>
> > Anyway, I highly recommend the S&S Engineering kits.
> >
> > - They use only top quality parts.
> > - The designs are excellent.
> > - ON the air performance is top notch. In half my contacts I am asked
> > about the rig and get compliments on the keying.
> > - Building the kits is not simple but not difficult. Be careful. Read
> > the directions, look at what you are doing, double check, work slowly.
> > These are full-featured radios and the circuit boards are packed.
> >
> > Go for it. You will not regret it.

I've built both the TAC-1 and ARK-4 kits for 40 meters. Both are
excellent. The ARK-4 is a little smaller and draws less current on
receive but uses thumb-wheel switches for tuning. If you are truly
backpacking then you might want to consider the ARK-4, otherwise the
TAC-1's knob tuning is easier to use.

1766. Re: Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <Dz1y7p.Lly@pe1chl.ampr.org>
Source record: 101848
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <325BD767.5131@toronto.cbc.ca> "T.A.Holden" <tholden@toronto.cbc.ca> writes:

>Is it possible to setup a modem through the AT commands to transmit at
>high data rate in the absence of a receive carrier? I have succeeded at
>low data rate (300 bps) using analog loopback followed by digital
>loopback but cannot force a higher data rate.

No. Highspeed modems talk to eachother at connection setup, and measure
the line characteristics to compensate for frequency and phase characteristics.
This is the warbling noise that you hear before CONNECT appears.

So, you can only use a highspeed modem on radio (I suppose that is what
you are after) when the radio path is fullduplex so the modems can hear
eachother all the time. And even then it probably won't work too well,
because a radio path has distortions (due to multipath, changing propagation
etc) that a telephone modem is not designed to cope with.

Rob
--
+-----------------------------------+--------------------------------------+
| Rob Janssen pe1chl@amsat.org | WWW: http://www.knoware.nl/users/rob |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+--------------------------------------+

1767. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <53inj3$i8v@nadine.teleport.com>
Source record: 101849
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <jlowmanDz0oI6.DwJ@netcom.com>,
jlowman@netcom.com (Jim Lowman) wrote:
> . . .

>One very avid group of homebrewers and assemblers today is the QRP crowd.
>I had the pleasure of meeting the famous Zuni Loop gang before Field Day
>this year, and almost everyone had a project to show. One of the recent
>projects involves building a 250-mw 40m CW transceiver, all of which fits
>into an enclosure the size of a sardine can.

The QRP folks are almost certainly the most homebrew-oriented hams today.
Some of the journals, most notably SPRAT (G-QRP Club) are packed with
homebrew ideas and projects. But this is changing rapidly. An experience I
had at Dayton this year was enlightening.

At the Dayton QRP banquet, the MC said it would be interesting to know what
kinds of rigs people were using. He then asked how many people were using
the NorCal 40, HW-8, and so forth, naming each commercial rig or kit in
turn. (There was quite a list.) Finally, he asked if he had forgotten any
types. I meekly mentioned "homebrew". He hadn't thought of asking! Out of
150 or so people in the room, a handful (fewer than 10) raised their hands.

That evening or the next there was a judging of some homebrew rigs, and
several were beautiful or downright ingenious. But homebrewers are in a
large minority even among the QRP crowd -- in the U.S. at least.

Roy Lewallen, W7EL

1768. Re: Plate voltages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Robert Ganter <ganter@ens.ascom.ch>
Message-ID: <325CA6CF.5FBF@ens.ascom.ch>
Source record: 101850
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

macino@ibm.net@smtp-news2.ibm.net wrote:
>
> maybe some local old timer may have the Eimac 'Care and Feeding of Power
> Grid Tubes'. It does a great job of explaining the whole deal with load lines,
> impedances, and all. They're not too tough to understand. Only the Gate 2
> Vanity Call operation is beyond comprehension. Cheers!

Do they still sell this book (or booklet) ? I would be very interested.
If it is not available anymore, could someone photocopy it?

Regards

Robert HB9NBY

1769. MICROWAVE DEVICE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Bruce KD1MW <shiso@ici.net>
Message-ID: <325CA486.253E@ici.net>
Source record: 101851

Any interest in NARDA - coaxial phase shifter, 3.5 -12.4 MHZ? I have one. Make offer or otherwise. Thanks, Bruce KD1MW

1770. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDz285q.Fqn@netcom.com>
Source record: 101852

James Aeschliman (bb840@scn.org) wrote:
: I believe it's primarily a matter of difficulty in finding parts and
: designs for simple equipment that can be built, but almost anything
: built today seems to require specialized parts and circuit boards.

30 years ago you could walk into the local electronics store and it was like walking into a hamfest--all sorts of wonderful doodads and gizmos. Lafayette and Allied had wonderful catalogs.

Many of those stores are long gone. Radio Shack today does have many parts, but the goodies for RF construction are lacking. Mail order is problematic because of high minimums and high shipping costs. And we have changed culturally--distractions like TV, long commute times and the fast pace in general all impose upon us.

On the plus side, we have computers that allow us to do extravagant circuit analysis compared to what one was inclined to do with a slide rule. (Ironically though, I miss the slide rule world . . .)

Thomas (ars KI4N)
tgm@netcom.com

1771. Re: Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: "T.A.Holden" <tholden@toronto.cbc.ca>
Message-ID: <325D04D3.3977@toronto.cbc.ca>
Source record: 101853
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am still looking for help in forcing a simplex high speed connection with Hayes
AT compatible (or other) modems.

Rob Janssen wrote:

" In <325BD767.5131@toronto.cbc.ca> "T.A.Holden" <tholden@toronto.cbc.ca> writes:

'Is it possible to setup a modem through the AT commands to transmit at
high data rate in the absence of a receive carrier? I have succeeded at
low data rate (300 bps) using analog loopback followed by digital
loopback but cannot force a higher data rate.'

No. Highspeed modems talk to eachother at connection setup, and measure
the line characteristics to compensate for frequency and phase characteristics.
This is the warbling noise that you hear before CONNECT appears."

Good point. So a forced connect speed does not preclude this negotiation?

Is there not some test mode with which the modulator can be used at high speed
without detection of remote carrier and negotiation?

" So, you can only use a highspeed modem on radio (I suppose that is what
you are after) when the radio path is fullduplex so the modems can hear
eachother all the time. And even then it probably won't work too well,
because a radio path has distortions (due to multipath, changing propagation
etc) that a telephone modem is not designed to cope with."

Agreed. However, I am thinking of using a stable, high quality but unidirectional voice
(or wider) channel.

>
> Rob
> --
> +-----------------------------------+--------------------------------------+
> | Rob Janssen pe1chl@amsat.org | WWW: http://www.knoware.nl/users/rob |
> | AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
> +-----------------------------------+--------------------------------------+

Thanks for your help.

--
Tom Holden VE3MEO

1772. NEED INFO ON GE PORTAMOBILE 49MHZ RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <53j2fk$pje@news1.iamerica.net>
Source record: 101854

Hello,
We have a GE Portamobile Radio on 49Mhz. Is anyone familar with
this radio? All we have is the radio on 49.180 Mhz and the AC
powersupply that clips on to the bottom. The radio does transmit 10
watts but we do not have a receive xtal. The model # is HN44LA833
TX data ET61A and RX data is ER43A. Any info would be appreciated.
Will the radio tune up on 6M? Does anyone have realigning
instructions? Copies of the service manual?

Thanks
AB5LG

1773. Build Your Own

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: john fleenor <jlfleenor@why.net>
Message-ID: <325D2C55.384D@why.net>
Source record: 101855

visit john's ham page at http://www.why.net/home/jlfleenor for web page graphics, ham software, ham links, electronic projects, and more!

1774. RE: Is equipment building a lost art &c...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Oct10.111003@nova.wright.edu>
Source record: 101856

To them what's been talking about this, I agree. Homebrewing stuff is slowing down. It goes hand in hand with the growing concensus that most American band use has devolved to power contests (what we in the over-powered "Ohio Valley Teratology Net" used to call "horse-races"), bitter abusive disputes and positively paranoid rantings that come close to being personal broadcast yellow journalism. But that's another topic.

I know a bunch of lunatics who still like to build or at least discuss circuit design and the tribulations of making stuff what starts out as metaphysics into physically tangible stuff on the bench. Most of 'em are either tube-heads (as in: people who still like warm boxes of stuff with tubes inside) or they are QRPers, or they are something in betwixt. Me? It's a little of both.

On one side of the building fence, there's a lot of nostalgia. We bemoan the demise of Heath and the japanization of Drake and the disappearance of Collins. We want to have the boxes that we had when we were kids. We even build boxes for our own kids (like the revamped MRL #2 xtal set that I built for my eight-year-old). But we build stuff, and often enough, repair stuff what was munged by the ham-fisted (and that "ham" as in "as big as a Virginy-cured ham [as in slab of meat about the size of a sumo wrestler]).

On the other side of the fence, there's a lot of proof of viability. We wanna show our families or friends or even just ourselves that we can still make stuff that works, even if only in a nominally successful way. It's the creativity complex, perhaps. But we have to have the iron on and the desk cluttered with boxes of poorly sorted excess junk: screws and washers and diodes and caps all thrown into various small boxes, ice-cube trays and plastic sort-em-drawer sets screwed haphazardly to the shack walls. Leonardo and Durer live inside us. We gotta make something out of all this crap or we don't exist. Kinda like the Russian proverb, only this time it's not a matter of eatin' but more a matter of just being.

And those of us old enough to remember the shock of Sputnik do indeed have sometimes monumental collections of excess baggage in parts and knobs and pieces of equipment that no longer exist. We know about Atwater-Kent from our parents' stories while our children don't even know what a phonograph or record player is. We figure that we're keeping history alive. And maybe we are. Which makes it all the more essential that we somehow manage to leave our junk boxes behind with the request that they end up in the hands of some one -- one solitary remaining someone somewhere somewhen --

who will say "Holy shit, will you look at these tubes! Man, I gotta make somethin' out this!"

That's all we got, brethren and sistern. Somehow we gotta pass it on. Otherwise Radio Shack will determine the mental acuity and creativity of our grandkids and their grandkids and the Handicapper General will indeed have won the day. The Marching Morons ain't that far behind.

Build! Kto nye stroit' nye byt'/Den som bygger inte er inte...

73
Nils
WB8IJN &c
(And, yes, my command of Russian is sub-neonatal... So flame me... or give me $20!)

1775. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct10.141715.4459@ke4zv.atl.ga.us>
Source record: 101857
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <jlowmanDz0oI6.DwJ@netcom.com> jlowman@netcom.com (Jim Lowman) writes:
>Well, Roger, I think we may be a dying breed. Homebrewing and repair seem
>to be, at best, a niche interest among today's hams. A few reasons come to
>mind:
>
>-- The growth in amateur radio today is in the Technician ranks. Until or
>unless they upgrade to operate on the HF bands, there is little homebrewing
>to be done. Most gear is readily available in plug-and-play mode, and
>conversion of surplus commercial equipment may be as close as many get. I
>do applaud Ten-Tec for introducting kits for VHF transceivers.

I think many of today's Techs (and other classes) aren't homebrewing.
Part of the reason for that is many of them are new to amateur radio
and aren't quite sure of their skills and knowledge yet, IE they're
a bit intimidated by the thought of building their own equipment. And
part of it is the wealth of available off the shelf equipment, so there
is no pressing need to build. But I take issue with the idea that you
must be on HF to homebrew.

Homebrewing becomes easier as you go up in frequency. There are
several good reasons for that. Stripline circuit boards remove
many of the stray problems, eliminate messy discrete inductors,
and favor the much easier to use SMD parts. Harmonic suppression
becomes easier as well. And most beginning VHF+ projects are FM.
That simplifies many things. The IF operates with hard limiting,
so AGC systems aren't required. The demodulators are nearly
foolproof, and easily tuned up by ear. Frequency stability
tolerances are relaxed. Etc.

And there are many good ICs which offer complete FM IF subsystems,
complete demodulators, etc. And there are good packaged mixers,
cheap and stable MMIC gain blocks, and even a number of electronically
tunable LO sources. On the transmit side, there are hybrid PA modules
available that are stable, 50 ohms in and out, and offer power outputs
in the 5 to 50 watt range when driven by low level inputs.

I build a lot of quick projects to test new ideas, and it is much
easier to do so at VHF+ than at HF.

>-- As you pointed out, complexity of modern ham gear is a factor also. Most
>hams today don't own/can't afford/can't operate the sort of test equipment
>needed to service modern, commercially-available equipment such as produced
>by Icom, Kenwood and Yaesu, so it's back to the factory when they require
>service. I can remember that the instruction manuals for my Drake R-4/T-4X
>twins (which I still own and operate) not only had schematic diagrams, but

>also had alignment instructions. Only a VTVM and an RF Signal generator
>were required to perform this task; instruments that were common in the ham
>shack back in the 60s, when I got my General.

Actually, today's radios are somewhat easier to service than the old belchfire models. Certainly they are *safer* to service. You can't just look to see which tube isn't glowing, but then tubes failed often, transistors and ICs seldom fail. When they do fail, it is usually obvious what's happened by the behavior of the radio. Many of today's radios fail, when they do finally fail, due to passive component failures, especially intermittant problems. Those were a bear to track down in the old belchfire radios, and they still can be in the newer radios, but liberal use of component cooler and heat guns can find them fairly rapidly.

You don't really need elaborate test equipment. The most important piece of test equipment is between your ears. Beyond that, a DVM and a signal source are still the basic tools. A logic probe can be handy too, but usually not essential. Sometimes a scope is a very nice thing to have, but it was in the old days too. It's just that back then many of us couldn't afford one. Today, there are inexpensive imported scopes available, and the surplus market teems with high quality scopes we would have killed for in the old days.

A power meter and a dummy load are handy things to have for transmitter servicing today, but they were back in the belchfire days too. The only tool many of us consider a necessity today that was almost never seen in the old days is a spectrum analyzer. In the old days, we just *hoped* our signals were clean. Today we can look and see that they are clean. Again, the surplus market can supply us with instruments we couldn't even have dreamed of owning in the old days. But we can do without one, and just hope our signal is clean, like we did in the old days. (I don't recomend that, but we can.)

>As an aside to the complexity issue, here's another problem: some of the
>newest and best HF transceivers present quite a learning curve, just to
>operate. When our club bought a new Icom IC-706, one of the problems we OTs
>discussed was the amount of work necessary to get it up and running. I'm
>not knocking Icom here, but someone pointed out the complexity of operation
>of the Icom versus some older Collins and Hallicrafters gear that had been
>donated to the club by the widow of a SK. On older equipment, most of the
>controls were located on the front panel, and had similar or identical names
>even from one brand to another. This is not an insignificant point, when
>you consider operating Field Day or any other contest, where there are
>numerous brands and models of transmitting and receiving equipment in use.

I'm frankly flabbergasted by this comment in reference to the IC-706. In my opinion, the IC-706 is the most intuitive and operator friendly radio I've ever owned. It takes about 5 minutes to learn to navigate the menus, after that you can toss the instruction book (even without the initial resort to the instruction book, you can quickly figure things out). Every feature is clear and basically self-explanatory.

That's certainly not true for some other radios. I spent two hours, manual in hand and salesman by my side, trying to make the FT-8500 do a simple thing the manual says it'll do. We couldn't figure it out. We called the factory for support. They tried to talk us through it, and it became obvious that *they* didn't understand how to do it either. (We found out later that the manual was wrong, the firmware version in the radio we had didn't support doing what I was trying to do. Arrrgh!) Some of the Standard radios have menu systems which are byzantine too. And I don't even want to get into the bizzrre idea of a user interface that Kenwood has. But the IC-706 is a dream to operate. Everything is very clear, intuitive, and easy to access.

OTOH, I defy you to set the carrier balance and sideband suppression on a HT-37 belchfire radio without resort to the manual (and plenty of patience). That's something you found yourself doing *a lot* on that radio. Tuning up a B&W 6100 *properly* for the first time without resort to the manual is likely to cause great frustration too. The old radios each had their own foibles you had to learn. I ruined a set of finals in a TR-3 before I caught on to the proper way to tune one up. Modern radios won't let you do that. They'll protect themselves if you try to do something stupid.

Gary
--
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Lawrenceville, GA 30244 | |

1776. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct10.153207.4916@ke4zv.atl.ga.us>
Source record: 101858
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <53gtvv$oia@sf18.dseg.ti.com> kc5ng@dlep1.itg.ti.com (Mustang Maniac) writes:
>
>Yes, I think that we are a dying breed, for many reasons.
>
>It is virtually impossible for even an experienced "home technician" like us
>to repair much of today's ham gear. I had the cover off my TS-870S when I
>first got it last winter. I took one look inside, and swore I'd never open
>it again! There's no way I'd attempt to repair it, should it ever develop a
>problem. Nearly all of today's gear is that complex inside.

And nearly all of it is very simple to repair. It doesn't matter how many parts are inside, you're only going to have to replace the bad one. Before you even remove the cover, you should be able to narrow the problem down to one or two functional blocks from the behavior the radio is exhibiting. All the other parts can now be ignored. A quick check or two will narrow the problem down to one functional block. A couple more checks and you're down to only a few components as possible failure points. Then straightforward component level troubleshooting will identify the faulty component. Simple.

Many of today's radios have gone to surface mount parts, and that makes repair a lot easier. You only need to be able to get to one side of a circuit board, so you often don't have to disassemble the radio very far in order to replace the bad part. SMD has made the repairman's job much easier.

>While there is always another interesting project or two showing up every
>month in QST, 73, or one of the other journals, too many of today's hams
>have little or no electronics background, and many of the articles are of
>a higher caliber than a beginner would want to attempt. Over the years,
>a great many construction articles have been related to that other dying
>art, operating CW. Too few of today's hams have enough serious interest
>in CW, coupled with their limited technical knowledge, and that makes the
>old CW rig construction articles worthless. TNCs, ATV, digital stuff, DSP
>filtering, all are too technical for the beginner. Heck, some of that
>stuff's too technical for me too!

You're right that many of the old projects revolved around CW transmitters, and not that many people are interested in that anymore. But the other stuff isn't too technical for the beginner. Most of the high tech is safely tucked *inside* the ICs. So the beginner can treat them as functional blocks with a given transfer function. That makes building easier, not harder.

>Another problem is a lack of "elmering"
>by us old-timers (yeah, I know, I'm not really an old-timer by general
>standards, but 20 years qualifies me as one for the newbies). I try to
>"elmer" anyone who wants the help, and I know of some others who do the same.
>But there's sure not as much of it going on as there was ten, fifteen, or
>twenty years ago. What happened? We sit and complain about the no-code
>license, VE testing making it too easy to get a ticket, lack of technical
>knowledge, et cetera, then we sit back and do nothing about it. This could
>change, but will it? I'm not faulting the newbies. They come from widely
>varied backgrounds, most of which aren't related to electronics or
>communications. Nobody knows anything unless they are taught, right? WE
>need to do the teaching, or it won't get done.

That's right, If we want people to build, we have to show them how to
do it. Of course it would be helpful if we've kept up with technology
ourselves and actually know how to do what the person we're teaching
wants to do. People are capable of learning many things on their own.
They don't need formal teaching to understand modern electronics. The
library and bookstores are full of texts from which they can learn
that. But some of the *craft* skills needed for home construction are
best learned by example. There are many tricks of the trade that ease
home construction. We need to show these to the beginning builder.

>Used to be, you had to do
>your homework to get a ham ticket. We had to KNOW the rules, electronics
>theory, radio wave propagation principles, and such. We didn't have the
>question pool available to memorize. That isn't the case any more. You
>really don't have to know anything except how to read and memorize things
>nowadays. I personally think that's a bad thing.

It's not really that different from the old days. And frankly, what
you need to know to pass the exams, then and now, is woefully inadequate
to prepare you to be a builder. Passing the exam merely gives you license
to begin learning how to do that.

>On the bright side, a local ham just built (from scratch!) a super-regen
>receiver as a project with his two young sons, ages about 7 and 5. They
>scrounged my junkbox for some of the parts, and bought the rest. Their
>receiver uses transistors and ICs, but it's still just as hard to tune
>and fickle to operate as the old two-tubers were. It warmed my heart to
>see this project go together. They built a wooden box with a Lexan front
>panel, so you can see all of the components. It's built point-to-point
>and it's ugly as sin, but it has that certain curious beauty about it,
>a beauty only a home-brewer can appreciate. (that's a shame)

Ugh. A superregen. I hope it doesn't turn them off to building. They
might get the impression that that's the best they can do at home and
turn back to commerical equipment. (I'm not knocking their project if
what they wanted was to find out how bad the old circuits were. I
just hope that they know that for a similar parts count they can make
a much better radio today.)

>Suppose the newbie finds a project that he/she wants to build. At least a
>lot of the projects these days use parts available at Radio Shack or from
>a mail-order supplier such as Mouser. But let's uppose that this project
>is not something from last month's QST, but instead is from an old ARRL
>Handbook from the 1960s. Where is that poor sucker going to find the old
>style parts to build that whoosy-whatsis? High-voltage parts, tubes, and
>other old-style parts are too hard to find, and when you do find them,
>they are way expensive. Too many of the "old timers" have passed on, and
>their junkboxes (which were filled with wonderful old parts that are now
>worth their weight in gold) were simply emptied into the dumpster once the
>commercially-made ham gear was sold off. The resources are drying up.
>
>There's also this perception that anything that doesn't contain a bunch of
>ICs is not useful, so no one bothers. Hey, tube gear may be old and not
>sophisticated, but it still works. And, it's still fun to build, even just
>for the nostalgia value. The digital revolution has brainwashed too many
>of the new and prospective new hams. The desire these days is for more and
>more features, and the older gear, whether homebuilt or not, doesn't deliver
>this. I don't know how to change the perception. Maybe we can't.

Actually, I hope we can't. The newer designs are better. They're easier
to build. They have better performance. And the parts *are* available.
Reliving the old days may be nostalgic, but it isn't the best way to
approach most building projects today. There's a reason the old parts
are hard to find, they don't do the jobs we want done as well as modern
parts can do them, so they've fallen out of use.

Gary
--
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Lawrenceville, GA 30244 | |

1777. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <53jad1$nrb@hpscit.sc.hp.com>
Source record: 101859
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

In article <325C733E.3C19@hybrid.com>, Brian Kline <kline@hybrid.com> wrote:
>Winfield Hill wrote:
>I believe the part that you are referring to was called a Byristor by CTC
>(Communications Transistor Corp.) I think the CTC Part number was BY-1.

And Communications Transistor Corp. was purchased by Acrian,
hence the "ACR" designation.

Rick N6RK

1778. Re: Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Jeff King <jeff@mich.com>
Message-ID: <325D4490.5A04@mich.com>
Source record: 101860
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

T.A.Holden wrote:
>
> I am still looking for help in forcing a simplex high speed connection with Hayes
> AT compatible (or other) modems.

If the Hayes has "FAX" modes, try them. Like V.29 or something. I've
done
amateur radio links
using v.29 (which is the standard 9600bps mode) and it works fairly
well.
You'll need to use fairly long txd's.... something on the order of 400ms
due to the train sequence it sends, but other then that it works well.
You will need to make sure you audio is not clipping however as V.29
is 16 level QAM. The train sequence is (I think) about 250ms plus
another 150ms for the radio to stabilize. There is a fast train mode
you can use which is only 50ms long.

V.29 is a half duplex data modem standard. Center carrier is
1800hz. Some of the results I had got written up in QEX and
TAPR PSR a number of years back. Also, the Japanese have
done some work with this as well. They (I think) were using
the Rockwell chip set... I was using the Yamaha chip. I little
write-up is on the PRUG homepage (sorry, don't know the URL).
They (the Japanese) have also done some work with V.27 (7200bps)
which is a little more robust in a radio enviroment then V.29.

I've not tried the 14.4 fax modes.

>
> Rob Janssen wrote:
>
>
> " So, you can only use a highspeed modem on radio (I suppose that is what
> you are after) when the radio path is fullduplex so the modems can hear
> eachother all the time. And even then it probably won't work too well,
> because a radio path has distortions (due to multipath, changing propagation
> etc) that a telephone modem is not designed to cope with."
>
> Agreed. However, I am thinking of using a stable, high quality but unidirectional voice
> (or wider) channel.
>

On slowly "fading" channels, you shouldn't have much problem assuming
you re-train
frequently. Actually, its been my experince that a radio channel is

better in most
cases then a telephone channel. Now, I am talking about a properly
engineered link
with clearences in the fresnel zones. This of course is a VHF/UHF link,
not HF or
some "HT" style rubberduck packet station.

Good luck

-Jeff wb8wka
mailto:jeff@mich.com

1779. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: nick@cs.unc.edu
Message-ID: <53jdt3$hri@altair.cs.unc.edu>
Source record: 101861

I'd also have to include the technology shift from point-to-point
wiring to printed circuit boards.

This changed the relationship of kit-building to homebrewing. In the
point-to-point days the functional relationships of all the components
was pretty exposed and clear. Homebrew gear and kit gear looked very
very similar except for the quality of the sheet metal and paint job.

This all changed with the intro of PC boards. Kits and homebrew
diverged. The direct relationship of component to function was hidden
and homebrewers simply couldn't fabricate PC boards *easily*.
Still can't, but at least design and layout is a lot easier now.

Unfortunately, this has a big effect on people getting started -
In the old days, beginners could learn by building a Heathkit, then
homebrew something similar.
Parts were readily available and fabrication took nothing more than
a soldering iron and rat-tail file.

This is still true for some accessories and for vintage homebrewers
(except for parts accessibility) but you can't get into
homebrewing as easily as before. New components require PC boards and
PC boards aren't easy to get into.

All this, of course in addition to the trend to disposable consumerism.

Nick KD4CPL, wailing, moaning, and gnashing teeth

--

Nick England KD4CPL nick@cs.unc.edu Univ. Of North Carolina
http://www.cs.unc.edu/~nick Chapel Hill NC

1780. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: dougrand@i-2000.com
Message-ID: <53jh7v$26v@news2.i-2000.com>
Source record: 101862
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,rec.roller-coaster,rec.running,rec.scouting,rec.scuba,rec.skiing.alpine

Burt Fisher <k1oik@ccsnet.com> wrote:

>I said: "I have a VIC 20 I want to trade for a IC-781" (how long do we
>have read thesre messages where some ham wants to trade his junk for
>something woth something).

>
>From: KH2KQ@KA6EYH.#NOCAL.CA.USA.NOAM
>To : K1OIK@KQ1K.MA.USA.NA
>
>Hello Burt,
>
>You actually got one of those VIC-20's you wanna trade?
>
>I do not have a Icom 781, but I does have a Kenwood 950SDX - howsa bout dat?
>
>Only problem is dat it am attached under the counter of a 36 foot
>motorhome. So if youse trade for da 950 youse gotta take the motorhome
>too. Its got a generator and only 123 actual miles. But the problem der
>is dat it am havin a dead battery and it can't start and it is in the
>driveway of my vacation home at the beach in Malibu - so youse also
>gotta take the house in Malibu if youse want the 950SDX.

>Howsomever, there is a beach bunny and her girlfriend that said they
>would just die if I sold the Malibu house on the beach, so they come
>with the house and the motorhome and the radio.
>
>If dat am OK, then weese got a deal!
>
>Oh yeah, does the VIC-20 got a DC power supply with it?
>
>By the by, if you hear of anyone who has a Kenwood TS-50 attached to a
>Mercedes 450SLC - I would like to trade a Radio Shack 202 for it!!!!!!!
>
>73 de Chuck

Hi Chuck,
I gotta Mercedes 350 SL and it comes with a Alinco DR600. Maybe I'd
like to trade for those beach bunnies......
Doug, KN2Y

1781. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Jeff King <jeff@mich.com>
Message-ID: <325D6597.5741@mich.com>
Source record: 101863

Jake Brodsky wrote:
>
> SteveBragg wrote:
> >
> > Does anybody do homebrew amateur radar? I know there's got to be a FEW of
> > us out there...
> > Reply if you're a "radar hack" like me. Here are some things I'm
> > interested in:
> >
> > 3.5, 5.7, 24 GHz amateur bands
> > Pulse radar
> > Rocket tracking
> > Monopulse and sequential lobing techniques
> > Using used radar equipment
> > New developments in DSP for IF processing.
> >
>
> Tony, N3JLI, and I were discussing topics such as this. I own a pair
> of MA/COM Gunnplexers. I was thinking of using them in some kind of
> chirp radar arrangement. Tony lives near Baltimore, I live near
> Washington. If you're anywhere near this area, we'd be interested
> in corresponding with you. We are well equipped to try building
> something, should curiousity get the better of us.

In one of the Gunnplexer "CookBooks" there is a section about making a Gunnplexer into a radar unit. I believe it chirps it as you suggest. Supposedly you could get good reflections off nearby rain bearing clouds. Or so the author claimed.

Not sure if the rules make this legal, but no reason you can't use "radar" on the lower bands as well. What you lose in resolution you make up for a bit easier time doing things, at least to start. In fact, I think the British used a low VHF band in there first radars.

'DSP' techniques really can help us here.... might be a good front end for a radar unit that talks to a PC based display terminal.

Another neat thing amateurs could do is put cube reflectors on there balloon launches. Or mapping the ionosphere.

-Jeff wb8wka

1782. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDz2v7s.A5M@netcom.com>
Source record: 101864
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <1996Oct10.153207.4916@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <53gtvv$oia@sf18.dseg.ti.com> kc5ng@dlep1.itg.ti.com (Mustang Maniac) writes:
>
>>On the bright side, a local ham just built (from scratch!) a super-regen
>>receiver as a project with his two young sons, ages about 7 and 5. They
>>scrounged my junkbox for some of the parts, and bought the rest. Their
>>receiver uses transistors and ICs, but it's still just as hard to tune
>>and fickle to operate as the old two-tubers were. It warmed my heart to
>>see this project go together. They built a wooden box with a Lexan front
>>panel, so you can see all of the components. It's built point-to-point
>>and it's ugly as sin, but it has that certain curious beauty about it,
>>a beauty only a home-brewer can appreciate. (that's a shame)
>
>Ugh. A superregen. I hope it doesn't turn them off to building. They
>might get the impression that that's the best they can do at home and
>turn back to commerical equipment. (I'm not knocking their project if
>what they wanted was to find out how bad the old circuits were. I
>just hope that they know that for a similar parts count they can make
>a much better radio today.)
>
Back in 1971 or so, after I played with the classic LC tuned circuit-long wire-antique earphones-diode thing, I homebrewed a superhet AM radio using transistors, and various parts scrounged from the junk box. Designs were mostly copies of other radios, but different sections came from different source radios. And it actually recieved some stations when I first fired it up, before alligning it (I lived 6 miles away from a 50KW Am station on 770KHz (WABC)). Also tried to build a copy of the 5 tube "All American" AA% radio, but that didn't work. Think one of the parts I scrounged (IF transformer?) was bad. My father thought a superhet might be too ambitious, but Iwanted to do a 'real' radio.

Right now, I'm playing around with an old early 60's AA5 AM tube radio, substituting sub-mini "pencil" vacuum tubes for the standard 7 pin tubes (using a heater voltage transformer to run the 12V and 6V heaters). No 'real' reason, other than making a radio that might have been manufactured if semiconductors had not been invented, and sub-mini tubes being the "next generation" of tubes for AM radios (assume that mass production of pencil tubes would get the cost down). Having fun. Still trying to design a triode osc and pentode mixer stage to substitute for the 12BE6 pentagrid converter. triode oscillates fine, mixer output is a weak signal, weaker than the 'BE6. Will probably learn about some subtile things of superhet design.

1783. Re: Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <Dz2xsM.2DL@pe1chl.ampr.org>
Source record: 101865
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <325D04D3.3977@toronto.cbc.ca> "T.A.Holden" <tholden@toronto.cbc.ca> writes:

> No. Highspeed modems talk to eachother at connection setup, and measure
> the line characteristics to compensate for frequency and phase characteristics.
> This is the warbling noise that you hear before CONNECT appears."

>Good point. So a forced connect speed does not preclude this negotiation?

No, it doesn't. Speed negotiation is only a very small part of this
process. The remainder is referred to as "training" and needs to be done.

>Is there not some test mode with which the modulator can be used at high speed
>without detection of remote carrier and negotiation?

Training is always required in these multi-phase multi-level modulation
schemes. Even FAX modes, which are largely unidirectional, use training.
A slow (300 bps) fullduplex negotiation phase is used to coordinate the
training, the remainder of the transfer is unidirectional.

>Agreed. However, I am thinking of using a stable, high quality but unidirectional voice
>(or wider) channel.

To use standard telephone modems you will need a backward channel.
When you design everything from scratch (or: at least the operating firmware)
you might be able to come up with some protocol that does the training
with only a single direction.

Rob
--
+-----------------------------------+--------------------------------------+
| Rob Janssen pe1chl@amsat.org | WWW: http://www.knoware.nl/users/rob |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+--------------------------------------+

1784. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: akent@bga.com
Message-ID: <53ju1u$jjc@news3.realtime.net>
Source record: 101866

What you say below is the truth about the current state of the US in general.

EG: I have a TV vintage 1985 that was hit by a lightning surge, and it fried parts of the front end. I took it apart, replaced the power supply stuff, other normal parts and traced to a bad chip. I called RCA, and they said that it was a custom chip, and that you cannot buy it anymore. Now I have a big hunk of junk for the garbage pit. It's not my idea of conservation. I also have a VCR that has a motorized loading mechanism that is no longer available. What can one do?

It's typical of todays consumer equipment.

I must say that I also have a really old TV that was also hit. I have schematics, and you can still get parts for it! I think that the way to go now is to buy old gear, as you can fix it when it fries!

Kent

<SNIP>
>All this, of course in addition to the trend to disposable consumerism.

>Nick KD4CPL, wailing, moaning, and gnashing teeth

>--
>-------
>Nick England KD4CPL nick@cs.unc.edu Univ. Of North Carolina
>http://www.cs.unc.edu/~nick Chapel Hill NC

1785. Re: The idiot ham trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: kevink@apple.com
Message-ID: <kevink-1010961532310001@klopke.apple.com>
Source record: 101867
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap,

Guys, could you be a little more careful about which newsgroups you're posting to? I removed all the non-radio ones from the header, but couldn't figure out which of the radio groups was the "originating" one. My apologies to all the non-involved radio newsgroups.

-- Kevin --

--
Death is not a problem. Fear of death is.

1786. Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: tsw@3do.com
Message-ID: <tsw-1010961600380001@cypher.3do.com>
Source record: 101868

We all know that the data rate on "standard" ethernet is 10Mhz, and with modulation of the data, the highest frequency used is 20Mhz. Given the fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax (yellow double shielded stuff) a few questions:

1) How good is it for VHF services (2 Meters??)
2) Loss figures??
3) Has anyone used it for this??

Any other comments...

Thanks

de WA6HCW

--
Tom Watson
tsw@3do.com (Home: tsw@johana.com)

1787. Re: Antenna Coax Routing Ideas Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <325DEC33.E70@mwt.net>
Source record: 101869

I have wood siding on our new (to me too!)webbte wrote:
>
> The subject may be a misnomer. Since buying a new (to me) house,
> I have pondered the eternal question of how and where to route 4
> coax lines and 1 rotor control cable. I've considered (and
> rejected) the old "remove a pane of glass, substitute plexiglas
> and route connectors thru it" method because I'm working with
> both internal and storm window setup. The other method is either
> through the attic or under the floor in the crawl space (shack
> is on first floor) but the delimma is how to feed into shack.
> I've checked the only catalogs currently available to me for
> connector feedthru arrangements on both sides of an aluminum
> plate attached to either floor or ceiling but can't find what
> I'm looking for. Admittedly, my collection of catalogs is meager
> at the moment having cleaned house (at XYL's insistance prior to
> moving). I know a solution exists for a "clean" arrangement.
> Anyone have a solution or point me in the right direction? Any
> help would be appreciated. I've already missed almost a years
> worth of DX chasing and "Closet Contesting" work and my shack is
> still in storage for another 2 weeks or so. I'd like to get this
> setup complete before the furniture arrives.
>
> Thanks for any help.
>
> 73 / ted w4NE (ex-AC4CS/WA4KWG)
I have wood siding on our newly acquired house and I will be drilling a 1 1/2" hole through the siding and attatching an electrical "LB Box" to the outside of the siding and running the coax into the house. Then I will be mounting an electrical junction box in the wall (it will basically look like a box that would hold two regular electrical outlets, but has a solid metal cover on it that will be drilled and have 4 UHF or "N" bulkheads {Barrel connector with threads all the way so it can but fastened with nuts on both sides of the metal plate] on it with jumpers of coax running to the rigs. Sounds complex, but just take a visit to a building supply store and look at all the electrical stuff and you will get lotsa good ideas. Good luck! 73, Scott, N0EDV...The voice of Vernon County (Wisconsin)!

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

1788. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <325e86fa.2074821@eskinews.eskimo.com>
Source record: 101870

bry@mnsinc.com (AF4K) wrote:
<snip>
>In the US it is on 190 kHz
>
>Signals generally travel a distance of about 50 feet then disappear!
>
>But if you have nothing else to do, why not!

I have never operated myself, but many people have worked several hundred miles under ideal conditions. I recall one fellow claimed 750 miles. There are a number of beacons operating more or less continuously. Listen around and if you hear any CW identifiers, email me. I have a list and will look them up. Typically, they use their initials or the suffix of their ham calls.

73, Bill W7LZP
wrt@eskimo.com

1789. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <53k025$klj@abyss.West.Sun.COM>
Source record: 101871
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

In article <53g96m$bft@shore.shore.net>,
Winfield Hill <hill@rowland.org> wrote:
>Can you identify an 4-terminal component called a ACR Z0-28F and
>looking something like a RF power transistor?
>
>I just purchased two military 100 (200?) watt wideband linear
>"preamplifiers" (that's what they're labelled!) which seem to work
>fairly well. They work so well they burned out my 40 watt attenuator,
>forcing me to bring out my BIG loads! The amplifier uses a pair of
>MRF466 for the input and MRF429 for the output. These are
>"gull-winged" RF transistors with a bottom that reminds me of a TO-66
>for transferring heat.

The MRF466 is an NPN BJT rated for 40W (PEP) up to 30MHz. The
MRF429 is an NPN BJT rated for 150W (PEP) up to 30MHz. These are
both 28V devices.

>the control input). Although the unusual part is performing a "dc"
>function, it is manufactured as a high-performance RF part with 4 gull
>wings, just as the MRF466, and is bolted to the heat sink as well.

The unusual part may be a combination DC bias network (a diode
intended to match the characteristics of the RF B-E junction) and
RF feedback network for gain stabilization. Or something.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

1790. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <325f893c.2652546@eskinews.eskimo.com>
Source record: 101872

One area of homebrewing that should never die is building amplifiers. No micro-miniaturization here... big, hefty parts are the rule. A 1500 watt beauty that you built yourself will be a source of pride for years to come. Take your time and do it right, both mechanically and electrically, and you won't be sorry, I promise!

73, Bill W7LZP
wrt@eskimo.com

1791. SEARS MANUAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Doug Little <doug-little@worldnet.att.net>
Message-ID: <325DBF7E.6CF4@worldnet.att.net>
Source record: 101873

Many years ago, Sears sold a 2 meter radio. Am looking for service
manuals. Any ideas where to look?
Thanks
Doug

1792. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <325DA6E8.1D47@calweb.com>
Source record: 101874

Tom Watson wrote:
>
> We all know that the data rate on "standard" ethernet is 10Mhz, and with
> modulation of the data, the highest frequency used is 20Mhz. Given the
> fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax
> (yellow double shielded stuff) a few questions:
>
> 1) How good is it for VHF services (2 Meters??)
> 2) Loss figures??
> 3) Has anyone used it for this??

If this is what is commonly known as "thinnet" coax for ethernet, it is
RG-58. Very lossy at 2M.

--
73 David KD6QFZ
dsipe@calweb.com

1793. Parts, Kits, builders supplies available.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: "LD Brewer"
Message-ID: <53kgmk$qes@lex.zippo.com>
Source record: 101875

Radio hobbyists:

We have a large selection of parts, equipment, kits, supplies, test gear, and etc.

Check out:

http://www.ldbrewer.com

Enjoy !

Doug
KC4HAZ

1794. Take a second to read this. It's cool.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: u5d06@cc.keele.ac.uk
Message-ID: <53j8bb$2ic@gerry.cc.keele.ac.uk>
Source record: 101876

I finally decided to read one of these articles in an internet
newsgroup describing how to make $50,000.00 in only one month from
a $5.00 investment.

Of course I thought this was rediculous ,or some type of pyramid.
I talked it over with my family, an attorney, and my friends, and
they all agreed it was some sort of scam.I hate scams because
usually someone gets burned, and I didn't want it to be me!
I blew it off for a few weeks then saw another one in a
newsgroup I go to alot and thought, "Maybe this is legitimate!".
Besides, whats $5.00 , I spend more than that in the morning on
my way to work on coffee and cigs for the day.

Well, two weeks later,I began recieving money in the mail!
I couldn't believe it! Not just a little , I mean big bucks!
At first only a few hundred dollars, then a week later, a
couple of thousand , then BOOM . By the end of the fourth
week , I had recieved nearly $47,000.00. It came from all
over the world.And every bit of it perfectly legal and on the
up and up. I've been able to pay off all my bills and still had
enough left over for a nice vacation for me and my family.

Not only does it work for me, it works for other folks as well.
Markus Valppu says he made $57,883 in four weeks. Dave Manning
claims he made $53,664 in the same amount of time. Dan Shepstone
says it was only $17,000 for him. Do I know these folks? No,
but when I read how they say they did it, it made sense to me.
Enough sense that I'm taking a similar chance with $5 of my own money.
Not a big chance, I admit--but one with incredible potential, because
$5 is all anyone ever invests in this system. Period. That's all
Markus, Dave, or Dan invested, yet their $5 netted them tens of
thousands
of dollars each, in a safe, legal, completely legitimate way.
Here's how it works in 3 easy steps:

STEP 1.

Invest your $5 by writing your name and address on five seperate□
pieces of paper along with the words:
"PLEASE ADD ME TO YOUR MAILING LIST."
(In this way, you're not just sending a dollar to someone; you're
paying for a legitimate service.) Fold a $1 bill, money order, or bank
note inside each paper, and mail them to the following five addresses:

1- Philippe
2104 De Mexico

Chomedey, Laval
Quebec, Canada
H7M 3C6

2-. Herta Dunbar
1200 Oldfield Point Road
Elkton, Md. 21921

3- John Kelley
P.O. BOX 4363
Brockton, MA, 02403-4363

4- Colleen Walker
250 Cassadnra Blvd #428
Toronto, Ontario
M3A 1V1
Canada

5- Simon Dominguez
Flat 3, 27 Market Place
Burslem
Stoke on Trent
Staffordshire
UK
ST6 3AG

STEP 2.

Now remove the top name from the list, and move the
other names up.This way, #5 becomes #4 and so on.
Put your name in as the fifth one on the list.

STEP 3.

Post the article to at least 200 newsgroups. There are at
least 17000 newsgroups at any given moment in time.
Try posting to as many newsgroups as you can.Remember
the more groups you post to, the more people will see your
article and send you cash!

STEP 4.

You are now in business for yourself, and should start seeing
returns within 7 to 14 days! Remember, the internet is new
and huge. There is no way you can lose.

Now here is how and why this system works:

Out of every block of 200 posts I made, I got back 5 responses.
Yes, thats right,only 5. You make $5.00 in cash, not checks or
money orders, but real cash with your name at #5.

Each additional person who sent you $1.00 now also makes 200
additional postings with your name at #4, 1000 postings.On

average then, 50 people will send you $1.00 with your name at #4,....$50.00 in your pocket!

Now these 50 new people will make 200 postings each with your name at #3 or 10,000 postings. Average return, 500 people= $500. They make 200 postings each with your name at #2= 100,000 postings=5000 returns at $1.00 each=$5,000.00 in cash!

Finally, 5,000 people make 200 postings each with your name at #1 and you get a return of $50,000 before your name drops off the list.And that's only if everyone down the line makes only 200 postings each! Your total income for this one cycle is $55,000.

From time to time when you see your name is no longer on the list, you take the latest posting you can find and start all over again.

The end result depends on you. You must follow through and repost this article everywhere you can think of. The more postings you make, the more cash ends up in

your mailbox. It's too easy and too cheap to pass up!!!

So thats it. Pretty simple sounding stuff, huh? But believe me, it works. There are millions of people surfing the net every day, all day, all over the world. And 100,000 new people get on the net every day. You know that, you've seen the stories in the paper. So, my friend, read and follow the simple instructions and play fair. Thats the key, and thats all there is to it.Print this out right now so you can refer back to this article easily.Try to keep an eye on all the postings you made to make sure everyone is playing fairly. You know where your name should be.

If you're really not sure or still think this can't be for real, then don't do it. But please print this article and pass it along to someone you know who really needs the money, and see what happens.

REMEMBER....HONESTY IS THE BEST POLICY.YOU DON'T NEED TO CHEAT THE BASIC IDEA TO MAKE THE MONEY! GOOD LUCK TO ALL,AND PLEASE PLAY FAIR AND YOU WILL WIN AND MAKE SOME REAL INSTANT FREE CASH!

*** By the way, if you try to deceive people by posting the messages with your name in the list and not sending the money to the people already included, you will not get much. I know someone who did this and only got about $150 (and that's after two months). Then he sent the 5 bills, people added him to their lists, and in 4-5 weeks he had over $10,000!

TRY IT AND YOU'LL BE HAPPY!!! :o) !!!!!!!!!!

1795. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: John Rabson <word.factory@zetnet.co.uk>
Message-ID: <19961010213104682l3@zetnet.co.uk>
Source record: 101877

The UK LF band is 73 kHz +/- 1.4kHz, with erp 1 W max. All modes except FSTV. No /M or /MM! See http://www.users.dircon.co.uk/~stonix/73kHz/ and some pages in http://www.Sat.dundee.ac.uk/~arb/creg/

73 de John Rabson
G3PAI

1796. Oct 12 Radio Auction San Mateo CA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-10 00:00:00 UTC
From: Koert Koelman <kkoelman@ix.netcom.com>
Message-ID: <325DE1CA.7DA3@ix.netcom.com>
Source record: 101878

On October 12, 1996, the Palo Alto Amateur Radio Association (PAARA) will hold its 45st annual auction and flea market at the San Mateo Shriners Center, 1925 Elkhorn Court, San Mateo, CA. Doors open at 7:30 A.M. and the auction will start around 9:30 A.M.

Ham radio gear, electronic parts and test equipment is likley to change hands at bargain prices. Raffle prizes will be offered and coffee & donuts will be served. All in all it will be a lot of fun for those of you who have the post Foothill Flea Market blues.

Flea market table space is available at $10 per table. Auction charges are 10% of the sales price (buy-back subject to $5/max. charge per lot). Equipment donations are welcomed by the club. Proceeds benefit PAARA.

Directions to the Shriners' Center. From HWY 101 or 280, take the HWY 92 to the El Camino Real South exit. On the El Camino Real travel to 20th Avenue, where you'll turn right. One block and you'll see Elkhorn Court. Talk-in frequency is 147.45 simplex.

Please, note the location this year ... it is in San Mateo. See you there.

Koert KC6WCI

1797. HF power amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: lbc@senet.com.au
Message-ID: <53l9jr$et2@highlander.senet.com.au>
Source record: 101785

Hello all...

Can anyone help with a circuit for a HF power amplifier (the so called "linear") that has 4 output transistors of the same type?

I'm not after detailed plans, or even a whole circuit - the "icing on the cake" bits like TX/RX sensing, the power supply system, the lowpass filter on the output stage, etc, etc, are not needed.

What I am after is the methods used to connect 4 output devices of the *same* type (i.e. 4 x mrf454, or even 4 x 2SC1969's) together to achieve approx twice the output power that a pair of the same devices would achieve. I presume the "secret" is in the transformers used in the driver and output stages....

The amp is intended for use in the 40 and 20 metre ham bands only, to simplify the LPF stage more than anything else - SSB/CW only.

Any info would be very appriciated.

Reply here, or preferably email to: lbc@senet.com.au

Regards,
Chris.

1798. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn55shem.1fr.mulveyr@ll.aa2ys.ampr.org>
Source record: 101786
Cross-posted to: rec.radio.amateur.homebrew,,rec.radio.amateur.misc

On 9 Oct 1996 04:11:02 GMT, rdb <rdb@wko.com> wrote:
>My question is this:
>Are we who enjoy the technical aspects of the hobby headed for
>extinction? What do you think?

Well, just drop by the QRP list at lehigh.edu sometime. The group
is highly devoted to homebrewing, and is growing every day. In
addition, just look at the number of kit companies and construction-
oriented clubs that have popped up in the past few years. Granted, QRP
is a niche market, but it is still a *growing* niche market, and
doesn't show any signs of slacking off.

- Rich

--
My mailer has the unfortunate tendency to bounce 10,000 copies of any
junk mail I receive back to the sender. Be warned.

1799. Re: surplu component source(s) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: "Bob R. Miller" <brmiller@telis.org>
Message-ID: <01bbb76e$b5fd9100$7f021dce@default>
Source record: 101787

Is Dans's Small Parts gone? I was at a swap last weekend and they were passing out catalogs. I got a mailing from him about a month ago, so think he is still around. I can't find the catalog in my stack of papers sorry. Good luck. Bob

scott <acepilot@mwt.net> wrote in article <3258265F.4E46@mwt.net>...
> Now that Dan's Small Parts is gone, anybody know of a source of parts
> like MFE131 (40673 MOSFET sub.), NP0 caps, small air variable caps, etc.?

> Sure is making homebrew QRP items tough these days. 73, N0EDV.
>
> --
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !
>

1800. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: g4ynm@aol.com
Message-ID: <53lne0$jl8@newsbf02.news.aol.com>
Source record: 101788

In article <325B14A9.1F52@comm.net>, "L. Booth" <lbooth@comm.net> writes:

>> I heard that there's a longwave amateur band somewhere around 100 kHz
or
>> 200 kHz for experimenters.

It's on 73kHz in Great Britain. But I can't recall the fuller details
(mostly 'coz I'm not interested in that particular band).

Ben

1801. Re: Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct11.141056.9347@ke4zv.atl.ga.us>
Source record: 101789
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <325BD767.5131@toronto.cbc.ca> "T.A.Holden" <tholden@toronto.cbc.ca> writes:
>Is it possible to setup a modem through the AT commands to transmit at
>high data rate in the absence of a receive carrier? I have succeeded at
>low data rate (300 bps) using analog loopback followed by digital
>loopback but cannot force a higher data rate.
>
>Any ideas? Would appreciate e-mail and others may want posting. Thanks.

Telephone modems faster than 2400 baud go through a training and
negotiation phase at connection startup. This can't be bypassed by
an AT command. However you can use what is called a "short haul"
modem. These are designed to operate over leased lines and expect
a consistent EQ, hence they don't train and negotiate. Immac carries
several brands of these short haul modems. 9600 baud units are common,
and fairly cheap, faster units are available. They expect a 4-wire
interface, thus they should work on a good voice grade radio circuit.
(They can't deal with multipath, however.)

It *is* possible to force a Group 3 FAX modem to work on the radio
channel. There is a test mode for some of these which allows them to
go on-line without training. This can give you 9600 baud data. Some
amateurs in Japan experimented with this for a while. It's not an
AT command, however, you have to actually strap pins on the modem
chip to put it in test mode.

For robust operation on a radio circuit, you really need a radio
modem. And for speeds over 2400 baud, you really need a data radio
and not a voice radio kludge. Not only does this work better, it's
usually cheaper too.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1802. The person who helped with Cubic info???????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: webteck@usa.net
Message-ID: <325E6482.18A9@usa.net>
Source record: 101790

Last week (10/1 - 10/4) I put a plea for help for info on Cubic Electronics in Ocean Side, Ca. Some very nice gentleman gave me the info I needed. I have since had a complete system crash and lost ALL my messages...in fact I lost 2 hard drives with everything on them. The only thing I remember about the message was that his address started with something like "HONT"..his name was Loenk (?), The important thing was, he gave me the name of a guy that had worked for Cubic. He said the guy still repaired Cubic radios for a fair price. H ealso said the guy had a fax on during the day but in the evening it was off line. He gave me the telephone number and all the info I needed. I can't remember which newsgroup it was in. If he will PLEASE contact me again I would appreciate it very much. I need the same info again.

I am posting this to all the ham and radio newsgroups to find this good samaritan again. I sent him a thank you message, but of course that is also gone now so I can't get the address from there.

Tommy Statham
N5HTQ

1803. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: carl@ais.net
Message-ID: <53lqbn$akh@news.ais.net>
Source record: 101791
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

In <53g96m$bft@shore.shore.net>, hill@rowland.org (Winfield Hill) writes:
>Can you identify an 4-terminal component called a ACR Z0-28F and
>looking something like a RF power transistor?
>
>I just purchased two military 100 (200?) watt wideband linear
>"preamplifiers" (that's what they're labelled!) which seem to work
>fairly well. They work so well they burned out my 40 watt attenuator,
>forcing me to bring out my BIG loads! The amplifier uses a pair of
>MRF466 for the input and MRF429 for the output. These are
>"gull-winged" RF transistors with a bottom that reminds me of a TO-66
>for transferring heat.
>
>Anyway, for my application (flipping atom spins in a condensed-matter
>trap) I'd like to reduce the 3rd harmonic distortion of the amplifier.
>The amplifier has an external input for biasing the transistors toward
>class A operation. Each push-pull CE stage is base-biased with the
>above-mentioned unusual component, which has four terminals: the 1st
>one to ground, the 2nd to the two bases (bypassed with 22uF and via an
>rf isolating xfmr), the 3rd to a 200-ohm trimmer to the 4th terminal,
>which goes to the external connector for bias control.
>
>With 0V to the external input, the amplifier draws no current.
>Applying +5 to +12 volts to the external biasing input changes the
>total current from to 1 to 4 amps, for example (while taking 0.5A on
>the control input). Although the unusual part is performing a "dc"
>function, it is manufactured as a high-performance RF part with 4 gull
>wings, just as the MRF466, and is bolted to the heat sink as well.
>
>What is this unusual part and how does it work? Also, if I keep
>increasing the class A bias, at what point will I be in danger of
>thermal runaway and destruction? The amplifier's heat sinking is
>massive.
>

It sounds like the "unusual device" is a bias stabilization and tracking device ... CTC used to make one called a BYISTOR ... it's coupled tightly to the heatsink so it tracks the junctions of the RF devices to help prevent thermal runaway. The 200 Ohm trimmer is clearly the means of adjusting the "idle bias" of the class AB stages for the desired quiescent current and linearity.

Carl - wa6vse
carl@ais.net

1804. Re: Smart battery charging circuit???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: g4ynm@aol.com
Message-ID: <53lq9t$l2i@newsbf02.news.aol.com>
Source record: 101792

In article <53gnl8$iru@news.inforamp.net>, ag121@torfree.net (Bryan Weaver) writes:

>I'm interested in a circuit to control the charging of a lead acid (ie car)
>battery.

<snip>

Have a look at my circuit published in QST in March 94. All you'd need to do is tweak the design so that it kicks in automatically (It'll kick aout automatically as it stands).

73 Ben

1805. Re: Is equipment building and repair a los

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: johnw@asl.hitachi.com
Message-ID: <Dz49F7.Fo9@tigger.jvnc.net>
Source record: 101793

>rdb wrote:

>> My question is this:
>> Are we who enjoy the technical aspects of the hobby headed for
>> extinction? What do you think?
>> Roger,WF4N

Depends on what you mean by the "technical aspects". I tend to use
my homebrewing to experiment in areas that might be outside of my
current knowledge base, such as DDS, DSP, software control, etc.,
instead of just soldering up another version of a QRP rig.
There is a ton of interesting stuff that can be done fairly easily
and cheaply in the DSP area for example that can really improve
your homebrew designs, as well as helping you to learn a valuable
new technology. There is currently much discussion about software
radios, and there is quite a lot that the amateur homebrewer can
do in this area, it's just that the tools and techniques are going
to be different. Instead of a soldering iron, get a C compiler for
your PC. Instead of another breadboard, invest in a DSP starter kit.
The game is basically the same as it was before, but to play effectively
you may need to change your skill set. In the end though, it really
is the same to homebrew in software as it was in transistors and tubes,
as you are doing it YOURSELF.

For more on how homebrewers can get started in DSP, see the 7/96 issue
of QEX...

73 - John, KE3QG

1806. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961011115819.16992B-100000@primeline.net>
Source record: 101794

On Thu, 10 Oct 1996, David Sipe wrote:

> Tom Watson wrote:
> > fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax
> > (yellow double shielded stuff) a few questions:
>
> If this is what is commonly known as "thinnet" coax for ethernet, it is
> RG-58. Very lossy at 2M.
>
> --
> 73 David KD6QFZ
> dsipe@calweb.com

The thin cable is 10 BASE-T ,not 10-BASE-5 (Thicknet),although I don't
know of it's suitability for VHF radio work eiither.

Gary Tait , VE3VBF
Sorry for snipping. My newsserver won't let me post less new lines than
old.

1807. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <53lu0v$1fl@peabody.colorado.edu>
Source record: 101795
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <wa2iseDz2v7s.A5M@netcom.com>,
Robert Casey <wa2ise@netcom.com> wrote:

>Right now, I'm playing around with an old early 60's AA5 AM tube radio,
>substituting sub-mini "pencil" vacuum tubes for the standard 7 pin tubes
>(using a heater voltage transformer to run the 12V and 6V heaters). No
>'real' reason, other than making a radio that might have been manufactured
>if semiconductors had not been invented, and sub-mini tubes being the
>"next generation" of tubes for AM radios (assume that mass production of
>pencil tubes would get the cost down).

I'm trying to take a 90's approach. Just got in my box of minicircuits
VCOs, and made a logarithmic amp from the National Semiconductor data
sheet for one of their opamps... Together with info gleaned from KK7B's
direct conversion receiver, a spectrum analyzer is my next project.

With a VCO and a mixer, a nice 0-50 MHz VFO should take up the size of a
pack of cigarettes, and is also on the project list.

>Having fun.

Some things never change.

Bruce
N6URH

1808. HF Linear amp kit company?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <53m12b$dsf@nadine.teleport.com>
Source record: 101796

There's a company which sells kits for some of the HF linear amps described in Motorola application notes. I've lost their name and address. Would someone please be so kind as to send it to me? (I'd also like phone and fax numbers if possible; the info is for someone out of the country.)

Thanks!

Roy Lewallen, W7EL

1809. DAN'S SMALL PARTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: jparker@fix.net
Message-ID: <53m93j$583@twizzler.callamer.com>
Source record: 101797

Recently someone posted to this News Group that Dan's Small Parts is
out of business.

This could not be farther from the truth.

DAN'S SMALL PARTS AND KITS IS IN BUSINESS

He even has an internet catalog:

http://www.fix.net/dans.html

Phone: 1-406-258-2782

Dan carries many small hard to get items at very very

reasonable prices.

CHECK HIM OUT.....

73'es,,,,Jerry...WA6OWR...K

1810. ?CRYSTAL FILTER SUPPLIERS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: tmaldred@island.net
Message-ID: <325ea7dd.25724046@news.island.net>
Source record: 101798

Greetings All:

I would like to obtain an off-the-shelf crystal filter for a project I am working on. I have checked Digi-Key and Allied and neither carry a line of good quality crystal filters.

For my application I may be able to utilize a 10.7 MHz 12 KHz BW NBFM 8 pole filter. A list of available filters to browse through would be nice.

Does anyone have any suggestions for known sources of crystal filters???

Thanks in advance for any help!

Very Best Regards: Thomas M. Alldread
E-mail: tmaldred@mail.comox.island.net
packet radio: VE7TMA@VE7KGW.#NVI.BC.CAN.NA

1811. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: n7oo@azgate.nj7p.ampr.ORG
Message-ID: <11197@NJ7P>
Source record: 101799

I recently evaluated a section of orange 1/2 inch ethernet coax. It's
very good, loss characteristics quite close to foam RG-8 with a measured
attenuation of 4 dB per 100 ft at 450 MHz. This section was triple shielded
with a measured VF of .77.
73 de Jack

1812. Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: lhalliday@creo.COM
Message-ID: <9609118450.AA845057728@mail.creo.com>
Source record: 101800

I'm baffled at why this is even a subject for discussion - homebrewing is easier than it ever has been, the parts are better than they have ever been, and homebrewers can make equipment of unprecedented sophistication and performance easier than ever before.

Parts? I've never had any difficulty getting any parts I want. Sometimes you have to make a few phone calls. Sometimes you have to get them from overseas. The fact that you can't always get things locally is irrelevant: in this age of direct overseas dialling and credit cards, "local" is meaningless. For the really neat stuff sometimes the only way to get onesies and twosies is as samples. So what?

PC boards and construction techniques in general are a red herring. My approach these days is that one-offs are best done on unetched ugly boards, which are quick to make (perfect for let's-try-it-and-see experiments), work extremely well up to at least VHF, and can be real works of art. I long ago decided that (except for reproducing stuff from books and magazines), if I etch an original board, it will be surface mount. And please don't start whining about *that* - SMD is available, cheap, dead simple, idiot-proof and very nearly indestructible. I laid out my first SMD PC board with a straight edge, scotch tape and a sharp knife...

The dismal level of technological interest, knowledge and expertise is indeed a problem. The way to address it is not to grumble about the new tests or new hams, but to acknowledge that now, with it being so easy to get on the air, the role of Elmers is more critical than ever before. Your licence is your licence to *learn*. Just do it.

I'd like to propose some self-censorship on this subject. Can you imagine the effect such discussions have on young or would-be hams? "Modern technology's crap! The Good Old Days are over! Face it, loser: you missed all the fun!" Ugh. The *real* fun is yet to be, and if some hams wish to opt out of technology and live in the past, please at least have the common decency to keep your mouths shut and stay out of the way of those of us who still understand what "technical investigations and self-training" means.

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

1813. WTB: DC3 POWER SUPPLY FOR A DRAKE TR4

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <53mcg8$lfi@news1.iamerica.net>
Source record: 101801

Hello,
I have a friend that is looking for a DC3 Power Supply for the Drake TR4 Transceiver. If you have one for sale, please email me and let me know what you want for it. I will pass along the info to KA5JNL.

Thanks
AB5LG

1814. Re: Z80-SIO & Z8530 Datasheet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: carl@ais.net
Message-ID: <53mc9b$kfe@news.ais.net>
Source record: 101802

In <1.5.4.32.19961010014405.0068ac28@mail.telepac.pt>, pissaro@mail.telepac.PT (Joao Pissarro) writes:
>Hi all,
>
>I need the Data Sheet for the IC's Z80-SIO and the Z8530. Does anyone
>knows on the net where I can find these information?
>
>Many Thanks
>Joao Pissarro
>ct1dbh

try http://www.zilog.com

you should be able to download the datasheets in Adobe Acrobat .PDF format.

Carl - wa6vse
carl@ais.net

1815. Re: HF Linear amp kit company?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Larry Keith <KQ4BY@IX.NETCOM.COM>
Message-ID: <325E74D4.6F93@IX.NETCOM.COM>
Source record: 101803

Roy Lewallen wrote:
>
> There's a company which sells kits for some of the HF linear amps described
> in Motorola application notes. I've lost their name and address. Would
> someone please be so kind as to send it to me? (I'd also like phone and fax
> numbers if possible; the info is for someone out of the country.)
>
> Thanks!
>
> Roy Lewallen, W7EL

Hi Roy...

I think you are looking for:

Communications Concepts, Inc.
508 Millstone Drive
Beavercreek, OH 45434-5840

513-426-8600

73,

Larry, KQ4BY

1816. Re: SEARS MANUAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <Dz4u0u.Krl@iglou.com>
Source record: 101804

: Many years ago, Sears sold a 2 meter radio. Am looking for service
: manuals. Any ideas where to look?

J.C. Penny's? When I worked at Sears 25 years ago, they had part number breakouts on microfilm of virtually everything they sold including TV's and radios. Get the model number xxx.xxxxx and give them a call. Perhaps something is available.

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

1817. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Bill VanRemmen <billy@frontiernet.net>
Message-ID: <325EF274.65EF@frontiernet.net>
Source record: 101805

Gary Tait wrote:
>
>
> The thin cable is 10 BASE-T ,not 10-BASE-5 (Thicknet),although I don't
> know of it's suitability for VHF radio work eiither.
>

10base-T is unshielded twisted pair.
10base2 is thinnet (RG-58 or similar w/BNC)
10base5 is thick ethernet (kinda like RG-8 w/ N-type terminations and 'taps'
that are installed through the side of the cable)
--

-Bill VanRemmen, KA2WFJ
billy@frontiernet.net
http://www.frontiernet.net/~billy/

My opinions. No one in their right mind would claim otherwise.
==========
"Experience should teach us to be most on our guard to protect liberty
when the government's purposes are beneficient . . . the greatest
dangers to liberty lurk in insidious encroachment by men of zeal, well
meaning but without understanding."
Justice Louis Brandeis
Olmstead vs. United States,
United States Supreme Court, 1928
==========

1818. FS: Tubes 6360 & 6939

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: James McKellips <mckellips@earthlink.net>
Message-ID: <325EECAF.6428@earthlink.net>
Source record: 101806

I have approx. 15-20 each of the 6360 & 6939, that are pulls from government equipment from the 1970s. Tested good in the 1980s. Make offer to mckellips@hillcity-mall.com
Thanks,
Jim McKellips
WB6NFT

1819. Sweep Tubes FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Eugene Rippen <soundval@foothill.net>
Message-ID: <325F1D4D.4F9A@foothill.net>
Source record: 101807

For Sale the following new, tested tubes in cartons.

Quantity Type Price Each
3 6ME6 20.00
3 6LQ6 25.00
4 6LB6 14.00
2 6JB6 15.00
1 6LR6 20.00
2 6KV6A 25.00
1 6KD6 25.00
1 6LR6 20.00

Add shipping cost.

Eugene Rippen, 105 Donnington, Auburn, CA 95603
Email soundval@foothill.net
NO phone calls please.

1820. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbb729$7b7dba40$d6122399@peter-s>
Source record: 101808

> > fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax
> > (yellow double shielded stuff) a few questions:
> >
>
> If this is what is commonly known as "thinnet" coax for ethernet, it is
> RG-58. Very lossy at 2M.
>

No, that would be 10-BASE-2. He has the heavy duty thick stuff that
they bolt the transeivers to.

I don't have my catalogs hadny, but I have heard of hams using this
stuff with some success. I don't recall any numbers on loss but I think
the stuff was around 50 Ohms.

1821. subscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: KB2VZK@WECA.ORG
Message-ID: <325DC0AB.1EE7@WECA.ORG>
Source record: 101879

```
subscribe kb2vzk@weca.org
```

1822. Re: Car battery (13.8) to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbb714$745b73c0$02102399@peter-s>
Source record: 101880

> In general, you CAN'T get 12.0V out of a car battery using a linear
> regulator unless you plan on leaving the motor running and use a
> PNP pass transistor or very low drop-out regulator.
> Also, in an automotive environment, you need to worry about protection.
> Sticking an IC on the +13.6V line is likely to eventually end up a
shorted device.
> Use some inductance and a big cap in addition to the protection diodes
> required by the regulator itself.
> Thre's a lot more to this than meets the eye.
> miker
>

He's right. If you really need to get precisely 12.0 Volts you will need a switching power supply. Then you can set it up to run from 8 to 16 V or so. Protect the input; you can protect from severe transients with a fuse then a 18 or 20 V beefy Zener, or just LC it with a big C.

Do you really need 12.0 Volts? or just well filtered 13.6?

1823. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: gfiber@cmc.net
Message-ID: <53kcf6$cpj@news.cmc.net>
Source record: 101881
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I think the Amateur Community is not as " tuned into " electronics as it once was. With the actual queations and answers presented there is no need to learn Ohms or Kirchoffs law How many can calculate the gain to a common emmiter amplifier circuit. You do not learn that by reading a Q & A Manual.
I used the ARRL License manuals in the early 1970s. It was basically a sylibus (sp) of what one needed to know to pass the exam. Then you " hit the books " for the answers. Now you just memorize the answers to the questions. Sure some knowledge has to soak in, but the majority appears to be forgotton once " you passed " is heard . I happen to be in the business and the kinds of questions I receive have really changed over the 7 years I've been involved. Now I speand most of my time merely reading the manual verbatium to the caller who appears to be willing to pay long distance charges to be read to. Not complaining, the customer needs and abilities have changed over the years.
I have chatted with EE degreed Extra class license holders who could not cut a dipole antenna which I found amazing but true none the less.
I do agree the need for club projects, how about showing some club members how to photo etch a circuit board, or what positive feedback really does, build an antenna tuner or SWR meter Building is great fun. It's up to the builders of the community to give a hand and show the new comers what they are missing

Gary

1824. Re: Help with Icom IC-22S service

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: Cecil Moore <cecilmoore@delphi.com>
Message-ID: <5lBzFfk.cecilmoore@delphi.com>
Source record: 101882

Tom Swisher <tswisher@freenet.columbus.oh.us> writes:

>I just picked up an Icom IC-22S free from a friend. It does not work
>correctly but the price was right. If I can get it working it would be and
>ideal rig in the shack for communicating on a few specific
>frequencies.

The most common problem with IC22S is the stainless steel
feedthrus on the PLL board. The second most common problem
is failure of the divide-by-N chip. Replace all the steel
feedthrus with copper wires soldering both sides since
the PCB is not plated-thru holes. Unfortunately, the
divide-by-N chip is out of production. If you can't fix
it, I would be interested in acquiring it from you.

73, Cecil, W6RCA, OOTC

1825. Need technical info on FRG-7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: "Frank W. van Wensveen" <fwensveen@lucent.com>
Message-ID: <325E07FB.ABD322C@lucent.com>
Source record: 101883
Cross-posted to: rec.radio.amateur.equipment,rec.radio.shortwave,rec.radio.amateur.homebrew

*** Please reply through Email as well - thanks ***

Yesterday I bought a Sommerkamp FRG-7 at an auction. The Sommerkamp FRG-7 is AFAIK identical to the Yaesu FRG-7, and a colleague of mine told me that if you peel off the Sommerkamp label, there's a Yaesu label right underneath, so that should be no problem. :-)

My new FRG-7 looked fine, but when I tried it at home I discovered that the PLL won't lock. As far as I know, the FRG-7 has a 1 MHz XO, and a tuning knob that controls a VFO, which is then phase-locked with the 1 MHz XO signal, to get multiples of 1 MHz (1, 2, 3 ... 29 MHz).

The red 'Lock' LED on my FRG-7 is always on. The PLL won't lock, I don't get a stable multiple of 1 MHz but instead the 'multiple MHz' VFO acts as a free-running oscillator.

I don't have much experience with the FRG-7, but years ago we had one (the Yaesu version) at the Hydromechanics Lab at Delft Polytechnical University, and I remember that the red 'Lock' led used to go off when the PLL was locked. Do I remember this correctly? If not, what is the correct procedure to tune a FRG-7? Does the PLL also lock (I think it should) if no antenna (or only a short piece of wire) is connected?

What's the idea with the small button at the right side of the tuning scale (marked 'Tune' and 'Set' if I remember correctly, I don't have the receiver here at the office right now)?

I am especially looking for (copies of) the owners manual and service manual (esp. the circuit diagram) of the FRG-7. Preferably from someone living in the Netherlands. :-)

*** Please reply through Email as well - I can't read the newsgroups often. ***
Any reply greatly appreciated!!

--

73, Frank PA3GMP

1826. Re: Does anybody know what a D2824C is?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-11 00:00:00 UTC
From: lbc@senet.com.au
Message-ID: <53l9jp$et2@highlander.senet.com.au>
Source record: 101884

mzenier@netcom.com (Mark Zenier) wrote:

>in <3244B3F9.296E@erinet.com>, Dan Puckett wrote:
>: I've been playing at converting a Rat Shack CB to 10 meters. The PLL in
>: the synthesizer is marked D2824C with what looks like a manufacturer's
>: logo that is a stylized "NPC". What is this little beast?

>My first guess would be that it's a poorly formed label for a NEC chip.

>Only way to find out is to get the manual. Something that Radio Shack
>is really pretty good at

The radio is made my Uniden. There are 2 versions of the chassis, one
a "compact", the other a larger "full size" board - but the circuits
are basically indentical electrically.

The 2824 is the PLL synth chip, ROM encoded with only the 40
FCC channels, corrosponding to a count of 91 up to 135.
A 2 output is also there, which is tripled and mixed with the
VCO to yield the 0.91 Mhz to 1.35Mhz signal used to lock
the PLL loop.

There are two ham-mod methods. First one is to add an
external (from an added crystal osc) signal to the tripler's
output... but this has three problems. One, you'll be limited
to 40 channels, gaps/skips/etc and all - and two, as the
clarifier works on the 10.24 ref xtal, the clarifier range will
be *severely* reduced. Three - the USB/LSB offset works
the same way as the clarifier, so you'll need a slightly
different crystal for LSB if you intend to use it as well
as the usual USB.

Second method - add another PLL. The Upd858 will
cover at least the bottom part of 10m before the
counters run out of steam, and a motorola MC145151
will allow full 5Khz step coverage from 26 to 32 Mhz.
The clarifier and lsb/usb offsets will function correctly.

Note that the original PLL chip is left in, as it's tripler
and downmizer functions are retained - the second PLL
is added and runs alongside the original one.

Email me (lbc@senet.com.au) if you need more info.

Good luck!

Regards,
Chris.

1827. Re: surplu component source(s) ??? I BLEW IT!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <325F5EC9.7A99@mwt.net>
Source record: 101809

scott wrote:
>
> Now that Dan's Small Parts is gone, anybody know of a source of parts
> like MFE131 (40673 MOSFET sub.), NP0 caps, small air variable caps, etc.?
> Sure is making homebrew QRP items tough these days. 73, N0EDV.
>
> --
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !

I MADE A BIG MISTAKE....DAN'S SMALL PARTS IS NOT OUT OF BUSINESS...I HAD HEARD THEY WERE AND DID NOT CONFIRM THE FACT...I COULDN'T FIND AN ADDRESS OR TELEPHONE NUMBER SO I ASSUMED THE INFO I HAD WAS CORRECT. I APOLOGIZE TO DAN FOR THIS! I'M HIS NUMBER ONE FAN AND GLAD HE'S STILL AROUND! HE HAS AN INTERNET CATALOG AT http://www.fix.net/dans.html.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

1828. RE: Is equipment building a lost art &c...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: gregwj@cwo.com
Message-ID: <53n2iu$7g8@news.xmission.com>
Source record: 101810

How nostalgic, sad, tragic but true,
Greg KB6WKW
who used to scurry up and down Cortlandt Street and Vessey streets in
New York City looking for surplus to turn into things. I miss the
1625's and 25's - huh?!

In article <1996Oct10.111003@nova.wright.edu>, nyoung@nova.wright.edu
says...
>
>To them what's been talking about this, I agree. Homebrewing
>stuff is slowing down. It goes hand in hand with the growing
>concensus that most American band use has devolved to power
>contests (what we in the over-powered "Ohio Valley Teratology
>Net" used to call "horse-races"), bitter abusive disputes and
>positively paranoid rantings that come close to being personal
>broadcast yellow journalism. But that's another topic.
>
>I know a bunch of lunatics who still like to build or at least
>discuss circuit design and the tribulations of making stuff what
>starts out as metaphysics into physically tangible stuff on the
>bench. Most of 'em are either tube-heads (as in: people who still
>like warm boxes of stuff with tubes inside) or they are QRPers,
>or they are something in betwixt. Me? It's a little of both.
>
>On one side of the building fence, there's a lot of nostalgia.
>We bemoan the demise of Heath and the japanization of Drake and
>the disappearance of Collins. We want to have the boxes that we
>had when we were kids. We even build boxes for our own kids (like
>the revamped MRL #2 xtal set that I built for my eight-year-old).
>But we build stuff, and often enough, repair stuff what was munged
>by the ham-fisted (and that "ham" as in "as big as a Virginy-cured
>ham [as in slab of meat about the size of a sumo wrestler]).
>
>On the other side of the fence, there's a lot of proof of viability.
>We wanna show our families or friends or even just ourselves that
>we can still make stuff that works, even if only in a nominally
>successful way. It's the creativity complex, perhaps. But we have
>to have the iron on and the desk cluttered with boxes of poorly
>sorted excess junk: screws and washers and diodes and caps all
>thrown into various small boxes, ice-cube trays and plastic sort-em-
>drawer sets screwed haphazardly to the shack walls. Leonardo and
>Durer live inside us. We gotta make something out of all this crap
>or we don't exist. Kinda like the Russian proverb, only this time
>it's not a matter of eatin' but more a matter of just being.

>
>And those of us old enough to remember the shock of Sputnik do
>indeed have sometimes monumental collections of excess baggage
>in parts and knobs and pieces of equipment that no longer exist.
>We know about Atwater-Kent from our parents' stories while our
>children don't even know what a phonograph or record player is.
>We figure that we're keeping history alive. And maybe we are. Which
>makes it all the more essential that we somehow manage to leave our
>junk boxes behind with the request that they end up in the hands of
>some one -- one solitary remaining someone somewhere somewhen --
>who will say "Holy shit, will you look at these tubes! Man, I gotta
>make somethin' out this!"
>
>That's all we got, brethren and sistern. Somehow we gotta pass
>it on. Otherwise Radio Shack will determine the mental acuity and
>creativity of our grandkids and their grandkids and the Handicapper
>General will indeed have won the day. The Marching Morons ain't
>that far behind.
>
>Build! Kto nye stroit' nye byt'/Den som bygger inte er inte...
>
>73
>Nils
>WB8IJN &c
>(And, yes, my command of Russian is sub-neonatal... So flame me...
>or give me $20!)
>

1829. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: gregwj@cwo.com
Message-ID: <53n334$7g8@news.xmission.com>
Source record: 101811

I stand corrected. However, now this means that I have to actually
go to the "trouble" of learning, all over again, just like when I was
a kid. H-m-m...
Thanks for the kick start...
Greg KB6WKW

In article <9609118450.AA845057728@mail.creo.com>, lhalliday@creo.COM
says...
>
>I'm baffled at why this is even a subject for discussion - homebrewing
>is easier than it ever has been, the parts are better than they have
>ever been, and homebrewers can make equipment of unprecedented
>sophistication and performance easier than ever before.
>
>Parts? I've never had any difficulty getting any parts I want.
>Sometimes you have to make a few phone calls. Sometimes you have to
>get them from overseas. The fact that you can't always get things
>locally is irrelevant: in this age of direct overseas dialling and
>credit cards, "local" is meaningless. For the really neat stuff
>sometimes the only way to get onesies and twosies is as samples. So
>what?
>
>PC boards and construction techniques in general are a red herring. My
>approach these days is that one-offs are best done on unetched ugly
>boards, which are quick to make (perfect for let's-try-it-and-see
>experiments), work extremely well up to at least VHF, and can be real
>works of art. I long ago decided that (except for reproducing stuff
>from books and magazines), if I etch an original board, it will be
>surface mount. And please don't start whining about *that* - SMD is
>available, cheap, dead simple, idiot-proof and very nearly
>indestructible. I laid out my first SMD PC board with a straight edge,
>scotch tape and a sharp knife...
>
>The dismal level of technological interest, knowledge and expertise is
>indeed a problem. The way to address it is not to grumble about the
>new tests or new hams, but to acknowledge that now, with it being so
>easy to get on the air, the role of Elmers is more critical than ever
>before. Your licence is your licence to *learn*. Just do it.
>
>I'd like to propose some self-censorship on this subject. Can you
>imagine the effect such discussions have on young or would-be hams?
>"Modern technology's crap! The Good Old Days are over! Face it, loser:
>you missed all the fun!" Ugh. The *real* fun is yet to be, and if some
>hams wish to opt out of technology and live in the past, please at

>least have the common decency to keep your mouths shut and stay out of
>the way of those of us who still understand what "technical
>investigations and self-training" means.
>
>Laura Halliday VE7LDH "C'est une femme mutine, assez
>lhalliday@creo.bc.ca elegante, grave et legere, ayant le
>ve7ldh@amsat.org sens du confort et du plaisir
>Locator: CN89mg en tout." - C. Deneuve
>

1830. Re: Serching for I/F details

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: herndon@texas.net
Message-ID: <53n26v$eg7@news2.texas.net>
Source record: 101812

In article <5208ii$eai@everest.vol.it>, dbseh@mbox.vol.it says...
>
>it was published an article on QST
>magazine (july 1984) by L. Studebaker titled "A simple, low cost
>computer control for ICOM IC-720". I don't know if it is possible to
>buy a so old back iusse of QST. Is there anyone who can help me?
>73 I8ZSE Giorgio
>
>Giorgio L. Rutigliano
>grutig.aica@iol.it
>

www.arrl.org
is the place to look for info. I believe they will not only sell you back issues, but if the issue is not available, they will photocopy it for you. This costs money, of course.

73 de K5FNI

1831. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: jbj@intr.net
Message-ID: <53mr4u$jbt@news.intr.net>
Source record: 101813

Allen Wallace (allen_wallace@powertalk.dtint.com) wrote:
: In article <536pvq$dro@newsbf02.news.aol.com> SteveBragg,
: stevebragg@aol.com writes:
: >Does anybody do homebrew amateur radar? I know there's got to be a FEW of
: >us out there...
: >Reply if you're a "radar hack" like me.

: I'm intrested in this! I want to make a remote DF for 121.5 Mhz ELTs,
: using no moving parts, using monopulse DF. I also dabble in lots of
: microwave misc. I'd love to bounce several of my ideas off of a group of
: hams like you!

: Allen Wallace

Years ago I built a 10GHz doppler speed measuring device. (Radar
means "direction and ranging", so I am hesitant to call it Radar.)
It used a 2K25 reflex klystron and a magic "T" to a small horn
antenna. The output fed an audio amp and a home-brew audio frequency
meter calibrated in MPH. Right now I have some similar home
brew equipment, with dual horns, but I don't have any plans to
put it back on the air.

--
Andy Mitz WA3LTJ
arm@jbj.org
Bethesda, MD

1832. Help!! for Jonson Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: av367@lafn.org
Message-ID: <53o7nr$6k1@zook.lafn.org>
Source record: 101814

I need to know if I can still use this Radio. This radio is leased to
us,drivers, by our company.Now my compony has closed (bankruptcy)
and I still have the Radio with me and teletrak.
Question: Can I still use this Radio??
If so How? and what shall I do ?

r

1833. FS ot TRD 3CX1200-D7 tubes +

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <53o81b$5qd@nntp-3.io.com>
Source record: 101815

(2) NEW EIMAC 3CX1200-D7 tubes w/6.3vac filiment, (free socket with tube purchase)
or TRADE for HF gear, (sockets not sold seperately).
$300 each shipped.

1834. Re: HF Linear amp kit company?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: Mike Swaney <mikesw@pop3.harborcom.net>
Message-ID: <325F9995.6B60@pop3.harborcom.net>
Source record: 101816

The address given for Communication Concepts, Inc. in the Motorola
addendum is:
CCI
508 Millstone Drive
Beavercreek, Ohio 45434-5840
(513) 426-8600

>
> There's a company which sells kits for some of the HF linear amps described
> in Motorola application notes. I've lost their name and address. Would
> someone please be so kind as to send it to me? (I'd also like phone and fax
> numbers if possible; the info is for someone out of the country.)
>
> Thanks!
>
> Roy Lewallen, W7EL

1835. Re: The person who helped with Cubic info???????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: Joop van der Velden <joopv@solair1.inter.nl.net>
Message-ID: <01bbb86b$07a0a2c0$142e0182@joopv>
Source record: 101817

webteck@usa.net wrote in article <325E6482.18A9@usa.net>...
> Last week (10/1 - 10/4) I put a plea for help for info on Cubic
> Electronics in Ocean Side, Ca. Some very nice gentleman gave me the info
> I needed. I have since had a complete system crash and lost ALL my
> messages...in fact I lost 2 hard drives with everything on them. The

<snip>

> I am posting this to all the ham and radio newsgroups to find this good
> samaritan again. I sent him a thank you message, but of course that is
> also gone now so I can't get the address from there.
>
> Tommy Statham
> N5HTQ

Surf to http://www.dejanews.com and your prayer will be heard !

73 Joop

1836. NEED CRYSTALS!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: Fine <fine@hiwaay.net>
Message-ID: <01bbb86e$e3f024a0$881168ce@main>
Source record: 101818

Need 17.6 mc and 28.1 mc HC6/U crystals.

Gregg
AAT4AD/KF4AUY

1837. Need Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: Fine <fine@hiwaay.net>
Message-ID: <01bbb86f$bc245940$881168ce@main>
Source record: 101819

Need 24.6, 17.6 and 38.1 mc HC6/U crystals.

Gregg
AAT4AD/KF4AUY

1838. Need schematic for 6L6 or 6V6 homebrew transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: gekko@nwlink.com
Message-ID: <53p0d0$kps@texas.nwlink.com>
Source record: 101820

Maybe someone out there can help me out. I once built a 6L6 transmitter (single tube) for 40 meters and had a ball with it. I'd like to do it again, but I can't put my hands on the schematic. Since I have a number of 6L6 and 6V6 tubes, I want to use one of those (realizing, of course, there is a power difference between the two). I believe the one I built even had a PI tank output for a 50 ohm antenna. Any low power (5 to 25 watts) rig for 40meters or higher that can tune a 50 ohm load would be perfect. I have alot of my old novice Xtals plus a VFO to boot.

If you have an old QST, 73, or CQ article with such a project, maybe I could get you to fax it to me?? Or maybe scan it and email it if possible??

Please email if you can help.

Thanks

Gordon

1839. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-12 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <53p358$4ku@opera.iinet.net.au>
Source record: 101821

lhalliday@creo.COM wrote:

Goodonya Laura!
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

1840. Intel 80C31 FS:

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: s87c51@aol.com
Message-ID: <53rdf5$gcd@newsbf02.news.aol.com>
Source record: 101736

Intel 80C31 MicroControllers equals for sell:

These are the Signetics SC87C51CCN40 part number. They are one time programmable and have been programmed. However, these become just like the 80C31 once pin 31 is tied to ground. They are the 40 pin DIPS.

They will operate at 12 MHz.

If interested, I would like $2.50 each plus $1.50 shipping for one to three. Four or more, I will ship.

Contact S87C51@aol.com for details.

Thanks
KJ4UO

1841. Re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDz8GM6.2tG@netcom.com>
Source record: 101737
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

>I just finished my Sub-mini tube AM radio, and it works reasonably
>well. Imagine sub-mini tubes running directly off the powerline
>(except for the heaters have a transformer). Took an image file
>of the innards of this radio, and also drew a diagram as JPG
>files. will post when Netcom becomes stable again, their system
>is slow right now.

It's their Orange County CA dial-up that's messed up, that's all.
Anyway, I just posted in alt.binaries.pictures.misc & 12hr & clocks
two image files, one a picture of the modified AA5 radio using the
sub-mini tubes, and the other image file a schematic diagram.
This radio was missing its back, and its antenna, so I had to
make a new loop antenna from ribbon cable.

This would file under: "What If", what if sub-mini tubes were to be
the next generation of consumer tubes (and what if transistors not
been developed). Also assumes that the manufacturing costs of
sub-mini's became reasonable (would happen when you make billions
of anything, you find ways of making it low cost). As it was, only
the military could afford sub-mini's.

1842. sstv

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: ED GRACE <egrace@ns.sympatico.ca>
Message-ID: <3260C187.4D34@ns.sympatico.ca>
Source record: 101738

does anyone have a schematic for a computer interface that
can convert a signal from a vcr to a digital format that can be stored
in the computer and then be used for slow scan television programs such
as jvfax,proscan,mscanetc.. i would appreciate any help in this area
thanks---ve1egg---------egrace@ns.sympatico.ca----------

1843. Re: Motorola PLL Chip Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: carl@ais.net
Message-ID: <53rb98$mio@news.ais.net>
Source record: 101739

In <53qflc$9vo@Chaos.es.co.nz>, drdave@es.co.nz (David R. Bowie) writes:
>Hi Anyone know of a mail order source for the Motorola range of Synthesiser
>chips 14515x. These are hard to get in New Zealand. Many thanks,
> Dave Bowie ZL4DRB

Do a web search for some of the major distributors ...

penstock
future electronics inc. (FEI)
hamilton avnet
halmark

you should be able to turn up something.

Also, try

digikey
mouser

73,
Carl - wa6vse
carl@ais.net

1844. Re: Motorola PLL Chip Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <3261B710.F08@tir.com>
Source record: 101740

Hi Dave,

Tyr here:

http://www.digikey.com/

73,

Bill KU8H

1845. Re: Plate voltages, Eimac Tube Book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <32612F54.7592@millcomm.com>
Source record: 101741
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Robert Ganter wrote:
>
> macino@ibm.net@smtp-news2.ibm.net wrote:
> >
> > maybe some local old timer may have the Eimac 'Care and Feeding of Power
> > Grid Tubes'. It does a great job of explaining the whole deal with load lines,
> > impedances, and all. They're not too tough to understand. Only the Gate 2
> > Vanity Call operation is beyond comprehension. Cheers!
>
> Do they still sell this book (or booklet) ? I would be very interested.
> If it is not available anymore, could someone photocopy it?
> Robert HB9NBY--

Hello, I too would like to get a photocopy of this book. Please email.

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

1846. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct13.193014.654@ke4zv.atl.ga.us>
Source record: 101742

In article <53jdt3$hri@altair.cs.unc.edu> nick@cs.unc.edu (Nick England) writes:
>I'd also have to include the technology shift from point-to-point
>wiring to printed circuit boards.
>
>This changed the relationship of kit-building to homebrewing. In the
>point-to-point days the functional relationships of all the components
>was pretty exposed and clear. Homebrew gear and kit gear looked very
>very similar except for the quality of the sheet metal and paint job.
>
>This all changed with the intro of PC boards. Kits and homebrew
>diverged. The direct relationship of component to function was hidden
>and homebrewers simply couldn't fabricate PC boards *easily*.
>Still can't, but at least design and layout is a lot easier now.

I don't know about that. PC board fabrication is pretty easy, at
least if you don't want multilayer boards, which you usually don't
for RF projects. And the rise of SMD components has eliminated
the need for lots of precisely drilled holes too. SMD is a godsend
for the homebrewer. It is much easier than working with leaded
parts.

CAD has made layout lots easier, but tape still works, as does
simply drawing the circuit on the blank board with a permanent
marker. So cost and complexity of layout tooling really isn't
a concern for most projects.

I usually print to transparencies with my laser printer and
photographically transfer the circuit to the board, but I've
also used a plotter directly onto the board (you need a plotter
which will run very slowly to lay down enough ink, and that's
good because it usually means you want an older cheaper plotter).

I think the ideal setup would be a photoplotter. I've thought
about taking one of my old junk plotters and replacing the
pen with a laser diode. I'd use the pen down and pen up commands
to turn the laser on and off. That way I could plot the circuit
directly to photosensitive board stock. My only concern is that
the red light won't work with the common photoresists. Perhaps
there are resists suitable for this. Has anyone tried this?

Etching is an easily learned skill, and the equipment needed is
very modest. I've done it with just a glass bowl in the sink,
though a cheap aquarium tank and bubbler can lead to nicer boards,
as can good temperature control of the solution. All you need can
be found at the local fishy shop, or at a garage sale.

The one real difference is that you need to be pretty sure of the wiring of your circuit before you commit it to copper. While you can hack a board later to make revisions, it is often ugly and can introduce strays you don't want. This is where the circuit simulation tools can come in handy.

I also do a bit of dead bug style building. I use unetched board as the substrate and solder or hot glue components to it with their little legs sticking up in the air. I use solderable wirewrap wire to make the connections, spinning it on the pins then soldering it later when all the connections are made. That works pretty good.

For most low impedance RF work, if I need a tiepoint other than a component pin, I'll just solder a 10M resistor to the board and stand it up so I can use the other end as a tiepoint. Of course direct access to the groundplane is everywhere on the unetched board. I don't do it, but I've seen others glue down small pieces of circuit board to form isolated pads.

IMHO there are many good ways to build using copperclad board. I like it much better than the old point to point style wiring.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1847. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct13.194300.802@ke4zv.atl.ga.us>
Source record: 101743

In article <19961010213104682l3@zetnet.co.uk> John Rabson <word.factory@zetnet.co.uk>
writes:
>The UK LF band is 73 kHz +/- 1.4kHz, with erp 1 W max. All modes
>except FSTV. No /M or /MM! See

One watt ERP! Man, wish we could do high power stuff like that!
We're limited to one watt *input*, and given the limits on antennas,
the ERP is better expressed in microwatts, or at best as a few
milliwatts. An extra 30 db of signal would make things lots
easier.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1848. re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: markl@dove.net.au
Message-ID: <845162450mnewsmarkl@dove.net.au>
Source record: 101822
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

>
>
> In article <wa2iseDz2v7s.A5M@netcom.com>,
> Robert Casey <wa2ise@netcom.com> wrote:
>
> >Right now, I'm playing around with an old early 60's AA5 AM tube radio,
> >substituting sub-mini "pencil" vacuum tubes for the standard 7 pin tubes
> >(using a heater voltage transformer to run the 12V and 6V heaters). No
> >'real' reason, other than making a radio that might have been manufactured
> >if semiconductors had not been invented, and sub-mini tubes being the
> >"next generation" of tubes for AM radios (assume that mass production of
> >pencil tubes would get the cost down).
>
> I'm trying to take a 90's approach. Just got in my box of minicircuits
> VCOs, and made a logarithmic amp from the National Semiconductor data
> sheet for one of their opamps... Together with info gleaned from KK7B's
> direct conversion receiver, a spectrum analyzer is my next project.
>
> With a VCO and a mixer, a nice 0-50 MHz VFO should take up the size of a
> pack of cigarettes, and is also on the project list.
>
> >Having fun.
>
> Some things never change.
>
> Bruce
> N6URH
> .

Amateur Radio is the place for ALL forms of radio activity, nostalgic or leading edge (well, relatively speaking anyway). As a fraternity, we should be encouraging this spread of activity.

I started in electronics when germanium transistors were hot property (literally from thermal run-away) and valves were bread and butter. I wouldn't consider using valves in a project, but I still like to see the craftmanship that was evident with the loomed wiring, component leads bent just so around the terminal posts, etc. The vintage cars of radio.

Mark.

1849. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: johnoz@indy.net
Message-ID: <53p6ga$mhi@news.indy.net>
Source record: 101823

tsw@3do.com (Tom Watson) wrote:

>We all know that the data rate on "standard" ethernet is 10Mhz, and with
>modulation of the data, the highest frequency used is 20Mhz. Given the
>fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax
>(yellow double shielded stuff) a few questions:

>1) How good is it for VHF services (2 Meters??)
>2) Loss figures??
>3) Has anyone used it for this??

>Any other comments...

>Thanks

>de WA6HCW

>--
>Tom Watson
>tsw@3do.com (Home: tsw@johana.com)

I recently obtained some Montrose 5713 50 ohm ethernet cable and am
trying to get mnfr's. specs. but I've found the following by
measurement.
1) An open 41 ft. length gives approx. SWR of 9 to 1 at 144 Mhz. This
calculates to a loss of about 2.3 dB/100 ft.
2) The velocity factor is close to 80% and the dielectric is foamed,
because the temperature rating is 125 C I believe that the dielectric
is foamed teflon.
3)The cable is well shielded with both foil and braid.
As best I can tell this cable should be quite useful at 144 MHz. I
intend to use it for baluns for some 2M yagis.
Would appreciate receiving manufacturer's specs.

John KB9MIE.

1850. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: carl@ais.net
Message-ID: <53phav$jr9@news.ais.net>
Source record: 101824
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

In <325C8407.4033@wenzel.com>, Charles Wenzel <wenzel@wenzel.com> writes:
>Could they be using another RF transistor at DC to generate a
>temperature-compensating bias?

The device the original poster described was a special device that was
specifically designed to provide a low impedance, temperature tracking
bias for class AB RF power amps ...

Carl - wa6vse
carl@ais.net

1851. Re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDz7205.L50@netcom.com>
Source record: 101825
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I just finished my Sub-mini tube AM radio, and it works reasonably well. Imagine sub-mini tubes running directly off the powerline (except for the heaters have a transformer). Took an image file of the innards of this radio, and also drew a diagram as JPG files. will post when Netcom becomes stable again, their system is slow right now.

1852. Motorola PLL Chip Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: drdave@es.co.nz
Message-ID: <53qflc$9vo@Chaos.es.co.nz>
Source record: 101826

Hi Anyone know of a mail order source for the Motorola range of Synthesiser chips 14515x. These are hard to get in New Zealand. Many thanks,
Dave Bowie ZL4DRB

1853. Request for help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: raven1@alpha.NETaccess.on.CA
Message-ID: <199610131341.JAA11621@alpha.netaccess.on.ca>
Source record: 101827

Hams with transmitter building experience, please
consider helping victims of civilian electromagnetic
weapons testing. We want to build a demonstration
device to show public officials that this type of
weapon exists right now, and is not some sort of
futuristic "pie in the sky".

We have signal specifications. To view those specs
and for further information, please visit:

http://www.netaccess.on.ca/~raven1

Thanks for taking time to read this.

raven1 (P.Eng., former VE3LKE)

1854. ATV gunn modulator ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: Ik1wvq@ab.INfocomm.IT
Message-ID: <199610131222.FAA25211@UCSD.EDU>
Source record: 101828

```
73 and tnx for reading this message ..
i am looking for a simple ATV gunn diode modulator for 10ghz ...
anyone can help me ???? tnx
73 from mauro ik1wvq@ab.infocomm.it italy
```

1855. Re: ATV gunn modulator ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: stevem@best.com
Message-ID: <53r4o5$pvj@shellx.best.com>
Source record: 101829

In article <199610131222.FAA25211@UCSD.EDU>, <Ik1wvq@ab.INfocomm.IT> wrote:
>73 and tnx for reading this message ..
>i am looking for a simple ATV gunn diode modulator for 10ghz ...
>anyone can help me ???? tnx
> 73 from mauro ik1wvq@ab.infocomm.it italy

I have had some success placing the Gunn in the emitter of an NPN emitter follower circuit. The base is driven by a video speed opamp (Elantec and National Semi make several now). The feedback for the opamp is from the input to the opamp to the output of the emitter follower. The video waveform and DC Bias for the Gunn are applied to the opamp input in a summing configuration.

The biggest trick here is to keep the connections to the Gunn as short as possible. You also need to make a trade off between good bypassing of the Gunn (to prevent secondary oscillation) and the ability to modulate at video rates.

Sorry I don't have an actual schematic to post. The last circuit I made went directly from my head to the board. Hopefully that will give you some ideas.

Steve WF6R

1856. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: dledoux@laci.net
Message-ID: <53r6k2$q2p@news1-alterdial.uu.net>
Source record: 101830

lhalliday@creo.COM wrote:

>I'm baffled at why this is even a subject for discussion - homebrewing
>is easier than it ever has been, the parts are better than they have
>ever been, and homebrewers can make equipment of unprecedented
>sophistication and performance easier than ever before.

>

>Laura Halliday VE7LDH "C'est une femme mutine, assez
>lhalliday@creo.bc.ca elegante, grave et legere, ayant le
>ve7ldh@amsat.org sens du confort et du plaisir
>Locator: CN89mg en tout." - C. Deneuve

Excellent! and besides, many of those who talk about homebrewing are thinking of the old 'hold-your-hand-every-step-of-the-way ' Heathkits, etc. As always, those who want to, do. Those who don't, gripe....

73--
KD5QI

1857. Help with Battery Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: cmckenna@atl.mindspring.com
Message-ID: <53r7os$1d0@camel1.mindspring.com>
Source record: 101831

I need help. I need to build a battery charger for a radio I bought at a hamfest a few weeks ago. It has a 7.6v nicad battery with two negative contacts one positive contact and one other contact. I recently built a 5v regulated power supply and was wondering if I could use that as a charger and if I can, which contacts do I connect to?

Thanks,
-Chuck
KF4JPE

1858. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: carl@ais.net
Message-ID: <53rak2$mio@news.ais.net>
Source record: 101832

>In article <9609118450.AA845057728@mail.creo.com>, lhalliday@creo.COM
>says...
>>
>>I'm baffled at why this is even a subject for discussion - homebrewing
>>is easier than it ever has been, the parts are better than they have
>>ever been, and homebrewers can make equipment of unprecedented
>>sophistication and performance easier than ever before.
>>

Laura .. problem is the tubes are hard to find ... many of the
complainers are the same people who are totally resistant to change and
particularly anything that smells of new technology.

>>
>>PC boards and construction techniques in general are a red herring. My
>>approach these days is that one-offs are best done on unetched ugly
>>boards, which are quick to make (perfect for let's-try-it-and-see
>>experiments), work extremely well up to at least VHF, and can be real
>>works of art. I long ago decided that (except for reproducing stuff
>>from books and magazines), if I etch an original board, it will be
>>surface mount. And please don't start whining about *that* - SMD is
>>available, cheap, dead simple, idiot-proof and very nearly
>>indestructible. I laid out my first SMD PC board with a straight edge,
>>scotch tape and a sharp knife...
>>

Agreed, but they WILL whine about it ... it's NEW ... they don't
understand it, don't WANT to bother learning about it, and are deathly
afraid that the trend towards modernization will continue ... notice I
said "are deathly afraid that the trend ... will continue" they're so
far out of touch with today's technological reality that they haven't
yet accepted the fact that progress "is a done deal" and that there's
nothing that can stop it ...

>>The dismal level of technological interest, knowledge and expertise is
>>indeed a problem. The way to address it is not to grumble about the
>>new tests or new hams, but to acknowledge that now, with it being so
>>easy to get on the air, the role of Elmers is more critical than ever
>>before. Your licence is your licence to *learn*. Just do it.
>>

Too many don't WANT to learn ... to them "It's JUST a hobby! <whine>"
All they want to do is work DX, collect wallpaper and bitch and whine
and try to keep out newcomers who might actually do something of benefit
to ham radio ... after all, "can't have those damned no-coders getting
in here and actually doing good things ... would make us brass-pounding

olde fartz look bad (worse)"

>>I'd like to propose some self-censorship on this subject. Can you
>>imagine the effect such discussions have on young or would-be hams?
>>"Modern technology's crap! The Good Old Days are over! Face it, loser:
>>you missed all the fun!"

Those are exactly the effects they want ... they want to keep out the newcomers ... they can't stand the fact that some sharp young technowizkid with a talent for design and an eye for progress can do more good for ham radio in his first year than they did in the past 25 years of chasing DX on the lower part of 20m and bitching and whining about newcomers ...

>Ugh. The *real* fun is yet to be, and if some
>>hams wish to opt out of technology and live in the past, please at
>>least have the common decency to keep your mouths shut and stay out of
>>the way of those of us who still understand what "technical
>>investigations and self-training" means.
>>

Don't count on that Laura ... you're destined to get flamed for what you wrote ... it's "heresy of the highest order" ... anyone who advocates progress, says that ham radio is more than a hobby, and that CW is not better than sex is a heretic in the eyes of the ARRL/Morseist Religious Order of Olde Fartz.

But welcome to "the rabble" ... we can use all the vocal support we can muster for the coming battle to get the rules changed to eliminate the code test and modernize rules regarding modulation, coding, occupied bandwidth, etc. Plus, we need more YLs <grin>

73,
Carl - wa6vse
carl@ais.net

1859. amplifying tv-modulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: tolot@utolot.toppoint.de
Message-ID: <7tglz*502@utolot.toppoint.de>
Source record: 101833

I like to transmit a video-signal (fbas/ntsc or monocrome) from a radio controlled airplane with an amplified tv-modulator. My problem is to filter and amplify the signal to get a acceptable transmission of 500m or more. My power source is 12V and the modulator frequency is channel 2 or 3 (somewhere between 50-100 MHz). How do i connect what kind of transistor to what kind of antenna and how do i filter? I do not have much experience with hf circuits. My maximum range of a good signal was 10m.

Marc

1860. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-13 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <53rnc7$gvm@nadine.teleport.com>
Source record: 101834

>In article <9609118450.AA845057728@mail.creo.com>, lhalliday@creo.COM
>says...

>. . .
>PC boards and construction techniques in general are a red herring. My
>approach these days is that one-offs are best done on unetched ugly
>boards, which are quick to make (perfect for let's-try-it-and-see
>experiments), work extremely well up to at least VHF, and can be real
>works of art. I long ago decided that (except for reproducing stuff
>from books and magazines), if I etch an original board, it will be
>surface mount. And please don't start whining about *that* - SMD is
>available, cheap, dead simple, idiot-proof and very nearly
>indestructible. I laid out my first SMD PC board with a straight edge,
>scotch tape and a sharp knife...
>. . .

I'd like to add my strong agreement to this. Circuit boards are super if you want to make several copies of something. But for a single unit, they're totally unnecessary. It's frequently much harder to get good performance of RF circuits on a circuit board than it is on an "ugly" style ground plane. Being able to build point-to-point in three dimensions enables many connections to be shorter.

Years ago I was visited by a ham who had been living in Tonga, in the South Pacific. He had been trying to get material together to build PC boards so the local hams could build rigs. He'd experimented with using dilute battery acid for echtant, and made other efforts to make do with what he had available, but hadn't been very successful. He visited my place and used some of my homebrew "ugly" construction rigs, then we went to Wes Hayward's (W7ZOI) place and he saw and used some of Wes's rigs. He was amazed that such ugly rigs could work so well, and told us so. He had been sure, after reading all the articles in popular magazines, that PC boards were necessary. Armed with this new information, he returned to Tonga. I talked with him on the air a short time later, using a new rig he had built, "ugly" style. "Looks like hell," he said, "but works terrifically. And we're on the air."

The term "ugly construction" comes from an article by Hayward (KA7EXM) and Hayward (W7ZOI) in August 1981 _QST_ titled "The 'Ugly Weekender'". For more information about this technique, Look in the index of _The ARRL Handbook_ under "Ugly construction".

I think the constant emphasis on PC board construction has done as much to supppress homebrewing as any other factor.

Roy Lewallen, W7EL

1861. Dual band for DC Reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <53s2ip$rpf@izzy4.izzy.net>
Source record: 101744

Im a bit new at this but after getting my W1FB Universal DC RX going
I began to wonder if I couldn't add a selector switch and switch in
different torroids and caps for two or more bands.

I realize this could cause a bit more instability but if leads are kept
short etc. is this a resonable idea or is it not worth the effort?

Tim ka8ddz

1862. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <53sdvs$5do@cc.iu.net>
Source record: 101745

In <53rak2$mio@news.ais.net>, carl@ais.net (Carl Stevenson) writes:
>far out of touch with today's technological reality that they haven't
>yet accepted the fact that progress "is a done deal" and that there's
>nothing that can stop it ...

i wonder what the news of the death of carbon comps will do for 'em..8)
>73,
>Carl - wa6vse
>carl@ais.net

bill wb9ivr

1863. Re: SEARS MANUAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <53sdp0$5do@cc.iu.net>
Source record: 101746

In <Dz4u0u.KrI@iglou.com>, n4lq@iglou.com (Steve Ellington) writes:
>: Many years ago, Sears sold a 2 meter radio. Am looking for service
>: manuals. Any ideas where to look?
>
>J.C. Penny's? When I worked at Sears 25 years ago, they had part number
>breakouts on microfilm of virtually everything they sold including TV's
>and radios. Get the model number xxx.xxxxx and give them a call. Perhaps
>something is available.

would suspect sears should be of some direct help (depends what shape parts
is in after all the break up and rearranging going on in Sears..), but the amateur
radio rig was from Yaesu...

1864. Re: BELCOM LS202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <3261F3C5.7558@rcru.rl.ac.uk>
Source record: 101747

Paolo Petrini wrote:
>
> Anybody knows how to modify LS202 in order to have a better SSB
> Thanks
> Paolo IW1CCZ

Run it at very low power output.

1865. Re: HF Linear amp kit company?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: Ramon Gandia <rfg.at.nome.dot.net@no.spam.please>
Message-ID: <3261FC97.521C@no.spam.please>
Source record: 101748

Roy Lewallen wrote:
>
> There's a company which sells kits for some of the HF linear amps described
> in Motorola application notes. I've lost their name and address. Would
> someone please be so kind as to send it to me? (I'd also like phone and fax
> numbers if possible; the info is for someone out of the country.)

Roy:
Its C.C.I. and they advertise in QST. Just saw their ad a
couple days ago. When you get a hold of them, ASK them if the
Motorola instructions/data come with the kit. I am interested too,
and in fact have their catalog here somewhere, but I moved houses
and I can't find anything yet!

Please be advised this is a parts kit. IE, blank heat sink
extrusion that you drill, etc. Seems like there has to be a limit on
how "pre built" the kit is or runs afoul of FCC rules on amps. Its
just a collection of parts, but I understand the PC board comes ready
to go, so it is not hard at all. But ASK. My last contact with them
was about 4 years ago and anything can have happened in the meantime.

Let me know what you find out both questions. Note the
message on my signature line about e-mail reply before you use the
REPLY button!
--
In order to foil SpamBots, my e-mail address is not
machine readable. Please reply to address below:

Ramon Gandia, Nome, Alaska | rfg.at.nome.dot.net
AL7X S/V Seven Stars |
907-443-2437 fax 907-443-2487 | where at=@ dot=period

1866. roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: modinaf@swsupp.ICO.Olivetti.COM
Message-ID: <199610141150.EAA05585@atcnet.ICO.Olivetti.Com>
Source record: 101749

Hi All!
I`m looking for address of dealer or producer a roller inductor to build a
tuner for hf bands.
Thanks

73 de IK1VCF

1867. QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: "Bradley S. Mitchell" <bmitchel@kodak.com>
Message-ID: <32625588.6870@kodak.com>
Source record: 101750

Hi everybody,

I have been on the QRP-L for a long time, and have seen
the list change considerably since it started.

Because it is becomming a list more of people building
kits and Chasing foxes, I proposed that a new QRP-HB homebrew list be created.

Many people e-mailed me directly, and said, good idea..Many
posting to the list directly said, No Way.

Now, my question is is there enough interest out out there to support
a QRP-HB (Homebrew) list or not?

By some people on the list, I was told to come here and post
(rec.radio.amateur.homebrew).

With the current thread that is going on here, it seems that
Homebrewing in general is at risk.

What do you all think?

73
Brad Mitchell
WB8YGG

1868. Re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: dtmiller@dsmnet.com
Message-ID: <09960913184623.OUI32.dtmiller@dsmnet.com>
Source record: 101751

Hi Bob,

>> what if sub-mini tubes were to be
the next generation of consumer tubes (and what if transistors not
been developed). Also assumes that the manufacturing costs of
sub-mini's became reasonable (would happen when you make billions
of anything, you find ways of making it low cost). <<

What are these sub-mini tubes? I haven't heard of them. Are they
electrically equivalent to some of the standard mini tubes (6AU6, 12AT7,
6C4 ...)?

Are you aware of any place on the Web that has info on them?

!^NavFont02F019E000BQGPHGF3HH9F2803

--

-- Dean -- from Des Moines ---- Using: OUI TE 1.5 from http://www.dvorak.com

1869. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <53tloc$r5i@izzy4.izzy.net>
Source record: 101752

In article <32625588.6870@kodak.com>, bmitchel@kodak.com says...
>Because it is becomming a list more of people building
>kits and Chasing foxes, I proposed that a new QRP-HB homebrew list be
created.

I agree, and would support a HB list, the problem with the QRP-L in my opinion isn't so much QRP operation vs Homebrew but it seems to be taking on all kinds of other junk. Contests that are not QRP endless commentary that just offers another opinion.(yea I know, like I'm doing here) It's getting to big for me to wade through each day.

Tim, ka8ddz

1870. The bandwidth of the technologically impressed & homebrewing &c

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: nyoung@nova.wright.edu
Message-ID: <1996Oct14.121122@nova.wright.edu>
Source record: 101753

And furthermore, he said with the air of a pontificating putz, it ain't so much that technology is zipping onward with exponential increases in speed. It's the bandwidth of the technology itself.

One of the discussers here had mentioned DSP &c as a place due for more research, more trial and education. I agree. It's like saying that television must forever more remain NTSC (or PAL or SECAM, if you live in those worlds) and that never should digital concepts be passed down to the television viewers or market. To do so would ignore the changes in the building of TV images over the past 20 years or so. As in: I remember back around 1972 reading in the now-defunct _Ham Radio Magazine_ about some guy who was messing with the then neonatal forms of CCD/pixel-oriented image building. There was a picture of his callsign plootsched out into a 1-inch square of very tiny boxes. I looked at that and said that TTY (as we knew it then) was headed for the dumpster. I was right. Now we have OCR systems that do away with "cutting tapes" for RTTY; we have laser printers and DMPs that do away with TTY "stunt boxes"; we have digital modes that add almost uncontrollables levels of encryption & security (spread spectrum being only one of 'em), all far beyond the wildest dreams of any RM2s and RM3s that I knew back then.

In fact, those ol' pixels now allow me to put a monstrous image of Hulk Hogan or Macho Man Randy Savage on my living room wall so as to not miss one glob of flying spit as either of 'em hits the turnbuckle.

THe change is there, as it always has been. And yet, I personally derive a certain arcane pleasure out of recreating -- especially for my eight-year-old ('cause he likes it) -- one tubers and crystal sets... if only because they are such great teachers of the fundamentals at the core of this broad spectrum of technological change. ANd it makes me feel good too, knowing that as much as I have gotten older, I can still figure out which tube pin gets the 6.3 VAC and which gets the 110 VDC. That stuff -- the details -- are terribly important. I have a ARC-5 receiver with blown filaments to prove it.

So before anyone gets sidetracked by my references to tubes and the popularly hot-ticket CK722 (remember them?), maybe I should make my personal position clear:

To bring Freud into the set-up, sometimes a cigar is just a cigar. Food is food. I like grits with my over-easy eggs. Other's hate the white stuff and want only well-greased, fried in lard, thinly sliced hashbrown potatoes. But either way it's "plug 'em up and die;" we still end up eating breakfast. So I dig old tube radios 'cause they're

my last ditch nostalgia trip. That doesn't mean that I wouldn't take a multi-mode 440 MHz transceiver. Fact is, I'd love to have in one box 30 MHz of spectrum to match the 30 MHz of HF spectrum that I have in my antiquated TR7. That and a new Barco 3000 LC so Hulk Hogan could be even more real as he flops head first and nearly broken onto the mat. After all, that guy back in '72 had a pretty good idea. If only I could get myself fired up about SSTV... as if drooling after the latest RisoGraph duplicator ain't enough to make me reconsider the 1890s-vintage type collection what already clutters up the garage. And, now that I think of it, that's a spectrum too: print media of my father's day, print media of my son's youth, electrons & all.

Anybody for BPSK on 1.75 km? (But first you have to explain what BPSK is... nice and slow... so I can copy down the dits and dahs.)

73
Nils
WB8IJN &c

1871. Re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDz8sHA.HsF@netcom.com>
Source record: 101754
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <wa2iseDz8GM6.2tG@netcom.com> wa2ise@netcom.com (Robert Casey) writes:
>>I just finished my Sub-mini tube AM radio, and it works reasonably
>>well. Imagine sub-mini tubes running directly off the powerline
>>(except for the heaters have a transformer). Took an image file
>>of the innards of this radio, and also drew a diagram as JPG
>>files. will post when Netcom becomes stable again, their system
>>is slow right now.
>
>It's their Orange County CA dial-up that's messed up, that's all.
>Anyway, I just posted in alt.binaries.pictures.misc & 12hr & clocks
>two image files, one a picture of the modified AA5 radio using the
>sub-mini tubes, and the other image file a schematic diagram.
>This radio was missing its back, and its antenna, so I had to
>make a new loop antenna from ribbon cable.
>
Reposted the image files, first ones got munged.

>This would file under: "What If", what if sub-mini tubes were to be
>the next generation of consumer tubes (and what if transistors not
>been developed). Also assumes that the manufacturing costs of
>sub-mini's became reasonable (would happen when you make billions
>of anything, you find ways of making it low cost). As it was, only
>the military could afford sub-mini's.

1872. HY power HF amplifier homebrewing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: Feliciotti Marco <feliciotti_marco@alitalia.it>
Message-ID: <3262BE63.3755@alitalia.it>
Source record: 101755

I am interested to exchange KNOW-HOW related to build HI pwr
HF amplifier.

I also some hy power parts to sell or swap.

Looking for a 3CX3000A7 or 3CX5000B7 and their socket.

1873. Marconi crystal filter info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: Olli Tuppurainen <olli.tuppurainen@fujitsu.fi>
Message-ID: <32628975.2B66@fujitsu.fi>
Source record: 101756

Does anyone in this forum have any data of

Marconi crystal filter
Made in U.K
type number FQQ00-2025-01

Thanks

Olli/OH2KVH
olli.tuppurainen@fujitsu.fi

1874. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <32628F5D.636@gte.net>
Source record: 101757

lhalliday@creo.COM wrote:
>
> I'd like to propose some self-censorship on this subject. Can you
> imagine the effect such discussions have on young or would-be hams?

I oppose self-censorship or censorship in any other form. The open
and free discussion of ideas helps people make informed decisions, even
"young or would-be hams."

73,

Jim - AD4VL

1875. HEATHKIT IA-1 IGNITION ANALYZER SCOPE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: pjanis@ptd.net
Message-ID: <32628C02.2A84@ptd.net>
Source record: 101758

Looking for info on the Heathkit IA-1 ignition scope. Need schematic and any other info you might have. Thanks Mike

1876. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <53u1op$cn@abyss.West.Sun.COM>
Source record: 101759

In article <53rnc7$gvm@nadine.teleport.com>,
Roy Lewallen <w7el@teleport.com> wrote:
>
>The term "ugly construction" comes from an article by Hayward (KA7EXM) and
>Hayward (W7ZOI) in August 1981 _QST_ titled "The 'Ugly Weekender'". For
>more information about this technique, Look in the index of _The ARRL
>Handbook_ under "Ugly construction".
>
>I think the constant emphasis on PC board construction has done as much to
>supppress homebrewing as any other factor.

I'm in violent agreement with Roy on this. I think that magazines tend
to want PCBs to be available so that casual builders can order a
PCB, stuff it and have a working thingy. That's nice for "canned"
projects, but experimentation ends up being stifled. I've been
building ugly things for some time, and it really is great. I'm
not stuck using someone else's design - I can (and do) frequently
cook up my own.

The 2m/220 transverter project in the '94 (and maybe later)
ARRL Handbooks is a great example of what ugly can be.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

1877. Thanks for HD Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <53u59m$1mt@herald.concentric.net>
Source record: 101760

Thanks to all who replied for help regarding a shorted out SCSI
Hard drive (two of them). I found the problem with one by current
limiting a +5volt supply and checking around for a HEAT SOURCE
(high tech -huh?). Turns out it was VERY SMALL 22uf/33volt surface
mount tantalum cap. I believe the second drive has the same component
failure, but I am still looking.

Thanks again for the help.

Cheerio,
Wm Kresl
WB9BBC

--
Wm Kresl
WB9BBC @KD9JK.WI.USA.NOAM
Delavan, WI USA

1878. Power Supply as Battery Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: mvi@ix.netcom.com
Message-ID: <3262C584.7627@ix.netcom.com>
Source record: 101761

I tried to use my 13.8v / 3 amp regulated power supply to charge a 12v / 7 amp/hr nicad.

I let the battery charge for about three hours. At this point, the current being drawn by the battery had dropped from about 2.4 amps to about 1.45amps and the voltage at the battery, without load, rose to about 13.1v.

The following morning, I re-connected the supply to the battery and saw a small spark when attaching the positive alligator clip to the battery (with the supply off, of course).

At that point the supply ceased to work. Further investigation found two open transistors in the supply.

Questions:

How does a battery charger differ from a power supply?

Is there a way to modify the supply to be able to use it as a charger?

Any help would be greatly appreciated.

Thanks,

John, KB2YJH

1879. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: stevem@best.com
Message-ID: <53u80e$mmt@shellx.best.com>
Source record: 101762

In article <53u1op$cn@abyss.West.Sun.COM>,
Dana Myers <myers@West.Sun.COM> wrote:
>In article <53rnc7$gvm@nadine.teleport.com>,
>Roy Lewallen <w7el@teleport.com> wrote:
>>
>>The term "ugly construction" comes from an article by Hayward (KA7EXM) and
>>Hayward (W7ZOI) in August 1981 _QST_ titled "The 'Ugly Weekender'". For
>>more information about this technique, Look in the index of _The ARRL
>>Handbook_ under "Ugly construction".
>>
>>I think the constant emphasis on PC board construction has done as much to
>>supppress homebrewing as any other factor.
>
>I'm in violent agreement with Roy on this. I think that magazines tend
>to want PCBs to be available so that casual builders can order a
>PCB, stuff it and have a working thingy. That's nice for "canned"
>projects, but experimentation ends up being stifled. I've been
>building ugly things for some time, and it really is great. I'm
>not stuck using someone else's design - I can (and do) frequently
>cook up my own.
>
>The 2m/220 transverter project in the '94 (and maybe later)
>ARRL Handbooks is a great example of what ugly can be.
>
>
>--
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
> * (310) 348-6043 | not be interpreted or represented as *
> * Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *
>

About 2 years ago, I built a 6GHz synthesizer using "Ugly" construction
techniques. In this case, it was a combination of dead bug, holly board
and zero lead length coaxial techniques with SMT components. It worked
great. Even though it was done for my employer, it could have been easily
a ham homebrew project. The only special tools were a fine tip iron and
an articulated magnified lamp.

Steve M. WF6R

1880. Re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDzA9CG.2Cx@netcom.com>
Source record: 101763
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

In article <09960913184623.OUI32.dtmiller@dsmnet.com> dtmiller@dsmnet.com writes:
>
>What are these sub-mini tubes? I haven't heard of them. Are they
>electrically equivalent to some of the standard mini tubes (6AU6, 12AT7,
>6C4 ...)?
>
>Are you aware of any place on the Web that has info on them?
>
AFAIK, sub-mini's are fairly similar to regular tubes, just like the mini
7 and 9 pin-ners are similar to octal tubes. Though not identical.
I have done things like substitute a sub-mini filament 5678 for a 1u4 in
a tube portable AM radio with no extra mods needed. And the before mentioned
AM "AA5" tube radio, which needed only small mods (change resistor values,
and such). The 6111 is a medium mu twin triode, similar to the 12A_7 series,
heater voltage is different! I don't know of a web site with info, maybe
I could post some info on ones AES sells. These tubes are a bit pricey
though. The 6111's they had a sale for $1 or was it $1.50? Usually around
$12. I picked up from an old book dealer a GE tube manual, which lists sub
mini's.

1881. Transistor Substitution info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <53uboj$s9@login.freenet.columbus.oh.us>
Source record: 101764

Help Again!

I'm in need of specifications and substitution information on the following devices:

1. Varo R711A
2. RCA 54-031-017

Please e-mail reply to tswisher@freenet.columbus.oh.us.

Thanks for any assistance!

Tom Swisher, N8GQK

--
****
Tom Swisher, N8GQK | E-mail:
The Ohio Railway Museum | tomswisher@aol.com
"Save Our Roads.. Ship It By Rail" | tswisher*freenet.columbus.oh.us

1882. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: Stephen Wandling <stephenw@wimsey.com>
Message-ID: <32625343.3233@wimsey.com>
Source record: 101765

Brad:

Your posting has had me waxing philosophical. Stuff like humans need to communicate, and then when given the method or opportunity, have nothing to say.

As an old CW op (1952) I recall many 'identical' ?conversations?:

XMTR IS . . .
RCVR IS . . .
RST IS . . .
GOTTA GO

I guess my point is that I found it so exciting to fire up that 6L6, press the key and hear my call letters coming back. Beyond that it was just QRP, DX or as you say Fox hunts. The medium was the message.

I am interested in Homebrew. Homebrew anything. It's something that I can provide some helpful information on at times. Kits are not homebrew. My own take on QRP is that it's small, cheap, portable and doable. I've had this fantasy of camping on some mountain ridge, with my antenna strung in the alpine firs, snug in my sleeping bag, tapping away to someone sitting in their shack in town.

Is there more than that?

1883. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: aor@gteais.com
Message-ID: <32624F2B.4FB@gteais.com>
Source record: 101766

I have seen a doppler kit in Radio Electronics (last 20 pages or so..)
operating on 2.3 GHz. It displays MPH, KMH, and doppler shift. Kit is
about $100, and you make the feed system (easy).

Take a look,

Al, NW2M

1884. Re: Motorola PLL Chip Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <53ufc6$3jv@abyss.West.Sun.COM>
Source record: 101767

In article <3261B710.F08@tir.com>, Bill C. <wrc@tir.com> wrote:
>Hi Dave,
>
>Tyr here:
>
>http://www.digikey.com/

When did Digi-Key start selling Motorola parts? I've found that Mouser and Digi-Key are not good source for things like Motorola PLLs (like the MC145157, MC145170, MC14519x, etc.). They don't sell Motorola, and they don't stock too many 'exotic' chips from the vendors they do sell.

I've bought Motorola PLLs from Hamilton Halmark, Wyle and (I think) Newark. You've got to deal with a decent distributor for these parts, and they're usually easy to get once you find the right source. The last time I shopped at Hamilton Halmark, the minimum order was $50, which I easily made. I stocked up on MC145170s and J310s.

However, the original requestor is not in the USA. I'd suggest contacting a local Motorola sales office (look in a databook) for the names of local distributors. It has always worked for me.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

1885. Schematic Diagrams needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <53ubjh$t64@login.freenet.columbus.oh.us>
Source record: 101768

Help!

I'm in need of schematic diagrams for a couple of power supplies, both
made by ACDC Electronics:

1. Model 12N6.8, 12vdc 6.8 amp
2. Model 12N3.4, 12vdc 3.4 amp

Please e-mail to tswisher@freenet.columbus.oh.us.

Thanks!

Tom Swisher, N8GQK
--
****
Tom Swisher, N8GQK | E-mail:
The Ohio Railway Museum | tomswisher@aol.com
"Save Our Roads.. Ship It By Rail" | tswisher*freenet.columbus.oh.us

1886. Re: Fox hunt Transmitter Plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDz9rL6.D45@netcom.com>
Source record: 101769

In article <53satv$f6k@thepit.trucom.com> marty@trucom.com (Marty Albert) writes:
-Hello, Folks:
-
-My radio club (The Eastern Ozarks Amateur Radio Club) and I are
-looking for plans for a small transmitter to be used in Fox Hunts.
-
-Something in the very low power range (10 mw would be plenty!) and
-maybe even with a voice chip although a code output would work as
-well.

I'd start with an old HT (Icom 2AT or similar) and either build a keyer from an EPROM, counter, and 555s (see the handbook for the circuit) or use a timer to trip a voice chip like the Radio Shack one or one from a greeting card. For a real nice setup, look at http://home.navisoft.com/agrelo/ae.htm Joe sells some very nice mini transmitters and DVKs, as well as a very nifty doppler DF'er.

I'd stay away from the Ramsey FM-6 transmitter; if you do build it, MAKE SURE YOU ADD AN EXTERNAL FILTER and put it on a spectrum analyser. It has *no* output filtering and puts out spurs and harmonics all over the place. Not sure about their "Sly Fox" transmitter, but I'd put that on the analyzer too, given Ramsey's reputation...
/mike
--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

1887. Fox hunt Transmitter Plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: marty@trucom.com
Message-ID: <53satv$f6k@thepit.trucom.com>
Source record: 101770

Hello, Folks:

My radio club (The Eastern Ozarks Amateur Radio Club) and I are looking for plans for a small transmitter to be used in Fox Hunts.

Something in the very low power range (10 mw would be plenty!) and maybe even with a voice chip although a code output would work as well.

It must be:
2 meters
FM detectable
Battery powered (8+ hour battery life if possible)
Very small

We don't want to re-invent the wheel if there are already plans available.

Thanks!

Take Care & 73

Marty Albert - marty@trucom.com
Amateur Radio: KC6UFM@KC6UFM.#SEMO.MO.USA.NOAM

Heartland Internet Services

****
Virtual Web Servers from only $29.00 a month!
http://www.adgrafix.com/info/calbertjr
****

1888. Re: Using Ku TWT for X-band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: rex_allers@3mail.3com.com
Message-ID: <53u1s4$8gv@news.nad.3com.com>
Source record: 101771

A week or two back someone asked about using a 12-18 GHz TWT for 10 GHz... sorry, I lost the original post. Hope you are still around.

I haven't done this myself, but it has been done by several hams for X-band operation. It will require that the TWT not have waveguide feeds with a cutoff above the desired band. If it has waveguide that is broad enough for X-band, or SMA or N, it should be do-able. You may need to lower the high voltage which will lower the operating frequency, and some magnets added around the tube may help peak the output and lower helix current.

Jim Vogler, WA7CJO, did two excellent presentations with lots of TWT tips for microwave hams -- "Optimizing TWT Power for Narrow Band CW/SSB Operation" and "10 GHz Moonbounce". They are both contained in one of the Proceedings books available from the ARRL. The one for these articles is "38th West Coast VHF/UHF Conference -- 1993". According to the ARRL list it is still available for $12.

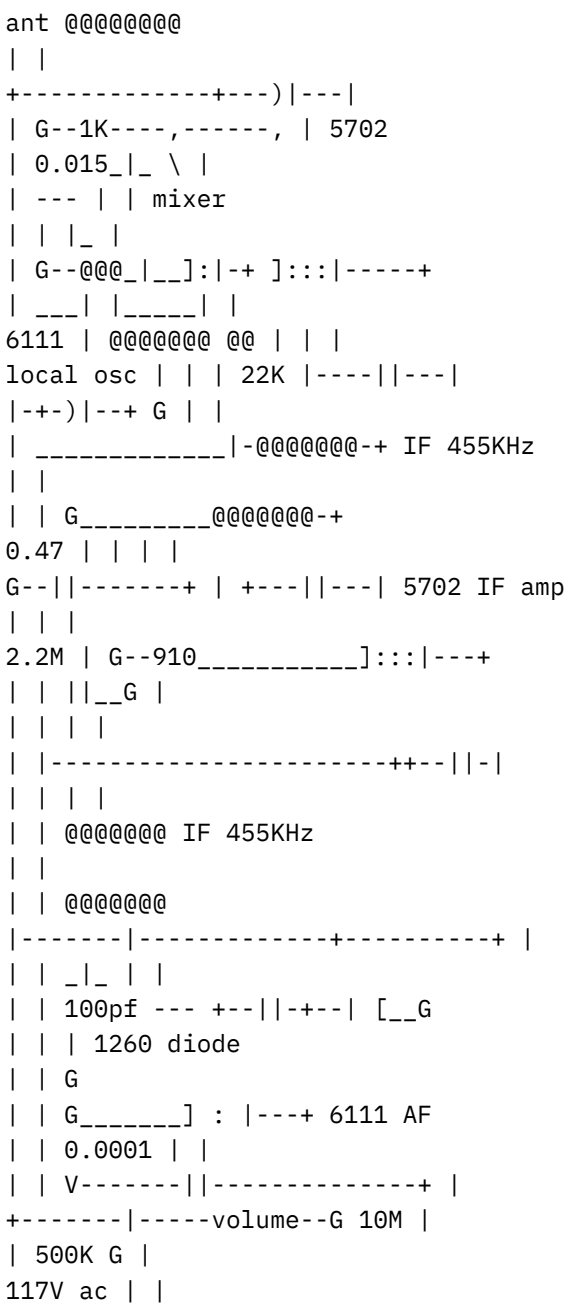
You can reach ARRL on the web at www.arrl.org or by email to hq@arrl.org. The various ARRL proceedings are an extremely valuable source for microwave hams.

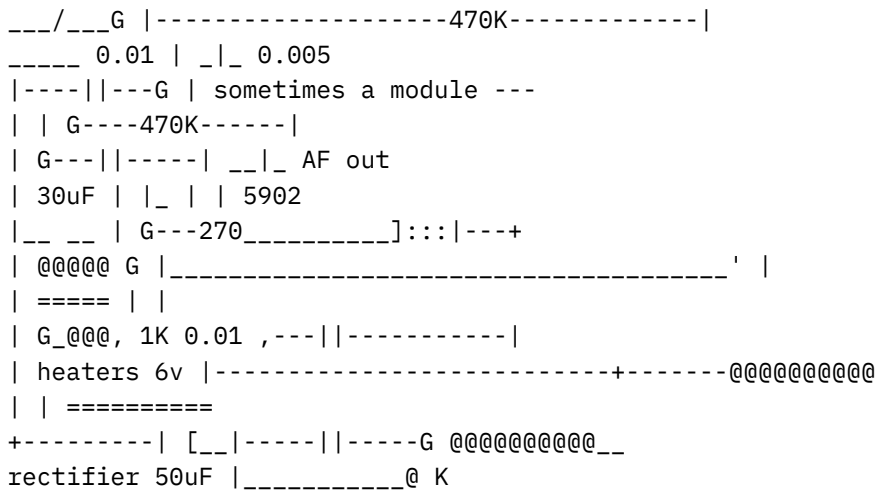
- Rex, KK6MK

1889. Re: Is equipment building and repair a lost art? NO! submini AM radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-14 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDz94rC.n44@netcom.com>
Source record: 101772
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

Sub-mini "AA6" AM radio
=WHAT IF?= if transistors haden't come out, this may have been
the next generation of consumer AM radios
(I actually modified an AA5 AM tube radio to create the below,
using sub-mini tubes, and it works.)





G = ground
| |
Junctions: --| ---+---- ----+ ___|

|
No Connection: ----|--- ___|____
| |

resistors ----150----

__]:::|-- tube

_|_ cap

|

5702 remote cutoff pentode
6111 medium mu twin triode
1260 signal diode
5902 beam power tube
5641 rectifier

1890. CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <5409e9$dhs@news3.microserve.net>
Source record: 101686

Sorry to post here, it seems like the only place to post this sort of hting. Did anybody ever convert a CB to 10 meters? Is it easily done? (nothing is ever easily done, but is it easier than making Hillary Clinton a nice lady?) It is going to need retuned to go to those freqs, but you've also got to get rid of that 40 channel knob as far as tuning goes. How do you tune the band? Any help would be greatly appreciated... 73s Tyler N3SPD

1891. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: marden_k@ex.hp.com
Message-ID: <DzBw5M.CGz@apollo.hp.com>
Source record: 101687
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <540at0$rgc@asylum.apocalypse.org>,
Xochi Zen <x@apocalypse.org> wrote:
>In article <540a4p$2us@news-central.tiac.net>, allen <allenh@tiac.net> wrote:
>>x@apocalypse.org (Xochi Zen) wrote:
>>
>> A better bet for old electronics gear
>>>is probably the Electronics Superstore (in Waltham... or is it Woburn?).

Store is renamed and moved to a stripmall a little ways down from where you
used to turn for the superstore. Called Electronic Planet. They also have one
on 101-A West from DW Hwy. (Rt.3) in Nashua, NH.

>>>They'll refund your money if you buy something from them and find that it
>>>doesn't work when you get it home.

Assuming you didn't buy it in "as-is" condition.....

>>They used to be in Woburn but I couldn't find them about a month ago.
>>I believe that they have moved it all to New Hampshire (darn) . Is Eli

They started in NH and expanded to MA.
Known as ESS/Electronic Planet/Electronic Surplus Services in Manchester,NH.
Granite St exit in off 293N. Right at lights,
right at next lights, right again into parking lot.

> That's a shame. I wanted to buy more stuff from them for a 'mad scientist'-
> style art installation. They had a ton of omnious looking meters/gauges/etc.

You won't find any of that at the Woburn and Nashua stores. They are trying to
be a retail outlet at these stores and are selling a lot of new low quality
china-made computer peripheral stuff, old, used, computers and a small
selection of some new, imported electronic parts (mostly GC switches). Your
best bet for older surplus parts and a bigger selection is to go to the
Manchester NH store.....

Kurt

Not speaking for HP.

--
Kurt M. Marden
marden_k@apollo.hp.com
"The reward of work well done is the opportunity
to do more."

1892. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDzBwqJ.FHt@netcom.com>
Source record: 101688
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org> x@apocalypse.org (Xochi Zen) writes:
-Is this the one where cantankerous old men sell stuff that their
-wives have been begging them to get rid of?
There may be a few of them, but there are quite a few regulars with some
great deals...

-One thing that I've found
-is that *some* of the dealers there sell stuff that doesn't work and
-refuse to take anything back.

That can happen at any flea. BTW, I do sell some stuff that doesn't work.
I do, however, tag everything with it's condition (good, dead, unknown).

-I'd like to see the dealers at the MIT flea market be held to this sort of
-policy. If people don't have ethical standards, I say *impose* some on
-them.

It would be nice for people to properly describe the condition of what they
sell. But to limit people to only sell working items? That's ridiculous.

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

1893. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <540maa$6dm@asylum.apocalypse.org>
Source record: 101689
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <n1istDzBwqJ.FHt@netcom.com>,
Michael L. Ardai <n1ist@netcom.com> wrote:
>That can happen at any flea. BTW, I do sell some stuff that doesn't work.
>I do, however, tag everything with it's condition (good, dead, unknown).
>
>-I'd like to see the dealers at the MIT flea market be held to this sort of
>-policy. If people don't have ethical standards, I say *impose* some on
>-them.
>
>It would be nice for people to properly describe the condition of what they
>sell. But to limit people to only sell working items? That's ridiculous.

No, what you suggested is more of what I'm thinking of. If something's dead,
label it "dead."

- Xochi

--
	"When I was in prison, I was into all these deep books.
Xochi Zen	That Tolstoy crap. People shouldn't read that stuff."
x@apocalypse.org	- boxer Mike Tyson, quoted in Time magazine, who says he
	now prefers comic books.

1894. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: John Rabson <word.factory@zetnet.co.uk>
Message-ID: <19961015181855682l3@zetnet.co.uk>
Source record: 101690

In message <1996Oct13.193014.654@ke4zv.atl.ga.us>
gary@ke4zv.atl.ga.us (Gary Coffman) writes:

> SMD is a godsend
> for the homebrewer

What do I need to use SMD? (I have ordinary gear for homebrew but my vision and dexterity are not what they were)

73 de G3PAI

1895. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct15.183738.9024@ke4zv.atl.ga.us>
Source record: 101691

In article <5404r5$is6@sjx-ixn4.ix.netcom.com> jeffa@ix.netcom.com(Jeff Anderson) writes:
>In <1996Oct13.193014.654@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary
>Coffman) writes:
>>
>>.... SMD is a godsend for the homebrewer. It is much easier than
>>working with leaded parts.
>>
>Gary, I have to disagree. On a PCB leaded parts are *much* easier to
>work with, for the following reasons:
>
> 1. You don't need a magnifying glass to read their value (if
> you're lucky enough to have an SMD part with a value printed
> on it).

I keep my parts on their tape rolls until I'm ready to install them.
I write the value on the tape when I hang it on the bench dispenser.
I thought everyone used a binocular microscope on a floating arm
when working with modern circuits. :-) A jeweler's loupe works too
in the field. I haven't been able to work bare eyed, even with 1/2-watt
resistors, for years.

> 2. With a leaded part you just stick the leads through the
> holes, bend them slightly (so that the part doesn't fall
> out), turn the board over, and solder.

Well, first you have to *drill* all those holes, and precisely too.
That's a *very* major pain in the ass. I've got a CNC drill, but it
takes so long to set up I can be finished building a SMD board by
the time I have a thru-hole board drilled. If you're buying your
circuit boards, you aren't homebrewing, you're doing kit assembly.

> With SMD the best
> technique I've seen is: tin one pad, grab part with a pair
> of tweezers, hold one end of part to this pad, heat with
> part & pad with soldering iron, press the part down as the
> solder melts so that the part is now flush with board,
> solder the other end of part (or other pins, if dealing
> with a device with more than 2 terminals). A technician
> at work is great doing this, but I *always*
> have problems with the part not sitting flush, or shifting
> slightly, or whatever! Oh, and a good pair of tweezers is
> a must, and the proper kind are hard to find.
>
> And a good soldering iron is essential (Metcal stations are
> great).

Your SMD technique is *horrible*. Forget soldering irons, use a static hot air source. I use the little pocket Weller Pyropen Jr for most of my work (no cord). The first step is to use a wooden toothpick to put a tiny dab of solder paste on each pad. Set the part roughly in place with a pair of fine sharp tweezers (the cheap Pakistani kind are fine), get the tweezers out of the way, then hit the part with the hot air source. When the solder paste melts, only takes a second, it'll pull the part into perfect alignment by surface tension. Back off with the hot air source and let cool. Perfect joints every time.

This technique solders all pads at once. Weller has a number of hot air shrouds for the Pyropen Jr, use the one shaped to fit the particular part you're working with to avoid heating things you don't want to heat. Most work can be done with 3 basic shrouds. I also sometimes make my own shrouds for particular situations. As the board density increases, you may choose instead to use a bit of modeling clay to form a heat dam to keep the hot air source from reflowing the solder on another part. I keep a little wad of it in my rework kit.

> 3. With a through-hole part it's much easier to see if it was
> correctly soldered. I've had more problems over the
> years with SMD parts whose leads are not all soldered to
> pads than I have ever had with through-hole parts.

If you'll throw away that iron and switch to hot air you won't have those bad joint problems, the parts will always be perfectly aligned, and will lay flat against the board (unless you used too much solder paste, remember just a *tiny* dab on each pad).

For rework, I've finally found a good use for solderwick. For years I've spurned that stuff in favor of a vacuum desoldering tool, but it is great for cleaning up SMD pads in preparation for installing a replacement part. To save on consumption of that expensive stuff, keep some solder flux handy. Just heat the end of the solderwick a bit with the hot air tool and then dip the wick in the flux. It's almost like new again.

It is easiest to remove SMD parts if the board is loose on the bench. The way I usually do it is to form a dam with the modeling clay to protect surrounding parts, heat the part to be removed with the hot air (only takes a second), and then rap the board sharply against the bench. Part falls right off. If the part was glued down during assembly (boo hiss), you may have to use those sharp tweezers to pry it off instead. This takes some dexterity because SMD parts cool *fast*, so you have to work fast or you'll wind up lifting a trace that's cooled while you're getting the tweezers in place.

SMD has very little thermal mass, so you always have to work fast, when installing or removing parts. It only takes a second. But this also means you almost never damage a part. You can reuse good parts removed from boards as easily as you can use brand new parts. I'll admit that keeping track of the little buggers once they're loose

is a bit of a challenge. I keep labeled ice cube trays handy to pitch
the little guys into before I forget what they are or lose them in
the bench clutter.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1896. Re: Help re simplex mode for high speed modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Tom Holden <tholden@toronto.cbc.ca>
Message-ID: <3263EBE8.2139@toronto.cbc.ca>
Source record: 101692
Cross-posted to: comp.modems,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Thanks to all who offered advice on my question.

In summary,

1. The designer of the Hayes Smartmodem 300/1200 modems and of the original AT command set confirmed that it was his intention to support a unidirectional test mode but is unaware that it was supported in subsequent Hayes modems or in thos eof other manufacture.

2. I have learned that high speed telephone modems go through an essential 'training' phase which, of necessity, requires a bi-directional path for negotiation.

3. Fax modems have been used for unidirectional data transfer at speeds of up to 9600 bps (V.29, V.27), in particular in Japan. A reference to the Japanese Packet Radio Users Group (PRUG) failed to turn up any further info.

4. Suggestions:
- use a short-haul 4-wire modem
- develop hardware/firmware specifically for application

Thanks to Rob Janssen, Jeff King, Gary Coffman, Dale Heatherington for the informative news posts and/or e-mails.

Regards,

Tom Holden, VE3MEO

1897. Re: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3263EDEB.363D@lanl.gov>
Source record: 101693

tyler wrote:
>
> Sorry to post here, it seems like the only place to post this sort of hting.
> Did anybody ever convert a CB to 10 meters? Is it easily done? (nothing is
> ever easily done, but is it easier than making Hillary Clinton a nice lady?)
> It is going to need retuned to go to those freqs, but you've also got to get
> rid of that 40 channel knob as far as tuning goes. How do you tune the band?
> Any help would be greatly appreciated... 73s Tyler N3SPDArticles on converting CB's to 10 meters were common in the 1970's and
are most available in back issues of 73 magazine. I think 73 still sells
a compendium of that series of articles. What killed off the enthusiasm
for cb-to-10 meter conversions was the FCC's type acceptance procedure
that has made it much more difficult (they cannot make it impossible) to
easily accomplish such a conversion.
Basic conversion procedure for the following generic CB units:
-Old "crystal/mixer" radios, usually having 2 banks of crystals near the
channel selector, 4 in one row and 6 in another:
These usually require swapping of the 6 crystals to get 23 or 24
channels into the desired new band... not recommended due to the
crystal cost, plus the fact that the channel spacing will not come out
the way you normally would like for a ham rig.

-Early synthesized CB radios: Depending on the rig you can either
change the reference crystal to one that will produce output in the 10
meter band or, again depending on the PLL chip involved, sometimes the
PLL chip can be re-programmed by un-grounding certain pins to allow
operation up into the 10 meter band with the original reference crystal
. On these radios you can install an IC/ counter circuit that can set
or even scan your new channels, use the original 40 channel switch for a
very limited set of channels you'll have to use a chart to tell what
freq you're on, or learn to "count binary" and use a row of dip or
other small switches to directly program the synthesizer.

-Latest CB rigs usually are potted inside epoxy etc. to frustrate
"re-programming" of the PLL. Some of these have "undocumented jumpers"
that can be cut or switched to allow out-of-band operation, some can be
shorn of their protective epoxy or other coating, and some have to be
used "as is" as a driver for an external transverter to operate on the
desired new band.

RF alignment, both TX and RX, is usually minor with any of the above
CB's, as the CB is already rather close to the 10 meter ham band, many
will put out usable power (close to a watt or so) with no realignment at
all, but retuning of course almost always produces much more
satisfactory results.

```
--
|-------------------------------------------------------|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
|http://nis-www.lanl.gov/~jdport/ |
|-------------------------------------------------------|
```

1898. Smart Gel Cell battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Daniel Lavoie <LavoieD@istar.ca>
Message-ID: <54127c$lq@news.istar.ca>
Source record: 101694

I have a lot of gell cell battery packs that were taken off UPS'. Do you know where I can find a good article on gell battery charging. I would even consider buying the charger from a commercial retailler if you know a good make.

My requirements are to be able to rechage a battery pack with a combined power rating of 200 watts/hour.

Thanks

Daniel
VE3DCL

1899. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <540lgs$ku7@news.indirect.com>
Source record: 101695

carl@ais.net (Carl Stevenson) wrote:

>Laura .. problem is the tubes are hard to find ...

Egad, man--tubes are a glut on the market!! The new Alltronics catalog lists hundreds of them, and Antique Radio Supply sells every tube I ever heard of, and loads more that look like they came from Mars. In my files are probably ten catalogs that offer tubes. Variable caps, well, that's more of a challenge, but the more generic sorts are out there. Fair Radio Sales is a good one to watch--but the point is that almost anything a homebrewer could want is in somebody's catalog, and if yer gonna play the game ya gotta pay the dues and get those catalogs.

This could be a golden age for building your own gear. The only challenge is to figure out how to make it happen.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

1900. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Tim Raffety <Tim_Raffety@Oxy.com>
Message-ID: <32640494.12AE@Oxy.com>
Source record: 101696

Brian Bennett wrote:
>
> On Thu, 10 Oct 1996 16:07:35 -0500, Jeff King <jeff@mich.com> wrote:
>
> >> > Does anybody do homebrew amateur radar? I know there's got to be a FEW of
> >> > us out there...
>
> >In one of the Gunnplexer "CookBooks" there is a section about making a
> >Gunnplexer into a radar unit. I believe it chirps it as you suggest.
>
> In the Radio Amateur's Microwave Communications Handbook
> there is a small section on using a gunnplexer as a radar unit.
> A 555 is used as a pulse source (200 kHz-1 MHz), going to the
> varactor/V in of the gunnplexer and to the Horiz. trig. of a 'scope.
> The detector output from the gunnplexer is amplified (variable gain
> 741?) and fed to the vert. input of the scope. It states that the
> signal travels 1 mile in 5.1 uSec., so the distance to/ from the
> "objects" returning "blip" can be calculated.
> (I've started on this project myself, I 'oughta be
> done,...uh,...whenever I stop starting other projects!)
>
> Regards,
> Brian VE7IJQI would be very interested in reading how it went. Please keep in touch.

1901. 137 Mhz Preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Bigdad <Bigdad@Rworld.com>
Message-ID: <54149n$8n5@kirin.wwa.com>
Source record: 101697

Does anyone have or know where to get plans to build a low noise preamp for use in the 137 MHz band (2 Meters should work) I already have the Satellite Handbook, im looking for other options here. Perhaps even a place that sells kits. Thanks

1902. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <32641104.2957@millcomm.com>
Source record: 101698
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

Xochi Zen wrote:
>
> One thing that I've found
> is that *some* of the dealers there sell stuff that doesn't work and
> refuse to take anything back.

> I'd like to see the dealers at the MIT flea market be held to this sort of
> policy. If people don't have ethical standards, I say *impose* some on
> them.
>
> - Xochi--

Great. More government bullshit, to coddle us and protect us from ourselves. And then we won't have flea markets at all anymore! Or any other place to take a chance, and get a good price in exchange for the risk.

This 'wanting of someone else to be responsible' really frightens me. It's becoming so pervasive in our society. People need to get back to being willing to be responsible for the results of their own decisions.

You go to a flea market. You see something you think is a good deal. YOU have to decide whether its value to you at that price is worth the risk that it might not work.

It's a -flea market- for god's sake! It's not Sears. It's -supposed- to be full of junk that might not work, but is cheap enough to take a chance on. That's the fun part!

If you require that a vendor be willing to take back non-working gear, then make that clear to him up-front. If he'll give you a written warranty that it works, then you have an ethical and legal recourse if it doesn't.

If he's unwilling to give such a warranty, then -you- are responsible for walking away from the deal, or deciding to take a chance on it. He has done nothing wrong by refusing such a warranty.

There are many reasons he may not want to give a warranty, which have nothing to do with his ethics. Maybe he feels that at the price he's getting, he can't afford the time to mess with warranties, returns, paperwork, etc.. That's reasonable. If you don't agree, you don't have to buy it!

I know I feel that way when I sell an old 'scope for, say, $35. A warranty? For $35? Are you kidding me? For $350, maybe... But for $35, I never want to see it again.

Having said all that, I do appreciate when sellers state their knowledge of the condition on a tag (or in a newsgroup posting), even if it's just 'don't know, haven't tested it'. Any info at all helps the decision making process.

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

1903. Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: 74003.470@CompuServe.COM
Message-ID: <961015200857_74003.470_BHR64-1@CompuServe.COM>
Source record: 101699

gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>I think the ideal setup would be a photoplotter. I've thought
>about taking one of my old junk plotters and replacing the
>pen with a laser diode. I'd use the pen down and pen up commands
>to turn the laser on and off. That way I could plot the circuit
>directly to photosensitive board stock. My only concern is that
>the red light won't work with the common photoresists. Perhaps
>there are resists suitable for this. Has anyone tried this?

I've tried using a 670nm, 4mW laser diode. It doesn't work with any
photoresists that I've tried. The ones I tried were:
GC Electronics "Positive-type" resist (cat # 22-074)
M.G. Chemicals "KPR Photo Resist" (negative type, cat # 701)
Ever-Muse presensitized P.C.B. (Circuit Specialists Inc. cat # PP101)
I tried exposures as long as 30 minutes on one spot.

I, too, would like to hear from anyone who knows of a resist that *will* work
with a laser diode.

Paul Ostby

1904. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbbaf3$6eef0cc0$27132399@peter-s>
Source record: 101700
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

allen <allenh@tiac.net> wrote in article
<540a4p$2us@news-central.tiac.net>...
> x@apocalypse.org (Xochi Zen) wrote:
>
> A better bet for old electronics gear
> >is probably the Electronics Superstore (in Waltham... or is it Woburn?).
> >They'll refund your money if you buy something from them and find that
it
> >doesn't work when you get it home.
>
> They used to be in Woburn but I couldn't find them about a month ago.
> I believe that they have moved it all to New Hampshire (darn) . Is Eli

> still in Cambridge ? Does anyone know of others in the area ? I know of

> U DO IT in Needham also .
>

I found out that they moved to a small storefront in Cumings Park (around
the corner) but only sell new computer stuff there. Two stores away from
another similar store, near Comp USA (or whatever that big store on
Washington
St. is). They still sell surplus stuff in their NH store, but it is a haul
to get
there.

Probably for the best, as their prices were getting stratospheric and
selection
dwindling.

I moved to NY a couple of years ago but still visit the area once and a
while.
Any new places?

Oh, yes, try checking out Parker Products in Reading, not far away. He has
lots of solar stuff and a few old buildings full of JUNK. Mostly he likes
to do
mail order but if you talk nice he will let you scrounge around. Really
worth
it... some weird stuff like fiber optic image plates, raw pure silicon
chunks,
strange test equipment. Bring a good flashlight!!

...Peter

1905. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbbaf3$fad36d80$27132399@peter-s>
Source record: 101701
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

Xochi Zen <x@apocalypse.org> wrote in article
<5409dq$q0d@asylum.apocalypse.org>...
>
> Is this the one where cantankerous old men sell stuff that their
> wives have been begging them to get rid of? One thing that I've found
> is that *some* of the dealers there sell stuff that doesn't work and
> refuse to take anything back.

Buyer beware. You ARE at a FLEA MARKET !

...Peter

1906. Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: owens@stout.atd.ucar.edu
Message-ID: <540ul6$b6f@ncar.ucar.edu>
Source record: 101702

Has anyone operated a 3-500Z triode in Class C plate-modulated service?
If so, I'd appreciate hearing from you.

Thanks!
Chip Owens, NW0O

--
Chip Owens NW0O, (owens@stout.atd.ucar.edu)

1907. Re: Power Supply as Battery Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961015093503.29015B-100000@primeline.net>
Source record: 101703

On Mon, 14 Oct 1996 mvi@ix.netcom.com wrote:

> Questions:
>
> How does a battery charger differ from a power supply?

Chargers have some form of current regulation,power supplies don't.
they also should also have some form of overcharge protection.

> Is there a way to modify the supply to be able to use it as a charger?

Put a current limiting resistor in series withe the battery. A good rule
of thumb is to chrge with 1/10th of the AH rating (IE: 7 AH= 700ma Charge
current.

> Any help would be greatly appreciated.
>
> Thanks,
>
> John, KB2YJH

There are a number of elecronic circuit archives on the net. Just punch
what you need into your favorite search engine.

Gary Tait , VE3VBF
Sorry for snipping messages,My newsserver won't allow less new lines
than old.

1908. RCA BTA 5T 5kw A.M. BC XMTR PARTS FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <540fda$gp2@krypto.zippo.com>
Source record: 101704

I HAVE :

PETER DAHL BTA 5R/T MODULATION TRANSFORMER, 5KW
Jennings: 500pf vaccumm variable
Jennings: 1000 pf fixed
Jennings: 75 pf vaccumm variable
3x3000T1 tube rebuilt by Econco
MICA's: sangamo type G3B .0002 @ 20,000 pkv 5.6amp @ 1,000kcs
sangamo type G3B .002 @ 15,000 pkv 20 amp @ 1,000
kcs
sangamo type G3B .00033 @ 20,000 pkv 7.5 amp @ 1,000 kcs
sangamo type G3B .003 @ 12,000 pkv 24 amp @ 1,000kcs
aerovox type 1970S .001 @ 20,000 pkv 15a @ 3,000kcs
13a @ 1,000kcs
7.5a @ 300kcs
blower 1.5 hp 3ph cabable of 2.2 # pressure @ 120 cfm
also have all the tunning coils, reactors, filiment xfmr's (7.7v@51a,
& 12.6v @ 29a)
have mag. switches 70a rated (2)
and most anything else from an RCA BTA 5T 5kw transmitter....

all items are 'make offer' plus shipping (although, pickup on heavy
items would be nice, but not a must)
location address & phone number, are in my sig.

==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
Boatanchors: the list: listproc@theporch.com......subscribe boatanchors <your name>
the news group: rec.radio.amateur.boatanchors

1909. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: allen <allenh@tiac.net>
Message-ID: <540a4p$2us@news-central.tiac.net>
Source record: 101705
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

x@apocalypse.org (Xochi Zen) wrote:

A better bet for old electronics gear
>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>They'll refund your money if you buy something from them and find that it
>doesn't work when you get it home.

They used to be in Woburn but I couldn't find them about a month ago.
I believe that they have moved it all to New Hampshire (darn) . Is Eli
still in Cambridge ? Does anyone know of others in the area ? I know of
U DO IT in Needham also .

A.

1910. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <540t7d$4om@news.scruz.net>
Source record: 101706
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org>,
Xochi Zen <x@apocalypse.org> wrote:
>
>Is this the one where cantankerous old men sell stuff that their
>wives have been begging them to get rid of? One thing that I've found
>is that *some* of the dealers there sell stuff that doesn't work and
>refuse to take anything back. A better bet for old electronics gear
>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>They'll refund your money if you buy something from them and find that it
>doesn't work when you get it home.
>
>I'd like to see the dealers at the MIT flea market be held to this sort of
>policy. If people don't have ethical standards, I say *impose* some on
>them.
>
>--
>| | " 'Slack' is the point between something and nothing
>| Xochi Zen | where you can get something for nothing."
>| x@apocalypse.org | - Robert Anton Wilson

If you think this, then you are merely presumptuous. Anyone who buys
something at a flea and expects it to work at home is a fool. To
obtain true "slack" you must NOT be a fool!! The trick is to pay
little enough for it that it is worth no more than its parts, and
where your intelligence and carefully acquired talent can either use
those parts for FAR more than their used cost, or even make it
function again!! If there were not idiots who drive the prices up with
their gullibility, then the prices would remain at that fair "slack"
value of only their exchange cost. Better to *impose* a basic intelligence
quotient in the used value of old electronics on all who come to buy
than limit what can be sold!! Should be a BIG SIGN up saying:
****
* "Items that don't work when you get home are entirely your fault *
* for being stupid enough to pay more for them than they are worth *
* if they were a pile of working and non-working parts on a table! *
* Your stupidity drives up prices on everyone else! If you want to *
* come here stupid then have enough sense to ask opinions of value *
* from people around you but don't believe anything you hear also! *
* IN THIS LIFE, YOU ARE ON YOUR OWN!!! DON'T PISS AND MOAN! THINK! *
****
(Oh, by the way, Xochi Zen, I like your sig!! ;->)
-Steve
--

-Steve Walz rstevew@armory.com http://www.armory.com/~rstevew/
-Lots of New FTP Electronics Stuff!! 600 Files/37 Dirs (Full Mirror ==> *)
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com:/pub/user/rstevew *
Europe:(Italy) ftp://ftp.cised.unina.it:/pub/electronics/ftp.armory.com *
Oz: (Australia) ftp://gold.apana.org.au:/pub/electronics/ftp.armory.com *
(U.Cinci) ftp://ieee.cas.uc.edu:/pub/electronics/mirrors/ftp.armory.com *

1911. Re: Motorola PLL Chip Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDzDp1L.6rt@netcom.com>
Source record: 101707

in <53ufc6$3jv@abyss.West.Sun.COM>, Dana Myers wrote:
: In article <3261B710.F08@tir.com>, Bill C. <wrc@tir.com> wrote:
: >Hi Dave,
: >Tyr here:
: >http://www.digikey.com/

: When did Digi-Key start selling Motorola parts? ...

: I've bought Motorola PLLs from Hamilton Halmark, Wyle and (I think)
: Newark.

Also try Active/Future.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1912. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: dmbrodbe@mtu.edu
Message-ID: <540np5$66o@news.mtu.edu>
Source record: 101708

In article <wa2iseDzBuCn.FAG@netcom.com>,
wa2ise@netcom.com (Robert Casey) writes:
> Just "publish" your HB rigs and stuff in this newsgroup, but post the
> pictures, schematics, and PC board image files over in
> alt.binaries.pictures.misc or 12hr or clocks
> You'll have to hunt thru all the porno there to find the images, but
> that's where binaries belong.
> I essentially did this when I posted about the AM radio with sub-mini tubes.

--> Another good approach is to make the schematics available somewhere on
the World Wide Web. I know of several places where it's relatively easy to
put up a small page.

--
.---. .----------- +--+
/ \ __ / ------ | David Brodbeck dmbrodbe @ mtu.edu |
/ / \( )/ ----- | |
////// ' \/ ` --- | EE major at Michigan Tech, Houghton |
//// / // : : --- | |
// / / /` '-- | Homepage: http://yiff.maxie.com/~david/ |
// //..\\ +--+
=============UU====UU===
'//||\\`
''``

1913. Re: Are these worth anything?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDzAwpw.A4y@netcom.com>
Source record: 101773
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

In article <53uvd3$s8n@news.campus.mci.net> Bill Jones <wljone00@pop.uky.edu> writes:
>I just rescued some old tube receivers from the trash heap and I'm
>wondering if they're worth anything to anyone.
>
>First, there's a Heathkit GR-91 receiver. Looks like it's in good shape,
>but missing the main tuning capacitor.
>
>Next, an unknown Philco 3 band AM receiver, BC, 1.5-6 Mc, and 6-18 Mc. It
>uses #41 output tubes.
>
>Third, a totally anonymous piece whose only identification is the word
>"Mark VI A" stamped on the chassis with one of those rubber stamps that
>uses black ink.
>
>Anyone know if these things should go right back on the trash heap where
>I found them?
>
>Thanks,
>
>
>Bill Jones
>wljone00@pop.uky.edu
>
I took the liberty to crosspost this into the antique radio newsgroup.
The Philco should be of interest to someone there at least.

1914. CQ USUARIOS ICOM 706

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: jorgegc@lander.es
Message-ID: <53vs4e$s4p@lince.lander.es>
Source record: 101774
Cross-posted to: es.rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hola estimados amigos y colegas:

Desearia ponerme en contacto con otras estaciones que tengan el equipo
ICOM 706 para intercambiar impresiones.
Me gustarï¿½a que me resolvierais algunas dudas, como la potencia que
realmente os sale en SSB HF, si el VOX funciona correctamente con
otros micrï¿½fonos, quï¿½ micrï¿½fonos usais ademï¿½s del original de mano,
decidme si el altavoz interior os vibra o distorsiona un poco cuando
se sube el volumen, etc. Cualquier comentario al respecto o cualquier
impresion sobre el IC-706 es bienvenida. Tambien mejoras y
modificaciones, asï¿½ como experiencias en mï¿½vil, etc.
Espero vuestras respuestas, yo estoy a la espera de un software para
controlar el IC-706 desde un PC, ya os dirï¿½ algo al respecto. Espero
noticias.
Francisco Garcï¿½a Apartado Correos 123 46080 Valencia

/|\
@ @
-----oOO-(_)-OOo--
e-mail: jorgegc@lander.es

1915. ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <53vtkt$mbu@senator-bedfellow.MIT.EDU>
Source record: 101775
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

This comming Sunday...
The seasons last....

*** !!!! WE ARE BACK IN THE GARAGE !!!! ****
so come rain or shine or super heat the Flea is on !!!

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
October 20th, 1996
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 600 sellers and
free, off-street parking for >1000 cars!

Buyers admission is $4 (you get $1 off if
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and sellers spaces are $10.00-each at the gate.

The flea will be held at the corner of Albany and
Main streets in Cambridge; right in the Kendall
Square area from 9AM to 2PM, with sellers set-up
time starting at 7AM.

!! RAIN or SHINE !! Have no fear of rain, a covered
well illuminated tailgate area is available for all
sellers (6'8" clearance).

Talk-in: 146.52 and W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

1916. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32637260.74CC@rcru.rl.ac.uk>
Source record: 101776
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sci.electronics.components

Winfield Hill wrote:
>
> Can you identify an 4-terminal component called a ACR Z0-28F and
> looking something like a RF power transistor?

It will be some form of regulator. The simplest explanation is that the module contains a variable voltage regulator the output of which is governed by the 200 ohm pot. Thermal tracking to prevent runaway and maintain bias with device temperature is ensured by the package bolted to the heatsink having some form of temperature sensor.

Unless you really need class A, this device will be appropriate for good AB1 linearity.

Getting rid of the 3rd harmonic is best done with a filter, not by bias.

1917. Re: Motorola PLL Chip Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <8ADctGA+q0YyEw32@ddwyer.demon.co.uk>
Source record: 101777

In article <53ufc6$3jv@abyss.West.Sun.COM>, Dana Myers
<myers@West.Sun.COM> writes
>In article <3261B710.F08@tir.com>, Bill C. <wrc@tir.com> wrote:
>>Hi Dave,
>>
>>Tyr here:
>>
>>http://www.digikey.com/
>
>When did Digi-Key start selling Motorola parts? I've found that
>Mouser and Digi-Key are not good source for things like Motorola
>PLLs (like the MC145157, MC145170, MC14519x, etc.). They don't
>sell Motorola, and they don't stock too many 'exotic' chips from
>the vendors they do sell.
>
>I've bought Motorola PLLs from Hamilton Halmark, Wyle and (I think)
>Newark.
Newark is now part of Farnell UK/US I recently purchased Motorola PLL
ICs from the Newark stock in the UI from Farnell in the UK. 4 Days
delivery quoted.
Douglas Dwyer FP Ltd Shorts Farm Northlew Okehampton Devon EX20 3NR UK
Tel+44(0)1837810590
Stop by http://ourworld.compuserve.com/homepages/Frequency_Precision/ for
information on Precision Frequency, Crystals OCKOs TCXOs and
more.

1918. Re: CQ USUARIOS ICOM 706

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: jjo@tekla.fi
Message-ID: <JJO.96Oct15155307@ds10.tekla.fi>
Source record: 101778
Cross-posted to: es.rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <53vs4e$s4p@lince.lander.es> jorgegc@lander.es (Jorge) writes:
Desearia ponerme en contacto con otras estaciones que tengan el equipo
ICOM 706 para intercambiar impresiones.
Me gustar&#65533;a que me resolvierais algunas dudas, como la potencia que
realmente os sale en SSB HF, si el VOX funciona correctamente con
otros micr&#65533;fonos, qu&#65533; micr&#65533;fonos usais adem&#65533;s del original de mano,
decidme si el altavoz interior os vibra o distorsiona un poco cuando
se sube el volumen, etc. Cualquier comentario al respecto o cualquier
impresion sobre el IC-706 es bienvenida. Tambien mejoras y
modificaciones, as&#65533; como experiencias en m&#65533;vil, etc.
Espero vuestras respuestas, yo estoy a la espera de un software para
controlar el IC-706 desde un PC, ya os dir&#65533; algo al respecto. Espero
noticias.
Francisco Garc&#65533;a Apartado Correos 123 46080 Valencia

Hola Francisco. Yo no tengo el ICOM 706 pero he hecho un poco de contactos
con uno que mi amigo OH2BYS tiene. El 706 tiene buenas cosas y tambien
malas cosas.

Potencia de salida es sin duda 100 watios si la antenna no tiene
problemas. El 706 es muy pequeno, eso me gusta mucho. Es muy agradable
tener todas las bandas de 1.6 a 30 Mhz y 50 y 144 Mhz en una
radio. Las problemas que tiene estan: 1) los filtros de BLU estan muy
malos, 2) el equipo es un poco dificil de usar, por que tienes que
hacer que quieres "using menus" (perdon, mi castellano no es tan
bueno), 3) si hay grandisimas signales la radio tiene unos problemas.
Creo que el 706 no es para trabajar DX y concursos, pero es ok para
movil y contactos normales. En mi opinion el ICOM 706 es mejor que el
Kenwood TS 50.
--
Jari Jokiniemi, jari.jokiniemi@tekla.fi, OH2MPO, OH3BU
Tekla Oy, Koronakatu 1, 02210 Espoo, 90-8879 474

1919. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: carl@ais.net
Message-ID: <53uqkb$pjj@news.ais.net>
Source record: 101779

In <53sdvs$5do@cc.iu.net>, wnewkirk@iu.net writes:
>In <53rak2$mio@news.ais.net>, carl@ais.net (Carl Stevenson) writes:
>>far out of touch with today's technological reality that they haven't
>>yet accepted the fact that progress "is a done deal" and that there's
>>nothing that can stop it ...
>
>i wonder what the news of the death of carbon comps will do for 'em..8)
>>73,
>>Carl - wa6vse
>>carl@ais.net
>
>bill wb9ivr
>

Can you still buy those things? :-)

Seriously, though, I haven't designed or built anything in about five
years that wasn't surface mount ...

Carl - wa6vse
carl@ais.net

1920. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <5404r5$is6@sjx-ixn4.ix.netcom.com>
Source record: 101780

In <1996Oct13.193014.654@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>
>.... SMD is a godsend for the homebrewer. It is much easier than
>working with leaded parts.
>
Gary, I have to disagree. On a PCB leaded parts are *much* easier to work with, for the following reasons:

1. You don't need a magnifying glass to read their value (if you're lucky enough to have an SMD part with a value printed on it).

2. With a leaded part you just stick the leads through the holes, bend them slightly (so that the part doesn't fall out), turn the board over, and solder. With SMD the best technique I've seen is: tin one pad, grab part with a pair of tweezers, hold one end of part to this pad, heat with part & pad with soldering iron, press the part down as the solder melts so that the part is now flush with board, solder the other end of part (or other pins, if dealing with a device with more than 2 terminals). A technician at work is great doing this, but I *always* have problems with the part not sitting flush, or shifting slightly, or whatever! Oh, and a good pair of tweezers is a must, and the proper kind are hard to find.

And a good soldering iron is essential (Metcal stations are great).

3. With a through-hole part it's much easier to see if it was correctly soldered. I've had more problems over the years with SMD parts whose leads are not all soldered to pads than I have ever had with through-hole parts.

Having done lots of work with both SMD and leaded parts, I much prefer prototyping and building with leaded parts. Perhaps the only construction topic where SMD parts might be preferable to leaded is in rework - SMD's are much easier to remove.

If I were a kit manufacturer I'd think twice (or more!) about supplying kits with SMD's. Imagine the errors (and complaints) from incorrect part placements, alone!

- Jeff, WA6AHL

1921. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <5409dq$q0d@asylum.apocalypse.org>
Source record: 101781
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

Is this the one where cantankerous old men sell stuff that their
wives have been begging them to get rid of? One thing that I've found
is that *some* of the dealers there sell stuff that doesn't work and
refuse to take anything back. A better bet for old electronics gear
is probably the Electronics Superstore (in Waltham... or is it Woburn?).
They'll refund your money if you buy something from them and find that it
doesn't work when you get it home.

I'd like to see the dealers at the MIT flea market be held to this sort of
policy. If people don't have ethical standards, I say *impose* some on
them.

- Xochi

In article <53vtkt$mbu@senator-bedfellow.MIT.EDU>,
Steven L. Finberg <w1gsl@athena.mit.edu> wrote:
>This comming Sunday...
> The seasons last....
>
>*** !!!! WE ARE BACK IN THE GARAGE !!!! ****
> so come rain or shine or super heat the Flea is on !!!
>
>********* $1 buyers discount with hardcopy of this notice ********
>
>COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO
>***
>Steve Finberg W1GSL w1gsl@mit.edu
>PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
>***
>
>
>

--
	" 'Slack' is the point between something and nothing
Xochi Zen	where you can get something for nothing."
x@apocalypse.org	- Robert Anton Wilson
<-->

1922. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <540at0$rgc@asylum.apocalypse.org>
Source record: 101782
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <540a4p$2us@news-central.tiac.net>, allen <allenh@tiac.net> wrote:
>x@apocalypse.org (Xochi Zen) wrote:
>
> A better bet for old electronics gear
>>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>>They'll refund your money if you buy something from them and find that it
>>doesn't work when you get it home.
>
>They used to be in Woburn but I couldn't find them about a month ago.
>I believe that they have moved it all to New Hampshire (darn) . Is Eli

That's a shame. I wanted to buy more stuff from them for a 'mad scientist'-
style art installation. They had a ton of omnious looking meters/gauges/etc.

I'd still like to put some analog meters on my Linux box for things like
# of users and server load. But I know next to nothing about interfacing
electronic devices to a PC.

It'd be great to have the 'tripwire' program trigger a revolving red-light
on the top of the server for any suspected security breaches.

"Warning, warning Dr. Smith!"

- Xochi

--
	" 'Slack' is the point between something and nothing
Xochi Zen	where you can get something for nothing."
x@apocalypse.org	- Robert Anton Wilson
<-->

1923. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDzBuCn.FAG@netcom.com>
Source record: 101783

In article <53ust5$ibi@nadine.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>
>It's difficult or impossible to get an article on a HB rig published in QST
>unless it includes a way to buy a PC board and, preferably, a kit of parts.
>(In fact, a couple of recent articles have been little more than a
>description of products you can buy, and don't contain enough information
>to allow you to build them yourself even if you want to.) The reason a
>board is practically a requirement is that the readers have told the
>publisher -- the ARRL -- very strongly that this is what they want.
>
>Fortunately, there are other magazines without this requirement, most
>notably QEX and some of the QRP club publications.
>
Just "publish" your HB rigs and stuff in this newsgroup, but post the
pictures, schematics, and PC board image files over in
alt.binaries.pictures.misc or 12hr or clocks
You'll have to hunt thru all the porno there to find the images, but
that's where binaries belong.
I essentially did this when I posted about the AM radio with sub-mini tubes.

1924. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-15 00:00:00 UTC
From: normanc@mail.bsd.uchicago.edu
Message-ID: <540jdn$8a@xensei3.xensei.com>
Source record: 101784
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org>,
Xochi Zen <x@apocalypse.org> wrote:
>
>Is this the one where cantankerous old men sell stuff that their
>wives have been begging them to get rid of? One thing that I've found
>is that *some* of the dealers there sell stuff that doesn't work and
>refuse to take anything back. A better bet for old electronics gear
>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>They'll refund your money if you buy something from them and find that it
>doesn't work when you get it home.

Unfortunately, that place in woburn went down; they no longer
sell cool surplus stuff, and instead, if you want neat things, you have
to trek up to manchester, nh. they lose bigtime, imho.

1925. Re: SMT Prtot type boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <3519FB3E73@dental3.ab.umd.edu>
Source record: 101636

Someone asked about SMT proto boards. I believe I say several
layouts in the new Allied Electronics catalog. Give them a call.
STAH (same thing applies here), i.e. noa affiliation, no connection and
no profit,etc.)
John <N3REY>
Always QRP!

1926. Re: RT SYSTEMS - HUNTSVILLE - SCREWED ME OUT OF ALMOST $80 LAST WEEK - RT SYSTEMS - HUNTSVILLE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: "Mark A. Andrews" <KE4IOF@HiWAAY.net>
Message-ID: <01bbbb77$5dc64d80$de221ece@ke4iof.HiWAAY.net>
Source record: 101637

Chuck wrote in article <541gib$fnp@camel0.mindspring.com>...
> If you're gonna post a flame like this, at least have the decency of
> explaining what happened.
>
>
>
>

I've been doing business with RT Systems for almost 3 years. I have a hard time believing this. These folks have gone out of their way to please me and other customers. What exactly is it that you believe they did?

--
+-------------------------+
| Mark A. Andrews, KE4IOF |
| Symetric, Incorporated |
| "Anything Digital...." |
+-------------------------+

1927. Re: Q. Unusual RF component in 100 watt 2 to 30MHz wideband linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: hill@rowland.org
Message-ID: <542sl1$opo@shore.shore.net>
Source record: 101638
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.misc,sc

Richard Karlquist at rkarlqu@scd.hp.com says...
>
>In article <325C733E.3C19@hybrid.com>, Brian Kline <kline@hybrid.com>
wrote:
>>Winfield Hill wrote:
>>I believe the part that you are referring to was called a Byristor by CTC
>>(Communications Transistor Corp.) I think the CTC Part number was BY-1.
>
>And Communications Transistor Corp. was purchased by Acrian,
>hence the "ACR" designation.

Thanks to your suggestion, I found out exactly what this part is. Note, it was obvious that it was some kind of bisaing component, but what exactly - and thereby how to use and set it.

The products are now manufactured by GHz Technology, Santa Clara, CA. The parts are diode-connected RF power transistor biasing networks. The BYI-1 is basically a diode (neg voltage TC) with a 0.7-ohm series resistor (pos TC) to provide about 1-ohm "dc" source impedance to the RF transistor(s).

The ZO-28/F in my amplifiers is more complex. It has a 2-diode string (to GND) to establish the bias voltage, with an emitter-follower to provide the desired low-Z source impedance (0.6 to 0.7 ohms) to the RF transistors. According to the data sheet, the part can consume up to 0.5A, which I observed.

--
Winfield Hill hill@rowland.org
Rowland Institute for Science
Cambridge, MA 02142

1928. ***Homebrew Broadcast Rcvrs***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: tonyz@rose.hp.com
Message-ID: <5437gm$mrj@rosenews.rose.hp.com>
Source record: 101639

Howdy.

I have been having fun designing and putting together
TRF's for the broadcast band using tubes such as the
older shouldered-style 6K7G's and such with plate
detectors. I wind the interstage coils with magnet
wire on old toilet paper tubes.

I'd like to try putting together a superhet this
time, using standard commercially built IF xformers,
since winding my own would be too much trouble.

I have construction details for winding IF xformers,
but not the patience.

I would like to try winding my oscillator coil,
this doesnt appear to be too difficult for a
Hartley style oscillator. I can get a commercial
coil, but was wondering if anyone else out
there likes to build old tube style radios
and what their experiences have been, especially
with designing the local oscillator.

Thanks, tony

1929. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct16.172549.12882@ke4zv.atl.ga.us>
Source record: 101640

In article <541pkr$2jb@newshost.cyberramp.net> twhite@digitrix.com (Tony White) writes:
>>I don't have my catalogs hadny, but I have heard of hams using this
>>stuff with some success. I don't recall any numbers on loss but I think
>>the stuff was around 50 Ohms.
>
>It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
>transmit on it -- at least with over 25w power. I'd use RG/8-U instead.

Why not transmit on it? If it hasn't had vampire taps punched into
it, it's as good as RG-8 for transmitting, and better shielded too.
I'm real leery of any of it which *has* had vampire taps punched into
it, though. If they aren't potential arc paths, they have at least
destroyed any weatherproofing the cable may have had.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1930. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct16.171613.12800@ke4zv.atl.ga.us>
Source record: 101641

In article <19961015181855682l3@zetnet.co.uk> John Rabson <word.factory@zetnet.co.uk>
writes:
>In message <1996Oct13.193014.654@ke4zv.atl.ga.us>
> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>> SMD is a godsend
>> for the homebrewer
>
>What do I need to use SMD? (I have ordinary gear for homebrew but my
>vision and dexterity are not what they were)

I'm hyper-farsighted. That means I can't even see the darn little
parts without my glasses. I use one of two visual aids. In the field
when I'm doing repairs, I use an 8x B&L clip on jeweler's loupe. This
clips on the temple of your regular glasses and can pivot out of the
way. It is really slick, and lets me see the little buggers. It only
cost a few bucks from Jensen Tools. There are import copies of it
available, I see them at hamfests being sold by the imported tool
dealers, but they aren't as nicely made, and are only a few bucks
cheaper. Buy the good one.

At the bench I have an old B&L binocular microscope head which I've
adapted to a floating arm. It offers 10x and 30x and has a long working
focal distance so I can get my hands under it to work on the board.
These things were expensive as sin new, I saw one recently in a catalog
for over $1,000, but I got this one at Dayton for $75. The guy had
stands for them too, but he wanted more for the stand than for the
microscope head. I made my own stand.

To keep your hands steady, get a couple of sand bags, or wrist rests
for computer use. If you can rest your forearms, you'll be amazed
at how steady your hands become. Avoid too much coffee too. :-)

Now the other tools you need are pretty cheap. You need a static
hot air source. You can buy really expensive bench mount units,
but I find the little pocket Weller Pyropen Jr fine for all my
work. This is a butane powered soldering and hot air tool about
the size of an old fashioned fountain pen. There are soldering tips
available for it to allow you to work on conventional parts, and hot
air shrouds to allow you to use it with SMD. Weller makes a bigger
unit, called just the Pyropen. It is too big for most SMD work,
but with a heavy tip it is just right for installing PL-259
connectors outside in a wind storm. Don't get the two confused.

You'll also need some wooden toothpicks and some SMD solder paste.
And a pair of really sharply pointed tweezers. I'd also recomend

having a bit of modeling clay handy, some solderwick, and some
flux. Any anti-static protection you use for leaded parts will
work for SMD too.

I gave a brief description of how to use this stuff in another
message. If you need more detail, ask.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1931. Re: Power Supply as Battery Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct16.165306.12634@ke4zv.atl.ga.us>
Source record: 101642

In article <3262C584.7627@ix.netcom.com> mvi@ix.netcom.com writes:
>I tried to use my 13.8v / 3 amp regulated power supply to charge a 12v /
>7 amp/hr nicad.
>
>I let the battery charge for about three hours. At this point, the
>current being drawn by the battery had dropped from about 2.4 amps to
>about 1.45amps and the voltage at the battery, without load, rose to
>about 13.1v.
>
>The following morning, I re-connected the supply to the battery and saw a
>small spark when attaching the positive alligator clip to the battery
>(with the supply off, of course).
>
>At that point the supply ceased to work. Further investigation found two
>open transistors in the supply.

Heh, heh, bad move. Always make sure the supply is on before connecting
it to the battery. Otherwise the reverse current flow from the battery
will pop things, as you learned. (Better quality supplies have reverse
protection diodes, but lots of them don't.)

>Questions:
>
>How does a battery charger differ from a power supply?

Not much at all for a *lead acid* battery charger. Both the lead
acid charger and the power supply are constant voltage devices.
But a *NiCd* charger is a different animal. NiCds should be charged
with a *constant current*. And that requires a different sort of
regulator. You can damage a NiCd by charging it with a constant
voltage. It can even explode.

>Is there a way to modify the supply to be able to use it as a charger?

Probably. It depends on the particular supply design, of course.
You'll have to alter the regulator to be a constant current regulator
rather than a constant voltage regulator. That's often possible, but
of course the utility of the unit as a regular power supply will be
lost.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1932. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: payne@OpenMarket.com
Message-ID: <543nhd$ckq@aegean.openmarket.com>
Source record: 101643
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org> x@apocalypse.org (Xochi Zen) writes:
>
>Is this the one where cantankerous old men sell stuff that their
>wives have been begging them to get rid of? One thing that I've found
>is that *some* of the dealers there sell stuff that doesn't work and
>refuse to take anything back. A better bet for old electronics gear
>is probably the Electronics Superstore (in Waltham... or is it Woburn?).

The store is in Woburn. If you take 128/95 north, you get off at the
Woburn exit with the Jaguar/Toyota dealer, and loop around to the buildings
on the right by the exit ramp. They have a tall sign that's visible from
the highway.

>They'll refund your money if you buy something from them and find that it
>doesn't work when you get it home.
>I'd like to see the dealers at the MIT flea market be held to this sort of
>policy. If people don't have ethical standards, I say *impose* some on
>them.

I don't think that anyone could or should do anything like this.

If you, as a buyer, don't like the guarantees offered by a particular
seller, take your business elsewhere. I personally wouldn't depend on
verbal guarantees: get a business card and a receipt with a written
guarantee ("guaranteed working" or something). If the seller won't do
this, don't buy.

If you want the lower prices of "as-is, buyer beware" products, and you
have the knowledge to test function before you buy, or can fix afterwards,
enjoy the flea!

--
Andrew Payne http://www.openmarket.com/personal/payne
Open Market, Inc.

1933. Hi!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: fifield@lan.nsc.COM
Message-ID: <3265695E.62B7@lan.nsc.com>
Source record: 101644

Hi, well someone set up a "separate" list for homebrew anyway heh?

Since I'm an avid homebrewer, I decided to join, WTH.

When I get time later, I'll put out some HB related stuff. Like a list
of my current projects, some wants, some questions etc.

Who else is already subscribed here? I send an email to the reflector
list server asking for "recipients" but it doesn't support that command.
Seems like we'll just have to introduce ourselves to each other.

73 till later,
--
Dave Fifield, KQ6FR

1934. ANYONE BUILT SUPERCIRCUITS ATV XMITR???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Troy or Michelle Nicolls <mnicolls@snowcrest.net>
Message-ID: <326576EA.25C0@snowcrest.net>
Source record: 101645

Anyone out there ever built a supercircuits mm-1 ,439mhx ATV transmitter? I just built one and am having trouble. Seems that Q3 is getting very hot, power output is very low and current drain is only around 150 ma. Maybe Q4 (power amp) is installed wrong or fried??? Any help would be greatly appreciated as my electronics knowledge is very limited. Thanks in advance, Troy Nicolls. KE6QMX

1935. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: "Stephen N. Phipps" <sphipps@clandjop.com>
Message-ID: <32651B77.47F7@clandjop.com>
Source record: 101646
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...
>
> >One thing that I've found is that *some* of the dealers there sell stuff that doesn't >
>work and refuse to take anything back.

Most of the fun in going to one of these is to buy that special
electronics item that you've wanted for years for next to nothing and
fixing it up. The best thing to do at these is assume everything needs
some sort of repair and make offers accordingly OR try it out and know
something about it before you buy. I wouldn't expect too many sellers to
agree with a refund policy even if it doesn't work after the sale.

Stephen Phipps - N0LNY
sphipps@clandjop.com

1936. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <543ut5$qbk@newsbf02.news.aol.com>
Source record: 101647

Hi Fred,
In article <542pki$36p@library.airnews.net>, jfriley@airmail.net (J. Fred Riley) writes:

>
>The Continental Electronics 314R-1 1 KW AM transmitter used a pair of
>3-500Z's in plate modulated service. (An another as the 9 KV
>Switching Modulator tube.) Broadband neutralization was accomplished
>by an untuned split-secondary grid-coupling transformer. Grid swaming
>and grid-leak bias were provided by the same wire-wound non-inductive
>resistor.

Was that a PWM modulated rig? Or a conventional AM. And how much HV and bias did they use?

> a low mu triode or tetrode is much more linear
>
>The 3-500Z modulates quite nicely; typical distortion was under 1/2%.
>And no screen modulation to worry with.

The only PA that "modulates quite nicely" on AM is one that has the grid biased well into cutoff, and is driven into and out of plate current with very fast switching times.

That's why low or medium mu triodes are best, and they and tetrodes are operated well into class C when plate modulated. The requirement for low distortion linear modulation is a very non-linear RF conduction angle, because the tube has to follow square law power output power vs plate voltage traits. In other words, it has to be a good mixer rather than a linear amplifier.

As to using 3-500Z's at higher peak voltages, you'd better buy tubes with special testing. Last I heard, they were only hi-potting them to 8 kV. Unless you like to have tubes flash over I'd stay away from plate modulated voltages of over 3000 volts dc, because that would run the anode up to 6 kV with perfect coupling to the antenna. Loose or lighten the load, and high voltage could go much higher.

With the number of 3-500Z's I see flash over at 3600 volts dc anode voltage I'd sure not I'd even want to plate modulate (in a conventional system) them at that voltage. Especially in amateur service, where the tube cools off and sits dead for extended periods of time.

73 Tom

1937. Homebrew Basic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Brian and Jeff Kettell <d_vader@bellsouth.net>
Message-ID: <326579AE.4460@bellsouth.net>
Source record: 101648

Hi, I am a Tech-Plus looking to get into homebrew. I would like to either get on HF or VHF weak signal. Anyone
who could point me in the right direction for getting somewhat basic plans or kits would be much apprieciated.
Thank you very much.

Brian Kettell -KB8ZXX

d_vader@avana.net

1938. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Dale Smoak <dales@shore.net>
Message-ID: <80hgnublt6.fsf@shell2.shore.net>
Source record: 101649
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

x@apocalypse.org (Xochi Zen) writes:

> In article <542k11$43u@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
> >In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...

> >c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
> >your spending more than a hundred dollars or so test it out before you buy.
>
> If they let you test... a lot of these scumbags won't.

Then don't buy it. Jeez...

1939. 2mtr Meteor Scatter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: rwham@aol.com
Message-ID: <5444rv$gn@newsbf02.news.aol.com>
Source record: 101650

Is anyone out there in ND interested in running a 2mtr MS sked with me this coming Monday (21 October, 2nd peak of Orionids) between 1100 to 1300 UTC (6 to 8 am CDST). If you have at least 150w ssb on 2mtr with a 15' (or longer) yagi in the clear toward Alabama (EM64), send me an email to setup a sked.

Thanks,
Robert WB4AXQ
RWHam@aol.com

1940. Re: RT SYSTEMS - Huntsville, AL: Scams customers out of their hard earned money. Get me for almost $80.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: 616@earthlink.net
Message-ID: <326535ED.13E2@earthlink.net>
Source record: 101651

RT SYSTEMS MEDIA (ADULT VIDEO/CDROM) wrote:

i agree they can t be trusted they seem like crooks to me

1941. Re: ** FLEA at MIT **

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <326547e8.159067328@139.187.128.43>
Source record: 101652
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,rec.radio.amateur.homebrew

In the newsgroup sci.electronics.misc.
mlc@izzy.net (Tim Hynde) thoughtfully posted:

> This was truly one of the more entertaining posts I've read.

Oh, I kinda liked the "Windows is a piece of $#!%" and "My watch boots in 100nSec" posts.

;^)

> c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
> your spending more than a hundred dollars or so test it out before you buy.

Ah! If you are really serious about buying equipment, carry one of those little 200W 120VAC inverter bricks *with you* in your backpack, along with a cigarette socket to car battery clip adapter. Keep a small marine or gel-cell battery in your car (or with a friend who has a table).

This way, when you "roll up" on a good deal, ask the seller if you can borrow his cigarette lighter, or car battery, for a few minutes. If you can't use his car (and if you have time), run back and get your battery.

If he refuses...There's your answer!

I keep an 8-cell "AA" battery holder and an assortment of pigtail power connectors in my backpack. This way, I have an adjustable 1.5 to 12V power source to test things there on the spot (I'm planning on making a complete test box, complete with ammeter and current limiting).

I also carry a bunch of "AAA" and "C" cells in my backpack ("C" cells can be shimmed into "D" holders with a few coins between the batteries).

The same rule applies, If they won't let you test it.....etc,etc,etc.

Will they give you their business card or phone number? Make it clear you will not bother them unless absolutely necessary (secretly write down their license plate number, for "Justin Case").

Also carry a pocket DMM (This is a *must* for any flea enthusiast - NEVER buy batteries w/o testing them first!) and a small, bright flashlight (for "inspections").

Smell the equipment too! This can be a big clue as to it's condition. Does it smell like something blew up? Does it smell musty or moldy?

Another clue I have found is the physical condition of the unit. Sometimes the "cleanest" unit of the bunch is the one that failed prematurely and got stuffed on a shelf or back in the box. Whereas the "used looking" units were just taken

out of service.

More importantly than "functional", is "complete".

Nuthin' worse than getting something and finding out a piece, or a board, or a module, or an expensive or rare IC is missing. Now you know it's not functional, and there may be little chance of it even becoming functional again.

I always assume "dead" until happily proven otherwise. Follow your instincts! If you have doubts, there's a reason! I always concider the scrap value of the item also. Any expensive goodies in it? The power switch may be worth more than the item!

Some of my best deals were the "I don't know if it works...Oh,..five bucks" deals.

It's a gamble...Ya' win some, ya' loose some!

Caveat Emptor!!!!! <sp?>

(Let duh buyer beware!)

Cheers,
Paul Grohe

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PLEASE! NO Solicitors/Junkmail/Pyramid/Chain/MLM/Headhunters!

1942. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: "Robert R. Koblish" <n3hat@erols.com>
Message-ID: <3265D597.69E7@erols.com>
Source record: 101653

Tony White wrote:
>
> >>>I don't have my catalogs hadny, but I have heard of hams using this
> >>>stuff with some success. I don't recall any numbers on loss but I think
> >>>the stuff was around 50 Ohms.
> >>
> >>It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
> >>transmit on it -- at least with over 25w power. I'd use RG/8-U instead.
> >
> >Why not transmit on it? If it hasn't had vampire taps punched into
> >it, it's as good as RG-8 for transmitting, and better shielded too.
> >I'm real leery of any of it which *has* had vampire taps punched into
> >it, though. If they aren't potential arc paths, they have at least
> >destroyed any weatherproofing the cable may have had.
>
> You're kidding -- /58 better than /8? Well, I guess I'll have to try it,
> then. If I melt my finals, I'm coming after you... :-)

You guys are confusing Thinnet (RG58/U) cable with Thicknet (RG8/U) type.
I agree with Gary, I would not bother with Thicknet cable that's had
vampire taps. But if you find a length that's been used point-to-point,
fine. It might even have N connectors installed already!

Good luck.
Bob Koblish
N3HAT

1943. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: mc@shore.net
Message-ID: <5441ke$6f4@northshore.shore.net>
Source record: 101654
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <80hgnublt6.fsf@shell2.shore.net>,
Dale Smoak <dales@shore.net> wrote:
>x@apocalypse.org (Xochi Zen) writes:
>
>> In article <542k11$43u@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>> >In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...
>
>> >c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
>> >your spending more than a hundred dollars or so test it out before you buy.
>>
>> If they let you test... a lot of these scumbags won't.
>
>Then don't buy it. Jeez...

What a bunch of crap - we're all adults and able to make decisions. If
you want things with guarantees - go to Sears and pay $$$$$. I've found a
lot of real neat things at flea markets and for cheap!

Michael Crestohl, KH6KD/W1 (W1??)
mc@shore.net

1944. Re: FRG-7 probably has no PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96290.205015IFF161@DJUKFA11.BITNET>
Source record: 101655

There have been several postings on the FRG-7 receiver, concerning locking of the "PLL". I would appreciate anyone having the straight dope available correcting the following if I am wrong; I am hoping to stimulate reconsideration as I believe the FRG-7 has no PLL! (I am in no position to check this as I have no schematic around but)I vaguely recall a block diagram and seeing a Wadley loop.

If my memory has not failed me (and I do have a schematic for an FRG-7000, however that is related to the FRG-7), then the synthesizer is based on mixing harmonics from a 1 MHz quartz crystal with a tunable LC oscillator. The mixer products are filtered in a low frequency LC filter with enough selectivity to remove most of the mixed down harmonics except the desired one (about -70 dB for the nearest harmonics at +/- 1MHz). After this cleaning up and enough amplification the output of the filter amplifier is mixed with the above mentioned LC oscillator output in a way that drift of the LC oscillator is cancelled. In effect, you get the stability of the crystal oscillator, where all the hardware just functions as a harmonic selector.

A couple details; to get the rich supply of harmonics the quartz oscillator drives a needle pulse generator. The Wadley loop has been used in a couple other receivers, at least, like the Barlow Wadley, a portable covering from the broadcast band up to 30 MHz, and the Racal RA17 (I hope I have the correct model.) Also, the DX302, which closely resembles the FRG-7000, though there are small differences (looks almost like a carbon copy.)

To go on, once the filtered harmonic has been generated, it is mixed with the input signals to produce a low frequency range of outputs which I believe lie from 2 to 3 MHz in the FRG-7. Finally, there is a third conversion in what is practically a broadcast band table radio covering from 2 to 3 MHz instead of 525KHz to 1600 kHz. The local oscillator frequency is low enough to yield acceptable stability for the receivers purpose.

Please note: nowhere is there any mention of a PLL as is usually meant by this expression. The lock lamp would be telling you the LC oscillator is at a frequency somewhere in the bandpass of the filter amp., and not that a PLL is phase locked.

Anyone with a schematic; please verify and assure us all.

Bob

PS I hope I am not repeating something which has already been said. The system where I get this group tends to throw some messages away (I see answers for which I see no questions!)

1945. Need SG1144/U Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Jay Wicklund <jwicklun@halcyon.com>
Message-ID: <NEWTNews.845510037.31.jwicklun@halcyon.com>
Source record: 101656
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors

Hi, I recently acquired an SG-1144/U signal generator. Need a manual
or the Military manual or part number. Will pay copying costs...

73 KI7RH
email: jwicklun@halcyon.com

1946. Need Schematic, Hamtronics XV2-x, XV4-5, CA146-28 and cc432-5

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <3265CF98.3D76@mwt.net>
Source record: 101657

I need the schematics for the following Hamtronics kits:
XV2-x (any XV2 model) 2M transverter
XV4-5 435-437 Transverter
CA146-28 2M Rcv Converter
CC432-5 435-437 Rcv Converter
If possible, FAX to 608-634-2594 or digitize and e-mail.
Thanks, Scott, N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

1947. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: burt lang <burt@rocler.qc.ca>
Message-ID: <326519B7.63A1@rocler.qc.ca>
Source record: 101658

David Sipe wrote:
>
> Tom Watson wrote:
> >
> > We all know that the data rate on "standard" ethernet is 10Mhz, and with
> > modulation of the data, the highest frequency used is 20Mhz. Given the
> > fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax
> > (yellow double shielded stuff) a few questions:
> >
> > 1) How good is it for VHF services (2 Meters??)
> > 2) Loss figures??
> > 3) Has anyone used it for this??
>
> If this is what is commonly known as "thinnet" coax for ethernet, it is
> RG-58. Very lossy at 2M.
>
> --
> 73 David KD6QFZ
> dsipe@calweb.com

10base5 is thicknet I think. If the cable is approximately the size of
RG-213 (RG-8) it is very good for VHF/UHF work. The losses are only
slightly worse than Beldon 9913, it has 4 shields (2 braid/2 foil) and
regular type N connectors will fit. The Yellow grade has a vinyl jacket
and there is an orangey-brown grade that is fluorocarbon based (teflon
FEP) and is fire resistant. Both are very cheap on the surplus market
(I have bought up to 300 ft rolls for 10c/ft). Warning if the cable is
used , look out for punctures where the Ethernet Taps were applied.
Carefully examine by feel every foot of the cable. They are very hard to
spot and when found should be taped carefully.

I did loss tests on this material a couple of years ago as a service to
a east coast surplus store. The results are as follows (actual tests on
a sample of cable):

Yellow PVC cable
loss/100ft = 1.7 dB @ 146 MHz, 2.3 dB @ 223, 3.4 dB @ 440
velocity factor = 0.79
Impedance = 50.5 +/- 0.5 ohms This is the actual variation noted within
the length being tested with a TDR.
length/lb = 8.6 ft (useful to estimate the length of a roll)

Orange tint FEP cable
Loss/100ft = 2.0dB @ 146, 2.6dB @ 223, 3.7dB @ 440
velocity factor = 0.77

Impedance = 51.5 +/- 0.5 ohms
Length/lb = 7.8 ft/lb

For comparison purposes the following data was taken from mfgrs data sheets

Beldon 9913 Needs special Type N Connector.
Loss/100 ft = 1.6 dB @ 146, 1.9 dB @ 223, 2.8 dB @ 440
Velocity factor = 0.84

Beldon 9914 (stranded center cond. I think) Needs special Type N conn.
Loss/100ft = 2.0 @ 146, 2.6 @ 223, 3.7 @ 440
Velocity factor = 0.78

RG-213
Loss/100ft = 2.7 @ 146, 3.5 @ 223, 5.0 @ 440
Velocity Factor = 0.66

I hope that this information will be useful to those who find this cable and would like to put it to use. I have been using several pieces of it for some time outside without any problems although it is not rated for exterior service and I have been warned by some folks that the jacket will fail. At the above mentioned surplus price I can replace it many times for the price of black stuff.

Burt, VE2BMQ

1948. Re: HF power amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: <>
Message-ID: <32657CCA.C4E@hagagymnasiet.norrkoping.se>
Source record: 101659

chris wrote:
>
> Hello all...
>
> Can anyone help with a circuit for a HF power amplifier (the so called
> "linear") that has 4 output transistors of the same type?
> What I am after is the methods used to connect 4 output devices
> of the *same* type (i.e. 4 x mrf454, or even 4 x 2SC1969's) together
> to achieve approx twice the output power that a pair of the same
> devices would achieve. I presume the "secret" is in the transformers
> used in the driver and output stages....
>
>I remember an article in an old Ham Radio Magazine, probably in 1974 or 1975.
73 de SM5DFF

1949. kit building

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: John Benedict <kc6vdu@feist.com>
Message-ID: <32653773.297F@feist.com>
Source record: 101660

looking for any kits that can be purchased regarding 10 meter and above. reply to mail kc6vdu@feist.com

1950. Re: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: grhosler1@mmm.com
Message-ID: <542ps1$1rp@dawn.mmm.com>
Source record: 101661

tyler@cyberia.com (tyler) wrote:

>Sorry to post here, it seems like the only place to post this sort of hting.
>Did anybody ever convert a CB to 10 meters? Is it easily done? (nothing is
>ever easily done, but is it easier than making Hillary Clinton a nice lady?)
>It is going to need retuned to go to those freqs, but you've also got to get
>rid of that 40 channel knob as far as tuning goes. How do you tune the band?
> Any help would be greatly appreciated... 73s Tyler N3SPD

The degree of difficulty depends on the rig. If you want to convert
one of the old rigs to 10M AM or FM it is fairly easy. I have
converted a number of them to 10M FM and added a repeator offset
switch. They work pretty well. I have also converted an old Sears
Road Talker 40 (SSB rig) to 10M. A bit more involved but nothing very
difficult. Not knowing what rig you want to convert, or if it will be
a FM or SSB conversion I am unable to provide much further info. In
most cases you need to change one crystal and peak up the transmitter
and receiver coils. In most cases you don't need to get rid of the 40
channel knob. There is a wealth of conversion information available.
In particular there was a complete series in 73 Magazine back in the
80's that covered conversions to CW, SSB, FM, AM, for use with
transverters, bandswitch modifications, adding scanner capabilities,
etc.. The converstions can be a lot of fun after the band returns.
We should see usable 10M conditions in the next 18 to 24 months.
During the last cycle I worked 78 countries using a converted "Chicken
Bander" in one winter without a lot of effort. I would suggest a trip
to the local library. Bob Heil (K9EID) also had a publication that
delt with CB to 10M FM converstions.

GL & CUL de KN0Z Gary

Opinions expressed herein are my own and may not represent those of my employer.

1951. 120VAC scanner from 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: wjskelle@mtu.edu
Message-ID: <541okc$746@rock.me>
Source record: 101662

Howdy all:

I'd like to be able to run my home scanner this weekend at the SCCA PRO Rally so that I can listen to what's going on with the race while I'm marshalling.

I took this unit apart (Realistic PRO-2024) and measured the DC voltage off of the rectifier on the board. It was 13.5VDC, for all practical purposes automotive 12V. I installed a small coaxial power plug and soldered it directly to either side of the rectifier on the board. After plugging it in, I found that everything worked properly except for that it *DIDN'T RECEIVE*. I had my buddy verify this with his 2M right next to me, and it didn't pick up a thing. It's sitting in the house plugged into an AC source again with no problem.

I've reached the end of my knowedge on this subject -- any suggestions? Perhaps something ahead of the rectifier in the circuit isn't getting energized? No idea.

Thanks.

--Bill
Mechanical Engineering Undergraduate
Michigan Tech
Houghton, MI

1952. help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: CXC04666@niftyserve.or.JP
Message-ID: <199610160040.JAA01282@inetnif.niftyserve.or.jp>
Source record: 101709

```
help
end
```

1953. Re: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <54191a$q7n@izzy4.izzy.net>
Source record: 101710

In article <5409e9$dhs@news3.microserve.net>, tyler@cyberia.com says...
>
>Sorry to post here, it seems like the only place to post this sort of
hting.

It's absolutly the right place to post.

>Did anybody ever convert a CB to 10 meters? Is it easily done?

Some rigs are easily converted others next to impossible. My personal
experence has been that the much older flea market CB's (usually $5 or so)
are the easiest.

You need to understand crystal mixing, if it has banks of crystals. And some
require only one crystal to be changed. Unless you have a fair amount of
homebrewing experience a CB conversion may prove difficult. You'll be better
off if you find a couple old CB's and then post a request for that specific
board. They are all quite different in the conversion process.

GL, Tim ka8ddz

1954. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDzCHqy.Aur@netcom.com>
Source record: 101711

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: And the rise of SMD components has eliminated the need for lots of
: precisely drilled holes too. SMD is a godsend for the homebrewer. It
: is much easier than working with leaded parts.

Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
I think SMD is a horror for anyone who wants to service a circuit
board. You might be able to replace a resistor, but servicing
any active device beyond a simple transistor is damn near impossible.

1955. Surface Mount prototype board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <326433c1.5519265@eskinews.eskimo.com>
Source record: 101712

Does anyone know of a source for SMT prototype boards? Something on the order of the Radio Shack through-hole ones, but laid out for surface mount parts.

73, Bill W7LZP
wrt@eskimo.com

1956. Re: RT SYSTEMS - HUNTSVILLE - SCREWED ME OUT OF ALMOST $80 LAST WEEK - RT SYSTEMS - HUNTSVILLE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Chuck
Message-ID: <541gib$fnp@camel0.mindspring.com>
Source record: 101713

If you're gonna post a flame like this, at least have the decency of explaining what happened.

1957. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDzCMw0.KDt@netcom.com>
Source record: 101714

In article <tgmDzCHqy.Aur@netcom.com> tgm@netcom.com (Thomas G. McWilliams) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: And the rise of SMD components has eliminated the need for lots of
>: precisely drilled holes too. SMD is a godsend for the homebrewer. It
>: is much easier than working with leaded parts.
>
>Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
>I think SMD is a horror for anyone who wants to service a circuit
>board. You might be able to replace a resistor, but servicing
>any active device beyond a simple transistor is damn near impossible.
>

You could do "surface mount" style with regular DIP thru hole parts,
bend the leads out so it makes a flat footprint. Resistors and caps
and transistors are also easy. IF transformers are more difficult,
but one could bend the leads a little bit (make a little hook at the
lead end). I've done this and it worked. Or drill the holes for the
hard parts only.

1958. Re: Need technical info on FRG-7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: dave@fgh.fgh.oz.au
Message-ID: <DzCKtD.A9s@fgh.fgh.oz.au>
Source record: 101715
Cross-posted to: rec.radio.amateur.equipment,rec.radio.shortwave,rec.radio.amateur.homebrew

In article <53ur6p$7el@boursy.news.erols.com>,
Ed Smith <pirana@pop.erols.com> writes:

| I own and use a Yaesu FRG-7 receiver. You do recall correctly, the lock
| light goes out when the PLL is in lock. I always thought this was sort of
| peculiar.

It's done that way to save on battery power.

--
Dave Horsfall VK2KFU dave@fgh.oz.au Ph: +61 2 9957-4224 Fx: +61 2 9922-5286
FGH Decision Support Systems P/L, 77 Pacific Hwy, Nth. Sydney, 2060, Australia

1959. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: twhite@digitrix.com
Message-ID: <541pkr$2jb@newshost.cyberramp.net>
Source record: 101716

>I don't have my catalogs hadny, but I have heard of hams using this
>stuff with some success. I don't recall any numbers on loss but I think
>the stuff was around 50 Ohms.

It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
transmit on it -- at least with over 25w power. I'd use RG/8-U instead.

1960. Where to buy Motorola CA 2818 C?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: kevinm@eden.com
Message-ID: <541sb9$fp7@boris.eden.com>
Source record: 101717

The subject says it all. I've checked with RF parts, and they don't sell that line. Any suggestions would be appreciated. thanks in advance.

$$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
Kevin McWilliams
KW5Q
Applied Mathematician

1961. British and French military radio equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: etk12573@rpool19.rus.uni-stuttgart.de
Message-ID: <542796$1gh0@info4.rus.uni-stuttgart.de>
Source record: 101718

Hello,
I am looking for any information on two pieces of radio equipment
I have, such as instruction / service manuals, schematics etc.

I have: Wireless Set No 19 Mk. III
and: French transmitter BC 1306, probably from 1953
the tx tube is a 2E22, I haven't been able to find any information
on this one in any table so far (only 2E24 and 2E26)

I would appreciate any information on these units or sources of
parts or components. Please e-mail me directly in English or French
(my French isn't as good, but I think I can figure it out).

Hoping that someone can help me,

Frank Wuest (captain.baloo@studbox.uni-stuttgart.de)

1962. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <542hsm$cpq@asylum.apocalypse.org>
Source record: 101719
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <32641104.2957@millcomm.com>,
Richard Hager <rhager@millcomm.com> wrote:
>Xochi Zen wrote:
>>
>> One thing that I've found
>> is that *some* of the dealers there sell stuff that doesn't work and
>> refuse to take anything back.
>
>> I'd like to see the dealers at the MIT flea market be held to this sort of
>> policy. If people don't have ethical standards, I say *impose* some on
>> them.
>>
>> - Xochi--
>
>Great. More government bullshit, to coddle us and protect us from ourselves.
>And then we won't have flea markets at all anymore! Or any other place to

I'd say there's a big difference between someone selling a plate for 50 cents
and someone selling testing equipment for ~$100. And who said anything about
the government? Not I. 'Twas you, knee-jerk boy.

>This 'wanting of someone else to be responsible' really frightens me. It's
>becoming so pervasive in our society. People need to get back to being
>willing to be responsible for the results of their own decisions.

Hoo boy... If I've triggered some latent derangement in you, then I
apologize to the readers of ne.general.

>It's a -flea market- for god's sake! It's not Sears. It's -supposed- to be

Again, we're not talking about 50 cent plates or $1 answering machines.
For my own part, I've simply decided not to give any of these vendors
my business. I think your neo-cortex needs calibrating if you think anyone
is calling for the government to intervene.

>Having said all that, I do appreciate when sellers state their knowledge of
>the condition on a tag (or in a newsgroup posting), even if it's just 'don't
>know, haven't tested it'. Any info at all helps the decision making process.

That's all I ask. In lieu of a blanket return policy...

- Xochi

--
| |"The Way that can be spoken of is not the constant Way" |
| Xochi Zen | - Lao Tzu |

```
| x@apocalypse.org|"The Way that can be spoken of is involved in the |
| | production of cheese" - Xochi Zen |
```

1963. Circuit design and etching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: eddie jones <eddie@exis.net>
Message-ID: <3264B3EF.21E1@exis.net>
Source record: 101720

Looking for information on computer programs for circuit design and any books or other literature on "How to etch circuit boards".

Eddie KE4NBP
eddie@exis.net

1964. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <542k11$43u@izzy4.izzy.net>
Source record: 101721
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...

>One thing that I've found
>is that *some* of the dealers there sell stuff that doesn't work and
>refuse to take anything back.

>I'd like to see the dealers at the MIT flea market be held to this sort of
>policy. If people don't have ethical standards, I say *impose* some on
>them.
>
> - Xochi

This was truly one of the more entertaining posts I've read.

a.) ethical standards at a flea? That would certainly take the fun out of
it!!

b.) How do you intend to *impose* your ethical standards on anybody?

c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
your spending more than a hundred dollars or so test it out before you buy.

1965. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <542lro$ekl@asylum.apocalypse.org>
Source record: 101722
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <540t7d$4om@news.scruz.net>,
Richard Steven Walz <rstevew@armory.com> wrote:
>If you think this, then you are merely presumptuous. Anyone who buys
>something at a flea and expects it to work at home is a fool. To

You're preaching to the choir, brother. Oddly enough, I've never purchased
anything at the MIT flea market.

>obtain true "slack" you must NOT be a fool!! The trick is to pay

I'm not a fool and have plenty of slack. Though there's a seeker
born every minute of course.

>**
>(Oh, by the way, Xochi Zen, I like your sig!! ;->)
>-Steve

Thanks. Which one? My slackful perl script rotates my .sig file for
me every time I logon. I have to admit, I've been cultivating the
virtues of a programmer... laziness, impatience and hubris.

- Xochi

--
	"I am a mystery wrapped in an engima wrapped in
Xochi Zen	a tortilla." - Xochi Zen
x@apocalypse.org	
<-->

1966. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <542m27$aot@newsbf02.news.aol.com>
Source record: 101723

In article <540ul6$b6f@ncar.ucar.edu>, owens@stout.atd.ucar.edu (Chip Owens) writes:

>
>Has anyone operated a 3-500Z triode in Class C plate-modulated service?
>If so, I'd appreciate hearing from you.
>
>Thanks!
>Chip Owens, NW0O

Has to be neutralized and grid driven Chip, or else you need to modulate the driver also.

You have to run the tube way in cutoff, so the conduction angle is short. Peak anode voltage is about 5000 volts maximum, that's RF plus audio. Above that and you'll have a lot of tubes that might arc on occasion.

They will work, but a low mu triode or tetrode is much more linear when polate modulated and easier to adjust.

73 Tom

1967. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <542m6n$eq8@asylum.apocalypse.org>
Source record: 101724
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <542k11$43u@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...
>
>>One thing that I've found
>>is that *some* of the dealers there sell stuff that doesn't work and
>>refuse to take anything back.
>
>>I'd like to see the dealers at the MIT flea market be held to this sort of
>>policy. If people don't have ethical standards, I say *impose* some on
>>them.
>>
>> - Xochi
>
>This was truly one of the more entertaining posts I've read.

Glad to hear it. Sure beats the divorce crapola 'round here. *wink*

>a.) ethical standards at a flea? That would certainly take the fun out of
>it!!

How would you like it if one of the dealers bashed your scull in
with an oscilloscope. ;)

>b.) How do you intend to *impose* your ethical standards on anybody?

All I know is that I'm not SCSI.

>c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
>your spending more than a hundred dollars or so test it out before you buy.

If they let you test... a lot of these scumbags won't.

- Xochi

--
	"I am a mystery wrapped in an engima wrapped in
Xochi Zen	a tortilla." - Xochi Zen
x@apocalypse.org	
<--->

1968. Re: CQ USUARIOS ICOM 706

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <542lhj$43u@izzy4.izzy.net>
Source record: 101725
Cross-posted to: es.rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <53vs4e$s4p@lince.lander.es>, jorgegc@lander.es says...
>
>
>Hola estimados amigos y colegas:
>
>Desearia ponerme en contacto con otras estaciones que tengan el equipo
>ICOM 706 para intercambiar impresiones.

Yo tengo varios amigos quien es usan este ICOM-706 y todos estan felizes con este radio. Por el precio del radio no hay otro con todo lo que tiene. Cuando yo hable con mis amigos la proxima vez yo les voy a preguntar de la optiones por otro microfono.

Si yo qiero comprar un radio comercial yo compraria este modela 706, pero para mi, homebrew es la unica forma HI HI.

Buena suerte, Tim

--Courtesy translation--

>I am looking for other stations using the ICOM 706 to exchange impressions
of the radio.

I have varios friends who are using the ICOM-706 and all of them are happy with the radio, For the price no other radio has what this one has. When I talk to my friends the next time I will ask them about the options for another microphone.

If I wanted to buy a commercial radio I would buy the model 706, but for me homebrew is the only way. HI HI

Good Luck, Tim

1969. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <542pki$36p@library.airnews.net>
Source record: 101726

w8jitom@aol.com (W8JI Tom) wrote:

>Has to be neutralized and grid driven Chip, or else you need to modulate
>the driver also.

The Continental Electronics 314R-1 1 KW AM transmitter used a pair of
3-500Z's in plate modulated service. (An another as the 9 KV
Switching Modulator tube.) Broadband neutralization was accomplished
by an untuned split-secondary grid-coupling transformer. Grid swaming
and grid-leak bias were provided by the same wire-wound non-inductive
resistor.

> a low mu triode or tetrode is much more linear

The 3-500Z modulates quite nicely; typical distortion was under 1/2%.
And no screen modulation to worry with.

FRED

JFRILEY@airmail.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

1970. Re: Ham-Homebrew Digest V96 #449

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199610161154.HAA08727@service1.cc.uky.edu>
Source record: 101727

At 04:01 PM 10/15/96 PDT, you wrote:
>Has anyone operated a 3-500Z triode in Class C plate-modulated service?
>If so, I'd appreciate hearing from you.
>
>Thanks!
>Chip Owens, NW0O

I have not, but other zero bias tubes were commonly plate modulated.
However, if you are operating grounded grid you must also plate modulate
the driving stage due to the feed thru power and when the plate voltage
approaches zero during modulation there will be excessive of grid current.

73
Bill wa4lav

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

1971. Re: RT SYSTEMS HUNTSVILLE Flame

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: markn1wes@juno.COM
Message-ID: <19961016.102349.5103.6.markn1wes@juno.com>
Source record: 101728

Better watch out what you say. Someone likes to make copies and
send them to the manufacturer. Its his duty to American companies.

1972. Re: Circuit design and etching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Dave Hills <dhills@onramp.net>
Message-ID: <3264E1BC.55B4@onramp.net>
Source record: 101729

eddie jones wrote:
>
> Looking for information on computer programs for circuit design and any
> books or other literature on "How to etch circuit boards".
>
> Eddie KE4NBP
> eddie@exis.net

See http://www.ivex.com for shareware PC layout software. It's quite
good!

--
Dave Hills, P.E.
DH Associates
dhills@onramp.net

1973. Re: Surface Mount prototype board?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Dave Hills <dhills@onramp.net>
Message-ID: <3264E214.4756@onramp.net>
Source record: 101730

Bill Turner wrote:
>
> Does anyone know of a source for SMT prototype boards? Something on the order
> of the Radio Shack through-hole ones, but laid out for surface mount parts.

Digi-Key has some. See http://www.digikey.com .
--

Dave Hills, P.E.
DH Associates
dhills@onramp.net

1974. opening ICOM battery pack BP84?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: arisk@spidernet.COM.cy
Message-ID: <3264cf94.1104896@nautilus.spidernet.net>
Source record: 101731

Can someone give some idea as to what is the best way to open the icom
batt pack BP84 so that i can replace the cells?
Thanks in advance
de Aris-5B4JE

1975. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <542qqo$63l@sjx-ixn3.ix.netcom.com>
Source record: 101732

In <1996Oct15.183738.9024@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>> 2. With a leaded part you just stick the leads through the
>> holes, bend them slightly (so that the part doesn't fall
>> out), turn the board over, and solder.
>
>Well, first you have to *drill* all those holes, and precisely too.
>That's a *very* major pain in the ass. I've got a CNC drill, but it
>takes so long to set up I can be finished building a SMD board by
>the time I have a thru-hole board drilled. If you're buying your
>circuit boards, you aren't homebrewing, you're doing kit assembly.
>

I prototype two ways: dead bug style and perf-board style. In neither case do I drill holes. Dead-bug style is damn fast, but perf board looks neater and is more mechanically stable. And best of all, the holes are already there!

In the past I've used a drill-press (although holes need to be fairly spot-on, through-hole parts will, in most cases, tolerate some slop). But why go through the hassle? Interestingly, in twenty years of engineering I've *never* seen an engineer prototype a circuit by actually laying out a PCB. It's *always* been wire-wrap, dead-bug, or perf-board. Some may do PCB proto's (probably for microstrip circuits?), but I've not come across them.

>
>Your SMD technique is *horrible*.

To each his own. It's actually a very common technique, it doesn't require any special tools (other than a *good* pair of tweezers and a tiny point on the soldering iron (again, Metcals are GREAT) - no solder paste, no hot-air tool), and it works *very* well. Our tech can assemble a board very quickly using this technique, and the board looks like it came off the manufacturing line. Hot-air is only used to remove large IC's.

But why use SMD parts for home-brew in the first place? Leaded parts are so much easier to use.

- Jeff, WA6AHL

1976. Need : SWR Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Insight@cris.com
Message-ID: <5431ev$e8r@herald.concentric.net>
Source record: 101733

I am looking for info on building an swr that would be suitable for Fm radio frequencies. Thanks.

Insight

1977. Re: your LISTSERV request "help"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: Listserv@ucsd
Message-ID: <199610161634.JAA13456@mail.ucsd.edu>
Source record: 101734

```
You may subscribe or unsubscribe to any of the various campus mailing
lists and the local redistributions of global mailing lists by sending
email to "listserv@ucsd". The commands understood by the listserver
program are:

HELP
lists this file. This is also sent whenever a message to
listserv is received from which no valid command could be
parsed.

HELP listname
lists a brief description of the maillist requested.

INDEX
lists all the maillists available for subscription.

LONGINDEX
lists all the maillists and their descriptions.

ADD listname
DELETE listname

ADD address listname
DELETE address listname
adds or deletes the given address to or from the list
specified. Mail is sent to the address given to confirm the
add or delete operation. For on-campus users, we strongly
recommend that you use your campus registered mailname when
subscribing (i.e., use the second form of the command which
includes a specification of the address). If you omit the
'address', the command will assume the mailbox that is in the
From: line of the message. Note that SUBSCRIBE is a synonym
for ADD; UNSUBSCRIBE for DELETE.

DELETE-ALL
UNSUBSCRIBE-ALL

DELETE-ALL address
UNSUBSCRIBE-ALL address
unsubscribes given address from all mailing lists. Mail is sent
the address given to confirm the deletions. If you omit
the 'address' the command will assume the mailbox that is in
the From: line of the message.

LIST
LIST address
lists all mailing lists to which the given address is subscribed.
```

If you omit the 'address' the command will assume the mailbox is
in the from line.

FAQ
FAQ listname
sends a list of "Frequently Asked Questions" for the appropriate
mailing list. The command "FAQ" by itself sends an index of
available FAQ's.

A command must be the first word on each line in the message. Lines
which do not start with a command word are ignored. If no commands were
found in the entire message, this help file will be returned to the
user. A single message may contain multiple commands; a separate
response will be sent for each.

Please note that it IS possible to add or delete someone else's
subscription to a mailing list. This facility is provided so that
subscribers may alter their own subscriptions from a new or different
computer account. There is therefore some potential for abuse; we
have chosen to limit this by mailing a confirmation notification
of any addition or deletion to the address added or deleted including
a copy of the message which requested the operation. At least you
can find out who's doing it to you.

Examples:

add sunusers

add ewombat foodlovers

delete wombat@cyberpunk.ucsd.edu connectionists

help eggbeaters

Note that although you would mail submissions to a campus mailing list by
addressing mail to e.g., sunusers@ucsd.edu. In a subscription request
you specify the name of the list simply (without the @ucsd part) as in
the first example above.

1978. Re: Is equipment building and repair a lost art?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-16 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9609168454.AA845485276@mail2.creo.bc.ca>
Source record: 101735

Thomas G. McWilliams wrote:

> Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
> : And the rise of SMD components has eliminated the need for lots of
> : precisely drilled holes too. SMD is a godsend for the homebrewer.
> : It is much easier than working with leaded parts.

> Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
> I think SMD is a horror for anyone who wants to service a circuit
> board. You might be able to replace a resistor, but servicing
> any active device beyond a simple transistor is damn near impossible.

Like all technologies, surface mount can be impossible with the wrong tools, and dead simple with the right tools. If you are contemplating building or servicing equipment with 120 lead QFP ICs you will need to buy, beg, borrow or steal the correct equipment to tackle the job. Like the hot air guns and related stuff others have mentioned. Didn't people say similar things about transistors way back when? Or was it 14 pin DIP ICs?

For more ham-related stuff (e.g. from chip resistors and capacitors up to 20-or-so pin SOICs and PLCCs) a soldering iron with a tiny tip works well, though I too look covetously at hot air equipment.

My usual technique is to tin one pad, position the part, and hold it down with a long fingernail while I reflow the solder. Then solder the other connections. This way I have more fingers free (you need two to hold a toothpick), and get immediate feedback (OUCH!) if I overheat the part...

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.com elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

1979. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: cvp@bu.edu
Message-ID: <545gd1$145@news.bu.edu>
Source record: 101586
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

One thing to keep in mind at flea markets if you're shopping for electronics:

If you are at Mom & Pop's Flea Market and something doesn't work, you're better off buying it because chances are it's just a blown fuse or something easy.

If you are at the MIT Flea Market, assume that the sellers know a fair bit about electronics and it REALLY doesn't work. Then you buy it for parts. (Granted, if you can't test it and they don't indicate its' condition then you're stuck).

It's all a gamble and sometimes you come out a winner and sometimes you're stuck with another electic gizmo to gather dust in the workshop until your wife makes you clean it up and finally throw it away. (And don't accuse me of sexism... I am the daughter of a collector from hell and the wife-to-be of a physicist with a weakness for useless gadgets that don't work. SOMEBODY has to "encourage" the removal of gadgets... so there's room for new ones!)

:) Chris

1980. roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: modinaf@swsupp.ico.olivetti.COM
Message-ID: <199610171243.FAA04002@mail.ucsd.edu>
Source record: 101587

Hi All!
I`m looking for address of dealer or producer a roller inductor to build a
tuner for hf bands.
Thanks

73 de IK1VCF

1981. Re: FRG-7 probably has no PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: Stephen Parry <sparry@rahul.net>
Message-ID: <545ftq$37c@samba.rahul.net>
Source record: 101588

Bob Mueller (IFF161@DJUKFA11.BITNET) wrote:
: A couple details; to get the rich supply of harmonics the quartz oscillator
: drives a needle pulse generator. The Wadley loop has been used in a couple
: other receivers, at least, like the Barlow Wadley, a portable covering from
: the broadcast band up to 30 MHz, and the Racal RA17 (I hope I have the correct
: model.) Also, the DX302, which closely resembles the FRG-7000, though there
: are small differences (looks almost like a carbon copy.)

In the RA17 the first signal conversion is an upconversion, a tunable high frequency oscillator mixes with the incoming HF to produce an IF of 45MHz. In a separate path, this same tunable oscillator output is mixed with the 1 MHz harmonics from the comb generator and the output from that mixing is used as the injection frequency for the second signal conversion which takes the 45MHz IF down to around 3 Mhz. The system is wideband (>1 Mhz) up to this point. The third signal conversion uses a high stability VFO to convert the 3 Mhz down to a 100Khz narrow band IF.

The "locking" occurs because the second signal mixer only gets any injection freqency drive when there is the high frequency VFO is at a frequency which will combine with a comb generator harmonic. This occurs each MHz as the oscillator is tuned.

The magic of the system is that the drift of the first high frequency oscillator is cancelled out because it is used once in an upconversion, and once in a down conversion. So long as the output from the first signal mixer stays in the bandwidth of the first 45 MHz If everything is cool.

Stephen

1982. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <545jcj$c8i@asylum.apocalypse.org>
Source record: 101589
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <545g90$qdm@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>
>>
>> I didn't plan to do anything; but I'm sure that if you thought about it
>> just a *little* bit harder, you could imagine how such a policy could
>> be implemented.
>>
>> - Xochi
>
>Well, in your previous post you said:
>
>"I'd like to see the dealers at the MIT flea market be held to this sort of
>policy. If people don't have ethical standards, I say *impose* some on
>them."
>
>a.) Since your clearly reccomending that we *impose* ethical standards on
>the MIT flea market vendors, The question of how you planned to do it would
>certainly be in order.

You mean how they (the people who sell dealer space) might do it.
Quite frankly, I no longer give a rats ass what they do. Can we drop
this?

- X

--
| Xochi Zen "I would rather be a transformed ape than a |
| x@apocalypse.org degenerate son of Adam." - Pierre-Paul Broca |
<--->

1983. Source for 300-302 MHz crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: Dacha <robert@visor.com>
Message-ID: <01bbbc41$4dc0d5c0$5b036fcc@dacha>
Source record: 101590

Can someone help me find a source for 300 to 302 MHz crystals to be used in
a low power xmiter.
I now have 75 MHz and 150 MHz HC 45/U crystals that I multiply. I now have
one
360 MHz crystal marked "experimental"
It works great, but is a bit high in frequency for my purpose.

1984. Re: HF Linear amp kit company?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: rohrwerk@pconline.com
Message-ID: <rohrwerk-1710961042350001@tsa-p13.pconline.com>
Source record: 101591

In article <3261FC97.521C@no.spam.please>,
rfg.at.nome.dot.net@no.spam.please wrote:

> Roy:
> Its C.C.I. and they advertise in QST. Just saw their ad a
> couple days ago. When you get a hold of them, ASK them if the
> Motorola instructions/data come with the kit. I am interested too,
> and in fact have their catalog here somewhere, but I moved houses
> and I can't find anything yet!

They did provide the app notes with my kit (AN762, 140 watt amp). Easy to put together, though one bias transistor they provided was not pin compatible with the board -- had to do some wire kludges to get the terminals wired :(. So you may have to use your brain, not just follow Heathkit-style instructions.

You also have to box it up, provide switching and output filters, etc.

John Seboldt
rohrwerk@pconline.com

1985. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: coolidge@zk3.dec.com
Message-ID: <545p9uksg1@nntpd.lkg.dec.com>
Source record: 101592

--

It's amazing how questions about Ethernet coax seem to surface about every year or so, and I keep forgetting my loss chart at home. (sigh).

Suffice it to say, I was on the original design team, and the guy who actually did the design work on the coax is a ham. Yes, the thickwire Ethernet coax is 50.0 ohms, its loss characteristics and power handling capabilities are on a par, or better than RG-8/U, at least in the HF region and low VHF region. We didn't do extensive loss testing at VHF or above (no one in the group, including the manager, who is also a ham) had any VHF gear to bring in to work to try it :-). I have heard some anecdotal comments from network engineers from other companies that its performance at VHF and above is disappointing, and that appears to be due to the aluminum foil shield being the closest to the center conductor. Although the "shield" is four shields in one (foil-braid-foil-braid, looking from the inside going out), and provides fantastic protection against inward or outward signal leakage, it's kind of lousy with respect to skin effect at VHF.

So, you could probably run a kW through it on HF, and use it for phasing lines and other special things at VHF.

BTW, this applies to both the yellow PVC stuff and the translucent orange Teflon stuff, as well as the ugly purple "CI" cables with the TNC's on them.

Bayard R. Coolidge N1HO DISCLAIMER: The opinions expressed are
Digital Equipment Corp. solely those of the author, and not
Nashua, New Hampshire, USA those of Digital Equipment Corporation
coolidge@zk3.dec.com nor any other entity.
"Brake for Moose - It can save your life" - N.H. Fish & Game Dept.

1986. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <545g90$qdm@izzy4.izzy.net>
Source record: 101593
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

>In article <544do9$oe1@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:

>>I think the poster was refering to your call to *impose* morals on the
flea
>>market vendors, how exactly did you plan on *imposing* such values?
>>
>>Tim, ka8ddz |
>
>
> I didn't plan to do anything; but I'm sure that if you thought about it
> just a *little* bit harder, you could imagine how such a policy could
> be implemented.
>
> - Xochi

Well, in your previous post you said:

"I'd like to see the dealers at the MIT flea market be held to this sort of
policy. If people don't have ethical standards, I say *impose* some on
them."

a.) Since your clearly reccomending that we *impose* ethical standards on
the MIT flea market vendors, The question of how you planned to do it would
certainly be in order.

b.) I don't plan on thinking just a *little* bit harder about how we could
implement such a policy, it's an absurd thought to begin with.

Tim, ka8ddz

1987. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: Jim Conn <jconn@gte.net>
Message-ID: <32666921.5B7B@gte.net>
Source record: 101594

Grady Russell wrote:
>
> Well I'm glad to see at least one person thinks it's not a lost art...now
> could one of you find gentleman (or ladies) point me in some good
> directions to build a base 2m radio? Just a tech now but wanting to learn
> about building one myself,etc. I keep looking for sources but really don't
> have much to go on.
>
> TIA,
> Grady
> KF4LDO

Hi,

I suggest the Ten-Tec 2m kit, as an excellent, low cost, way to start!

73,
Jim - AD4VL

1988. Simple Morse Receiver Circuit ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: shez@ottawa.rtc.sc.ti.com
Message-ID: <545rn5$83d@hammerhead.dadd.ti.com>
Source record: 101595

Does anyone know where I can find a simple circuit for receiving
Morse Code? Nothing special with simple parts.

I'm in Ottawa, Canada so if someone around the area has access
to a fax ...

Thanks
Don

1989. FS: Tubes, amps and coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: Ben Tersian <tersian@leba.net>
Message-ID: <3266862F.34A7@leba.net>
Source record: 101596
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Rockwell Collins Intl. HF-8030 New power supply for 8020 series amp. New in box outstanding at 1500$

6EA8 JAN New in box, $2.00

12AT7 New in box, $3.00 each

RG389 7/8 Inch hardline 50Ohm Super low gloss 40ft length with 2/6ft pigtails 50.00 Brand New.

JAN 832A New in box $10.00 each

1990. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: cjl@mitre.org
Message-ID: <545o09$ads@linus.mitre.org>
Source record: 101597
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <540a4p$2us@news-central.tiac.net> allen <allenh@tiac.net> writes:
>x@apocalypse.org (Xochi Zen) wrote:
>
> A better bet for old electronics gear
>>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>>They'll refund your money if you buy something from them and find that it
>>doesn't work when you get it home.
>
>They used to be in Woburn but I couldn't find them about a month ago.
>I believe that they have moved it all to New Hampshire (darn) . Is Eli
>still in Cambridge ? Does anyone know of others in the area ? I know of
>U DO IT in Needham also .
>

Elecronic Superstore (now renamed Electronic Planet) moved to Cummings Park
in Woburn. Unfortunately, it is a much smaller store focusing on computurs
stuff, with all of the surplus parts having been moved to their store in
New Hampshire.

1991. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: griffin@jgfl1.allcon.com
Message-ID: <DzFo5M.2Do@jgfl1.allcon.com>
Source record: 101598

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
[...]
> I usually print to transparencies with my laser printer and
> photographically transfer the circuit to the board, but I've
> also used a plotter directly onto the board (you need a plotter
> which will run very slowly to lay down enough ink, and that's
> good because it usually means you want an older cheaper plotter).
[...]

If your software can print to a PostScript file, you should
try taking this file to a typesetting studio. They're able
to use resolutions of up to 3600 dpi on transparent film
material that's sturdy enough to last you several batches
of PCBs. A roughly letter shaped page should be between $10
and $20.

Hope that helps,
Jens, DB9LL
--
What _was_ you username again? <clickety clickety click>

1992. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: "Carl D. Walker" <cwalker@icmp.com>
Message-ID: <3266C196.794BDF32@icmp.com>
Source record: 101599

Thomas G. McWilliams wrote:
>
> Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
> : And the rise of SMD components has eliminated the need for lots of
> : precisely drilled holes too. SMD is a godsend for the homebrewer. It
> : is much easier than working with leaded parts.
>
> Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
> I think SMD is a horror for anyone who wants to service a circuit
> board. You might be able to replace a resistor, but servicing
> any active device beyond a simple transistor is damn near impossible.

Try a good heat gun and make an air director out of bent metal around
the air output of the gun. That and some small tools like dental picks
can work wonders with SMD devices. The fancy air desoldering tools
that the production department are using at my work are not much more
than that. Yes, they do have some temp control, but just be careful
and things will work out OK.
--
Regards,
WA1RAJ
Carl D. Walker

"They that can give up essential liberty to obtain a little temporary
safety deserve neither liberty nor safety."
Benjamin Franklin, 1759

1993. HF Amp using 3-400Z ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <32671624.6B5@mwt.net>
Source record: 101600

Anybody got an interesting design for an HF amplifier utilizing one or two 3-400Z Tubes? I have two I'd like to put to good use. Scott, N0EDV

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

1994. WTB: WX satellite rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: "Mitch Kobierowski (KJ7JA)" <mskobier@3-cities.com>
Message-ID: <3266E186.4D8B@3-cities.com>
Source record: 101601

Hi all,
I am looking for a used 137.xx Mhz WX satellite receiver. I built up the circuit boards for the decoder and interface board that were in 73 Amateur radio magazine several months ago (or was it longer?). I modified an old scanner, built a preamp, but I get a lot of noise and the picture resolution is not very good. I have looked at the hamtronics kits, but they were a little more than I wanted to spend. I would like to find a good receiver at a reasonable price. The age of the receiver is not important as long as it works. I would even be interested in a kit that someone built that dosen't work as long as it has the documents with it. I noted that in the magazine article some things weren't very clear, and if anyone else has built the circuits or attempted to build the circuits and can't get them to work I would be glad to share the info I learned.

73's
Mitch (KJ7JA)

1995. atv

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: bob <snokid@cris.com>
Message-ID: <32670DD7.428@cris.com>
Source record: 101602

Hi I'm trying to locate an article on how to build a atv transmitter in the 440 rage. (the arrl blew it again.)

thanks 73's
KB8VRU

1996. Re: 137 Mhz Preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: "Mitch Kobierowski (KJ7JA)" <mskobier@3-cities.com>
Message-ID: <3266E638.1F2A@3-cities.com>
Source record: 101603

Bigdad wrote:
>
> Does anyone have or know where to get plans to build a low noise
> preamp for use in the 137 MHz band (2 Meters should work) I
> already have the Satellite Handbook, im looking for other options
> here. Perhaps even a place that sells kits. Thanks

If you look in the 1992 ARRL handbook, you will find a couple of
circuits and parts list/building instructions. I built the one that uses
a single MosFet. The one I built had a measured gain figure of approx
25db. The circuit wasn't hard to build, only has a handfull of parts and
substitution of parts is ok. 73's

1997. Bearcat 210

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: mpuccini@mbox.vol.IT
Message-ID: <3265DF27.ACE@mbox.vol.it>
Source record: 101604

Good Day to everybody, please I am looking for the schematic of the
scanner radio Bearcat 210
if somebody have's it please if he can send to me,I will pay for post
and eventul charge...
tnx for all.... Marco ik3csv

1998. Re: Simple Morse Receiver Circuit ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: tonyz@rose.hp.com
Message-ID: <546dks$s84@rosenews.rose.hp.com>
Source record: 101605

Don Shesnicky (shez@ottawa.rtc.sc.ti.com) wrote:
: Does anyone know where I can find a simple circuit for receiving
: Morse Code? Nothing special with simple parts.

: I'm in Ottawa, Canada so if someone around the area has access
: to a fax ...

: Thanks
: Don

Try QST August '95 "A rock-bending rcvr for 7 MHz"

Simple direct-conversion w/oscillator for SSB, CW

73's

tony

1999. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <32667FE5.80B@tir.com>
Source record: 101606

Ugly is beautiful!!

2000. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <326681C7.331A@tir.com>
Source record: 101607

Fabrizio MODINA wrote:
>
> Hi All!
> I`m looking for address of dealer or producer a roller inductor to build a
> tuner for hf bands.
> Thanks
>
> 73 de IK1VCF
> Call Fair Radio at (419)223-2196 or write them at

Fair Radio Sales
PO Box 1105
Lima, Ohio 45802

Once you buy anything from them they keep sending their catalogs and flyers. I buy something from them often enough to keep the mail coming. They sell all kinds of surplus parts and equipment. Roller inductors seem to be in good supply there.

Bill KU8H

2001. Custom COLOR PHOTO QSL cards for $ .30 each!!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: zepplin@trellis.net
Message-ID: <32676bd3.0@news3.paonline.com>
Source record: 101608

Hello all Richard KT4IJ here. I am going to try the qsl industry a
bit. I can make and sale custom designed QSL cards for about
30 cents a piece.. They will be printed on photographic paper
<heavy stock> and can have graphics like your call and the
QSL info put on there along with a picture of you in your shack
or your tower or whatever photo you would like to see on the
front of your QSL!! Custom designs avaible. You can even recieve
your proof via e-mail and make sure it is what YOU want before
they are printed!!! Sound good? E-mail Zepplin@TRELLIS.NET
for the info......coming soon a web page with examples to browse
thru'!! Thanks for your intrest....

73 frm...Richard KT4IJ

2002. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <54ebj5$csc@buffnet2.buffnet.net>
Source record: 101609

lhalliday@creo.COM wrote:

Three cheers for you Laura .... What an attitude. I couldn't agree
more. For me time is the enemy. I really enjoy experimenting when I
can. Nothing is more satisfying. Well maybe one thing.......

Good One ......

daveb@buffnet.net (AA2GF)

>I'd like to propose some self-censorship on this subject. Can you
>imagine the effect such discussions have on young or would-be hams?
>"Modern technology's crap! The Good Old Days are over! Face it, loser:
>you missed all the fun!" Ugh. The *real* fun is yet to be, and if some
>hams wish to opt out of technology and live in the past, please at
>least have the common decency to keep your mouths shut and stay out of
>the way of those of us who still understand what "technical
>investigations and self-training" means.

>Laura Halliday VE7LDH "C'est une femme mutine, assez
>lhalliday@creo.bc.ca elegante, grave et legere, ayant le
>ve7ldh@amsat.org sens du confort et du plaisir
>Locator: CN89mg en tout." - C. Deneuve

2003. Component substitution

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: larry@omen.com.au
Message-ID: <32667683.5172262@news.omen.com.au>
Source record: 101663

I wish to tackle the tx interface for the Super Morse programme
and am in need of a substitute for the following which is unknown
in VK-land.

RadioShack TIL-113

I appreciate your assistance. Thanks

Larry VK6CP

2004. Re: Smart Gel Cell battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: tumino@acsu.buffalo.edu
Message-ID: <54456p$3p5@prometheus.acsu.buffalo.edu>
Source record: 101664

If the batteries are 12v then you can just "float" them accross your 13.8
volt supply.....slow but sure and cheap.

Daniel Lavoie (LavoieD@istar.ca) wrote:

: I have a lot of gell cell battery packs that were taken off UPS'. Do you
: know where I can find a good article on gell battery charging. I would
: even consider buying the charger from a commercial retailler if you know a
: good make.

: My requirements are to be able to rechage a battery pack with a combined
: power rating of 200 watts/hour.

: Thanks

: Daniel
: VE3DCL

2005. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: g.banks@taranaki.ac.nz
Message-ID: <5443td$59d@news.taranaki.ac.nz>
Source record: 101665

In article <53p6ga$mhi@news.indy.net>,
johnoz@indy.net (Occolowitz John) wrote:
>tsw@3do.com (Tom Watson) wrote:
>
>>We all know that the data rate on "standard" ethernet is 10Mhz, and with
>>modulation of the data, the highest frequency used is 20Mhz. Given the
>>fact that I have a spool of a few feet of nice 10-BASE-5 ethernet coax
>>(yellow double shielded stuff) a few questions:
>
>>1) How good is it for VHF services (2 Meters??)
>>2) Loss figures??
>>3) Has anyone used it for this??
>

Looking at the Belden catalogue - - their type 9880 yellow jacketed 10 base 5 coax has the following spec:
Imp 50 ohms, Vel Factor 78%, loss per 100 feet - 0.52 dB @ 10Mhz, 1.2 dB @ 50 Mhz. Sorry thats the highest frequency they list - but this is close enough to RG8 type figures to assume that performance will be similar. I wonder how well the yellow PVC jacket survives in the sunlight?

-Greg ZL2BZH

2006. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: skoper@netcom.com
Message-ID: <F2ZZyUjRQ0FB092yn@netcom.com>
Source record: 101666
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5409dq$q0d@asylum.apocalypse.org>,
x@apocalypse.org (Xochi Zen) wrote:
>
>Is this the one where cantankerous old men sell stuff that their
>wives have been begging them to get rid of? One thing that I've found
>is that *some* of the dealers there sell stuff that doesn't work and
>refuse to take anything back. A better bet for old electronics gear
>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>They'll refund your money if you buy something from them and find that it
>doesn't work when you get it home.

Oh yes, this is the one! I once bought a cd player for $50 that
didn't work. My life is OVER!!!! But then I got a sound card
with a Jazz 16 chip for $4 that works!!!! From the same guys
that were selling the maxxum external 28.8 modems for $10 (3 for
$25).

I love this flea market, but I hate the increase in admission
fees. I have two kids who always want to go (my daughter drools
over those soapstone animals and the lapel pins), and sometimes
I wonder if it wouldn't be worthwhile to just buy a seller's
ticket and troop the whole group in. God knows, *I've* got a
few old 286 boards and other odd junk that I could sell...

Oh, hey, and I bought a 3-button logitech jeep mouse (Natick Army
do-dah surplus) for $2.50 one time, that is still working!!!

Oscilloscopes for $25? What do you want one for? At those
prices, who cares? Old Commodore 64's? I liked showing my
daughter all those old CP/M Morrow and Zenith computes one guy
was selling, not to mention the Osbornes! A history of personal
computing, before your very eyes!

And my son bought a beautiful piano amp for $20 one month, that
works like a champ (he uses it to power his bass guitar).

>
>I'd like to see the dealers at the MIT flea market be held to this sort of
>policy. If people don't have ethical standards, I say *impose* some on
>them.
>
Xochi, don't buy anything. It's that simple. Sure, we'd like
everybody there to be on the up-and-up, and to stand behind
what they sell, and not everyone does. If you buy it as-is,
where is, you take a chance. Hey, last month I actually saw a

dealer give back the money a guy spent the month before on some item (I forget what) that didn't work.

--
Stan Koper
skoper@netcom.com
"The Bill of Rights--Ten 'Impediments to Law Enforcement'?"
This message brought to you by uqwk and Yarn 0.91

2007. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <544asb$7f0@library.airnews.net>
Source record: 101667

w8jitom@aol.com (W8JI Tom) wrote:

>>The Continental Electronics 314R-1 1 KW AM transmitter
>Was that a PWM modulated rig? Or a conventional AM. And how much HV and
>bias did they use?

Same thing--insofar as the modulation of the anode is concerned. PWM rigs are high-level plate modulated. The modulated stage doesn't know the difference.

>The only PA that "modulates quite nicely" on AM is one that has the grid
>biased well into cutoff

That was my point about the grid-leak/grid-swamping resistor. You only need (for 5 KW PEP Output with a pair of 3-500Z's) about .8A of total grid current and a grid leak of ~250 Ohms: -200 VDC.

>As to using 3-500Z's at higher peak voltages, you'd better buy tubes with
>special testing. Last I heard, they were only hi-potting them to 8 kV.

That's about the supply voltage of the 314R-1: 8.5 KV. I've seen them glow when they got gassy but flashovers were not a significant problem unless the tube was defective. The normal anode voltage for carrier was about 3 KV; at 125% modulation, the theoretical value required is 6750; in practice a bit of peak stretch to about 6.9 KV was used to give near-perfect linearity.

>With the number of 3-500Z's I see flash over at 3600 volts dc anode
>voltage I'd sure not I'd even want to plate modulate (in a conventional
>system) them at that voltage.

I must tell you that I was surprized when Forrest Cummings chose a 3-500Z as the switch tube. But after almost twenty years of experience I can assure you, without reservation, that they will operate quite well up to 9 KV. (Those flashovers you've been seeing. Maybe they were triggered by cosmic rays. You probably just need a good cosmic-ray parasitic suppressor made with nichrome wire to stop those pesky flash overs.)

Long winded additional information:

1. Forrest used the 3CX3000A7 to switch 14 KV for the 5 KW PWM, the 315R-1. Bryan Cox, at Gates, used a 4CX3000A to switch 14.5 KV in his PDM 5 KW, the MW-5. PDM and PWM were different patents that were methods to minimize the capacitance at the switch tube output. In the classic circuit, supply voltage was applied to the switch tube anode so the switch tube cathode had to be floated; lots of capacitance

associated with that method. PDM put the full supply voltage on the PA anode and then modulated the positive PA cathode voltage. PWM put the PA anode at ground and modulated the negative cathode voltage. In both PWM and PDM the unwanted shunt capacitance at the modulator tube anode was lower by an order of magnitude than the unwanted capacitance at the modulator cathode of the classic circuit. Most of the unwanted capacitance to the modulator cathode in the classic circuit came from the transformers used to power the modulator tube filament, screen and grid.

2. All PDM/PWM transmitters are superior to older plate modulated transmitters that used audio amps, transformers, and reactors to superimpose the modulating voltage on the anode supply--except for one specific thing: operating into a high Q antenna system on MW, the PA anode often "sees" high impedances at one or the other of the sideband frequencies when the modulating frequency is high. High impedance at the sideband frequencies does not allow the PA to develop adequate sideband voltages to modulate the transmitter completely into the negative trough; the switching filter was no longer terminated properly. The old Class B [actually AB2] modulators had a lot of feedback around them and would drive the PA anode voltage down much closer to cutoff even when the sideband impedance was't right. [Of course the old modulators also were inefficient, used big heavy lossy distortion-introducing pieces of iron.] I wrote a tutorial paper on this for Broadcast Management/Engineering Magazine that was published back in October of '75. That paper largely plagarized the work of Bill McCarren of WCBS who had plagarized the work of Doherty. The band-aid we all came up with was to use a network between the antenna and transmitter with a phase shift that would make the anode impedances at the upper and lower sideband frequencies have roughly symmetrical impedances, hopefully with the real component lower than the anode impedance at carrier. (That's why you'll find an L-network section in the output network of every CEC Doherty amp we made up to 250 KW; we could rotate the sieband impedances around the Smith chart anyway we needed to in order to get the transmitter to work into bad loads to work.)

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2008. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: twhite@digitrix.com
Message-ID: <543tas$mji@newshost.cyberramp.net>
Source record: 101668

>>>I don't have my catalogs hadny, but I have heard of hams using this
>>>stuff with some success. I don't recall any numbers on loss but I think
>>>the stuff was around 50 Ohms.
>>
>>It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
>>transmit on it -- at least with over 25w power. I'd use RG/8-U instead.
>
>Why not transmit on it? If it hasn't had vampire taps punched into
>it, it's as good as RG-8 for transmitting, and better shielded too.
>I'm real leery of any of it which *has* had vampire taps punched into
>it, though. If they aren't potential arc paths, they have at least
>destroyed any weatherproofing the cable may have had.

You're kidding -- /58 better than /8? Well, I guess I'll have to try it,
then. If I melt my finals, I'm coming after you... :-)

2009. www.hamradio-online.com: Is Ham Radio Still Relevant?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <5449pf$bm0@kanga.accessone.com>
Source record: 101669
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

With the just announced loss of another 5 MHz of Amateur allocated UHF spectrum in the U.S., its time to ask the hard question: Is Ham Radio Still Relevant?

We've posed that question and provided some answers - but not nearly enough. Times have changed. Ham Radio of the 21st century will not be like ham radio of the 20th century. Now is the time to engage in discussion on how to confront the challenges head on.

"Is Ham Radio Still Relevant?" is the subject of our newest editorial opinion at Ham Radio Online. At http://www.hamradio-online.com

Stop on by. Lots more cool stuff than *anywhere* else on the web. Now read in 47 countries around the world.

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

2010. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <544c83$oe1@izzy4.izzy.net>
Source record: 101670
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <542m6n$eq8@asylum.apocalypse.org>, x@apocalypse.org says...

Tim, ka8ddz wrote:

>>a.) ethical standards at a flea? That would certainly take the fun out of
>>it!!
>
> How would you like it if one of the dealers bashed your scull in
> with an oscilloscope. ;)
>

Ok, now I'm completely confused. WTF has ethical standards at a flea market
have to do with a vendor bashing in my skull, what does this mean?

>>b.) How do you intend to *impose* your ethical standards on anybody?
>
> All I know is that I'm not SCSI.

What is SCSI? I've never hear of it.

>>c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
>>your spending more than a hundred dollars or so test it out before you
buy.
>
> If they let you test... a lot of these scumbags won't.
>
> - Xochi

Then don't buy from the *scumbags* dummy, let someone else buy it. If you
know enough that you could fix whatever your buying great, otherwise let it
go.

Tim, ka8ddz

2011. Looking for Motorola CA 2818 C

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: kevinm@eden.com
Message-ID: <544dc9$ag4@boris.eden.com>
Source record: 101671

Anyone know where to buy these in small quantities? RF parts doesn't carry this series. They may also be available from TRW. Any help would be appreciated. Thanks.

$$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
Kevin McWilliams
KW5Q
Applied Mathematician

2012. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: jcooley@world.std.com
Message-ID: <DzEKo4.1Dz@world.std.com>
Source record: 101672
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

Dale Smoak <dales@shore.net> wrote:
>x@apocalypse.org (Xochi Zen) writes:
>
>> In article <542k11$43u@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>> >In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...
>
>> >c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
>> >your spending more than a hundred dollars or so test it out before you buy.
>>
>> If they let you test... a lot of these scumbags won't.
>
>Then don't buy it. Jeez...

Dale, Xochi's just being grumpy. Don't take it personally, we all do it
at one time or another....

- John

"Being a divorced father shouldn't mean you can't know your own children."

The Fathers Group meets in Framingham, Massachusetts on the 2nd Tuesday
of every month. Our address, etc.: The Fathers Group, 908 Concord St.,
Framingham, MA 01701 phone (508) 879-4585. Feel free to join us!

2013. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <544do9$oe1@izzy4.izzy.net>
Source record: 101673
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

>>Xochi Zen wrote:

> Again, we're not talking about 50 cent plates or $1 answering machines.
> For my own part, I've simply decided not to give any of these vendors
> my business. I think your neo-cortex needs calibrating if you think anyone
> is calling for the government to intervene.

I think the poster was refering to your call to *impose* morals on the flea
market vendors, how exactly did you plan on *imposing* such values?

Tim, ka8ddz |

2014. Re: Power Supply as Battery Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <544fn1$b2k@cocoa.brown.edu>
Source record: 101674

In article <3262C584.7627@ix.netcom.com>, mvi@ix.netcom.com said:

>I tried to use my 13.8v / 3 amp regulated power supply to charge a 12v /
>7 amp/hr nicad.

....

>How does a battery charger differ from a power supply?
>
>Is there a way to modify the supply to be able to use it as a charger?

If you can "split" the battery and charge it as two
6 Volt batteries you have enough voltage (13.8) to make
two constant current devices (say a pair of LM317s each
with a 2 ohms/5 Watts current setting resistor) and charge
at about C/10 for 16 hours (or until the voltage peaks)
depending on the method you use for charge termination.

You can even put diodes between the current regulatoes
and the batteries :-).

John

2015. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <544cui$oe1@izzy4.izzy.net>
Source record: 101675
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <5441ke$6f4@northshore.shore.net>, mc@shore.net says...

>What a bunch of crap - we're all adults and able to make decisions. If
>you want things with guarantees - go to Sears and pay $$$$$. I've found a
>lot of real neat things at flea markets and for cheap!

Yea, no kidding. I picked up a Kenwood UHF rig (circa 1992) for $35!! Did I
really expect it to work???

Actually all I had to do was ditch the surface mount micro (the one that did
all the DDS stuff) an replace it with a home brew PLL synthsizer, works
great!

I'm sure they guy that sold it to me didn't have a clue, so what should he
have said "Gee this is dead as a door nail and there's not a chance in hell
you'll ever get it working"????

Tim, ka8ddz

2016. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: gradyr@mindspring.com
Message-ID: <gradyr-ya023080001710960117000001@news.mindspring.com>
Source record: 101676

Well I'm glad to see at least one person thinks it's not a lost art...now could one of you find gentleman (or ladies) point me in some good directions to build a base 2m radio? Just a tech now but wanting to learn about building one myself,etc. I keep looking for sources but really don't have much to go on.

TIA,
Grady
KF4LDO

2017. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <3265DC79.5F0A@millcomm.com>
Source record: 101677
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

John Cooley wrote:

> Dale, Xochi's just being grumpy.
> - John

Actually, he's being kinda vicious, don't you think?

"knee-jerk boy"
"scumbags"
"old men"
etc.
etc.

2018. Need schematic Hamtronics XV2, XV4, CA144-28, CC432-5

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <32667666.18BD@mwt.net>
Source record: 101678

Hi...I need schematics for the following Hamtronics kits:
XV2-x (any XV2 model) VHF Transverter
XV4-5 UHF Transverter
CA144-28 VHF Receive Converter
CC432-5 UHF Receive Converter
Thanks...Scott, N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

2019. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <54572f$4s5@asylum.apocalypse.org>
Source record: 101679
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <80hgnublt6.fsf@shell2.shore.net>,
Dale Smoak <dales@shore.net> wrote:
>x@apocalypse.org (Xochi Zen) writes:
>
>> In article <542k11$43u@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>> >In article <5409dq$q0d@asylum.apocalypse.org>, x@apocalypse.org says...
>
>> >c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
>> >your spending more than a hundred dollars or so test it out before you buy.
>>
>> If they let you test... a lot of these scumbags won't.
>
>Then don't buy it. Jeez...

As previously stated, I don't. Proof-read *this*.

- X

--
	User bumbling.	
Xochi Zen	Server crashing.	
x@apocalypse.org	Glub, glub, glub.	
<-->

2020. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <5457ml$51b@asylum.apocalypse.org>
Source record: 101680
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <544c83$oe1@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>In article <542m6n$eq8@asylum.apocalypse.org>, x@apocalypse.org says...
>
>Tim, ka8ddz wrote:
>
>>>a.) ethical standards at a flea? That would certainly take the fun out of
>>>it!!
>>
>> How would you like it if one of the dealers bashed your scull in
>> with an oscilloscope. ;)
>>
>
>Ok, now I'm completely confused. WTF has ethical standards at a flea market
>have to do with a vendor bashing in my skull, what does this mean?

Ok, for the humor-impaired, that was something which, in western culture,
is known as a joke.

>>>b.) How do you intend to *impose* your ethical standards on anybody?
>>
>> All I know is that I'm not SCSI.
>
>What is SCSI? I've never hear of it.

Something (but not much of) an in-joke. SCSI is an interface for
disk drives and other computer devices. It's pronounced "scuzzy."

>Then don't buy from the *scumbags* dummy, let someone else buy it. If you

Looks like a case of the teapot calling the kettle black. And no, I
won't explain what that phrase means. Look it up. It's worth looking up.

Kind Regards,

Xochi

--
	User bumbling.	
Xochi Zen	Server crashing.	
x@apocalypse.org	Glub, glub, glub.	
<-->

2021. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <54584j$564@asylum.apocalypse.org>
Source record: 101681
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <544do9$oe1@izzy4.izzy.net>, Tim Hynde <mlc@izzy.net> wrote:
>>>Xochi Zen wrote:
>
>> Again, we're not talking about 50 cent plates or $1 answering machines.
>> For my own part, I've simply decided not to give any of these vendors
>> my business. I think your neo-cortex needs calibrating if you think anyone
>> is calling for the government to intervene.
>
>I think the poster was refering to your call to *impose* morals on the flea
>market vendors, how exactly did you plan on *imposing* such values?
>
>Tim, ka8ddz |

I didn't plan to do anything; but I'm sure that if you thought about it
just a *little* bit harder, you could imagine how such a policy could
be implemented.

- Xochi

--
	User bumbling.	
Xochi Zen	Server crashing.	
x@apocalypse.org	Glub, glub, glub.	
<--->

2022. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: x@apocalypse.org
Message-ID: <54589l$587@asylum.apocalypse.org>
Source record: 101682
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <3265DC79.5F0A@millcomm.com>,
Richard Hager <rhager@millcomm.com> wrote:
>John Cooley wrote:
>
>> Dale, Xochi's just being grumpy.
>> - John
>
>
>Actually, he's being kinda vicious, don't you think?
>
>"knee-jerk boy"
>"scumbags"
>"old men"

I call it object-orientated reality-based entertainment. (OORBE)

- x

--
	User bumbling.	
Xochi Zen	Server crashing.	
x@apocalypse.org	Glub, glub, glub.	
<--->

2023. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <545a3s$asb@newsbf02.news.aol.com>
Source record: 101683

Hi Fred,

In article <544asb$7f0@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>Same thing--insofar as the modulation of the anode is concerned. PWM
>rigs are high-level plate modulated. The modulated stage doesn't know
>the difference.

Unless I'm confused about the PWM system Harris is using, that's not correct. The PA is off and on in conventional PWM, while in conventional plate modulated AM there is a linear variation in voltage at the anode. There is a huge difference between them.
What is the waveshape at the PA anode? Is it switched at high frequencies, or a filtered time varying linear amplitude change with no off and on periods?

>>The only PA that "modulates quite nicely" on AM is one that has the grid
>>biased well into cutoff
>
>That was my point about the grid-leak/grid-swamping resistor. You
>only need (for 5 KW PEP Output with a pair of 3-500Z's) about .8A of
>total grid current and a grid leak of ~250 Ohms: -200 VDC.

Now I'm really surpised at Harris. .8 ampere of grid current, .4 ampere per tube for CCS operation at a very high grid voltage. A conventional grounded grid 3-500Z dissipates about 25 watts on the grid at 300 mA of current. While grid dissipation is a complex function not found from dc parameters, that seems like it's on the high side of safe.

Are you sure the PA isn't being pulsed on and off?

>>As to using 3-500Z's at higher peak voltages, you'd better buy tubes
with
>>special testing. Last I heard, they were only hi-potting them to 8 kV.
>
>That's about the supply voltage of the 314R-1: 8.5 KV. I've seen them
>glow when they got gassy but flashovers were not a significant problem
>unless the tube was defective. The normal anode voltage for carrier
>was about 3 KV; at 125% modulation, the theoretical value required is
>6750; in practice a bit of peak stretch to about 6.9 KV was used to
>give near-perfect linearity.

Fluorescence can be due to glass impuritys, or gas. The color sometimes gives it away. Bottom line is that we have occasions where 3-500Z's fail (flash over) at 7 or 8 kV peak. It is worse with tubes used in

intermittent service, since the 3-500Z getters itself by anode temperature. If the anode isn't showing a little color, the getter isn't activated.

The worse time for a 3-500Z is at turn on. Especially if the tube has been run hot and then shut off for long periods. That's why so many SB-220's pop when turned on. THe cooling system was designed for 400 watts of tube dissipation total, so the seals run overtemperature when a stupid ham runs the amp in the SSB mode and cranks out 1000 watts of CW.

The PA is shut off and the seals leak a bit. The next time he turns it on he applies drive at high voltage (SSB position) and then "bang"....the tube flashes over.

That's the single largest failure in 3-500Z tubes. The rate of that failure is four time the next most common failure, anode weld failures.

>>With the number of 3-500Z's I see flash over at 3600 volts dc anode
>>voltage I'd sure not I'd even want to plate modulate (in a conventional
>>system) them at that voltage.
>
>I must tell you that I was surprized when Forrest Cummings chose a
>3-500Z as the switch tube. But after almost twenty years of
>experience I can assure you, without reservation, that they will
>operate quite well up to 9 KV. (Those flashovers you've been seeing.
>Maybe they were triggered by cosmic rays. You probably just need a
>good cosmic-ray parasitic suppressor made with nichrome wire to stop
>those pesky flash overs.)

Yeah right, cosmic rays. And pigs can fly. If you put bat wings and eye of newt on the case it'll stop those pesky cosmic rays as well as all that nichrome.

I suppose this is a series PWM tube, and the voltage divides between the PWM tube and the PA. That reduces the 8 Kv considerably. It's the anode to cathode (actually grid) voltage that counts, not the supply to ground. I was talking about conventional AM.

>Long winded additional information:

deleted>

Anyway, few Hams will run PWM for many very good reasons. If the stage is a conventional AM plate modulated stage, the best tubes for linear AM modulation are tubes with very non-linear transfer characteristics. It has to be a very class C amplifier with no feedthrough (unless the driver is also modulated) that follows the square law voltage vs power output rules. PWM is totally different, even transistors work well with PWM.

73 Tom

2024. HENRY 2002/2004 PA problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: "Christer Jogenborn"@era.ericsson.se
Message-ID: <545a1f$qfd@newstoo.ericsson.se>
Source record: 101684

Just put the two Henry 144 and 432 linears on the air
for some initial on-the-air tests.
They are both new.
When comparing these two new linears with the old
pair which are exactly the same type of henry linears
the screen cuurent on the new ones are HIGH!
Both linear have high currents according to the build-in
amp.meter.

ANy hints!

Chris SM0NCL

2025. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-17 00:00:00 UTC
From: arsenaul@lss1105
Message-ID: <545bl3$qti@emcnews.emc.com>
Source record: 101685

Thomas G. McWilliams (tgm@netcom.com) wrote:
: Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: : And the rise of SMD components has eliminated the need for lots of
: : precisely drilled holes too. SMD is a godsend for the homebrewer. It
: : is much easier than working with leaded parts.

: Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
: I think SMD is a horror for anyone who wants to service a circuit
: board. You might be able to replace a resistor, but servicing
: any active device beyond a simple transistor is damn near impossible.

I'll tell you how you replace a 120-pin QFP part. Take a nice, sharp
X-Acto Knife and at the case of the device where the leads come in,
carefully cut the pins so the part comes out but the pins stay
soldered to the board. I can't emphasize C-A-R-E-F-U-L-L-Y enough
because if you go to fast, you can rip the etch off the board. Now,
take your soldering iron and some solder wick and run along the board
perpendicular to the pads and the pins will come off smoothly. Clean
up the board and solder on the new device.

BTW, this takes a nice, steady hand to do, but with just a little
practice it's not too bad. Here at work, we change out 240-pin QFP
parts and I've been asked on a number of occasions to do it. Loads
of fun!

Brian

****
* *
* Brian Arsenault - N1FIY *
* email: arsenaul@emc.com *
* *
* EMC Corporation - The Storage Architects *
* *
****

2026. RE: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199610172338.UAA04124@netra01.origin.com.br>
Source record: 101610

In article <5409e9$dhs@news3.microserve.net>, tyler@cyberia.com says...

>Did anybody ever convert a CB to 10 meters? Is it easily done?

Well sir, I use a rig called Cobra 3900 that gave me USB/LSB/AM/NBFM and CW, that uses
a Motorola IC in the PLL ckt (MC145106 I gess). So, was more or less easy to set it's
range to 28...29.7MHz. Some re-tune at the receiver front-end, transmition driver/PA and
noise blanker circuits was needed. Today this is my 28MHz IF to an Yaesu FTV107 trans
verter on 6 and 2 meter and with a DEM 28 to 144MHz IF adaptor, 2 extra ports on 2 me -
ter to drive/receive on 1296, 2304 and 10GHz. But sorry, the scehmactics/procedures
are on my head(a weekend job). Other rig I play was a Midland (I missed the model) but
this one I modified to 6 meter, from 50.0 to 51.0 MHz. It's not so hard.
Best regards.

Marcus Ramos, PY3CRX
(mramos@originet.com.br)
(PY3CRX@PY2DML.SP.BR.SA)
Homebrewing from 170KHz to 10.5GHz, GOES, METEOSAT, APT, SSTV, ATV.......

2027. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <546me6$2h6@library.airnews.net>
Source record: 101611

w8jitom@aol.com (W8JI Tom) wrote:

>Unless I'm confused about the PWM system

You're confusing two different systems. The Harris SX systems all use PDM switching regulators to vary the voltage on the drains--conventional AM. The DX series uses switched PA stages with power output levels of 1, 2 4, 8, 8,8,8,8,8,.....8. The RF input to each RF stage is a 50% duty cycle square wave and is not pulse width modulated; the number of RF stages varies to accomplish modulation. If the power level of the least significant bit is small enough, the resultant modulated waveform is quite clean.

The 314R-1 and 315R-1 that we made used PWM. We did build a real RF PWM transmitter, the 314F. It was a failure. The shorter RF pulses at carrier level meant that the overall efficiency couldn't compete with the RF switching or PDM/PWM transmitters where you're switching at the zero-current point. We couldn't afford to manufacture a transmitter that was only viable at 1 KW and have taken another approach.

>What is the waveshape at the PA anode? Is it switched at high frequencies,
>or a filtered time varying linear amplitude change with no off and on
>periods?

The 1 KW used a conventional PA output network so the PA conversion efficiency was about 82%. The 5 KW used a Tyler Circuit in the anode to increase the PA conversion efficiency to about 90%. The grid driving pulse on both transmitters was 120 degrees, i.e., zero third harmonic. The third harmonic trap in the anode let the anode turn on and off very rapidly resulting in reduced dissipation. (Most folks think only about the third harmonic when they see a Tyler circuit but it's second harmonic control that makes the output stage efficient--Tyler's paper is not an easy read but he's quite clear on what his objective is. In fact, in our high-power designs we juggle things until the net reactance of the third-harmonic trap and the output-network input capacitor are series resonant at the second harmonic.)

>Now I'm really surpised at Harris. .8 ampere of grid current, .4 ampere
>per tube for CCS operation at a very high grid voltage... seems like it's on the high side of safe.

Harris didn't do it; it was done at Collins. (Continental Electronics bought the broadcast products section of Collins in 1980.)

>Are you sure the PA isn't being pulsed on and off?

Yep.

>Fluorescence can be due to glass impuritys, or gas...If the anode isn't showing a little color, the getter isn't
>activated.

The florescence I understand. But I don't know why you say that about the anode & getter. The getter is indirectly heated by the filament, not the anode. That's why we want people to run their filaments at full voltage for one or two hundred hours; to keep the getter hot enough to scrub up the tubes initial outgassing that does occur. A lot of the gas does boil off the anode when it gets hot. Some from the grid. But mostly from the filament. (Once first hundred or two hundred hours are over we recommend that the filament voltage be turned down to the point where peak power starts to fall--about 4.6-4.7 Volts. The getter's getting enough heat to do what it needs to do. And the emission--read, consumption of di-tungsten carbide--is where it needs to be.)

>The worse time for a 3-500Z is at turn on...The PA is shut off and
>the seals leak a bit. The next time he turns it on
>he applies drive at high voltage (SSB position) and then "bang"....the tube flashes over.

Two points. First, I agree about turn on being a tough time for tubes. We got great life from our 3-500Z's. One of the things that helped was that we were using low-capacity transformers for the filaments cuz the filaments (of both the switch tube and the PA tubes) were operated at up to -9 KV relative to ground and their anodes. The physical separation of the primary and secondary windings limited the peak current capability and limits the rate of thermal expansion during turn on. That was a point I made in a previous e-mail: the better the control of turn-on current, the better your tube life is likely to be. That's true of 20 KW filaments. And it's just as true for 50-100 Watt filaments.

Second, we didn't use blower run-down to cool the filaments after filament voltage is removed. Before I came to CE, I'd never worked with many transmitters--certainly no big ones--that didn't have a blower run-down timer. I thought--a lot of people thought--it would kill tubes if you didn't have it. It doesn't help; it does hurt. Matter of fact, one time CBC (Canadian Broadcasting Corp.) refused to purchase some FM transmitters from us unless we added a cool-down timer. We figured, what the heck, might as well just change the design and make it a general product improvement. Well, as Gomer said, "Surpize, Surprize." The flipping filament life decreased by 20-30%!!! Turns out it ain't such a good idea to cool those filament seals off too quickly. And the guy who refused to put the run-down circuit in his designs back in the 70's, Lloyd Winter, had used enough templac to float a battle ship to make his point about filament seal temperature excursions. Lloyd always used to tell customers, when they asked about run down, that many transmitters had gone off with power failure and had no cool down. And no one could ever think of a single instance when the filament failed in such a circumstance.

Always the skeptic, I dug out the original engineering notebooks and, sure enough, you can not make a case for having a cool-down timer circuit. Plus, we have a gob of documentation to show how much it hurts.

>Yeah right, cosmic rays. And pigs can fly. If you put bat wings and eye of
>newt on the case it'll stop those pesky cosmic rays as well as all that
>nichrome.

Must be Barkhausen's ghost getting you. But, seriously, did you ever hear of the Crystal Gayle effect? Back when the 315R-1 was fairly new, Crystal Gayle had a record out called, "Don't It Make My Brown Eyes Blue." Well, sir, everytime old Crystal was hold "Bluuuuuuu", the 3CX3000A7's in the SwitchMod and the PA would go bang with a grid-filament short. Turned out to be a mechanical resonance in the grid (because of a missing spacer) that rattled that grid basket right into the filament. Shook that sucker bad. Maybe you got something similar going on--some little cabinet shimmy that might be at just the wrong frequency?

>I suppose this is a series PWM tube, and the voltage divides between the
>PWM tube and the PA. That reduces the 8 Kv considerably. It's the anode to
>cathode (actually grid) voltage that counts, not the supply to ground. I
>was talking about conventional AM.

So was I. There's 8.5 KV between the switch tube anode and grid. And there's at least 7 KV anode-to-grid on the PA tubes at the 125% modulation crest.

>Anyway, few Hams will run PWM for many very good reasons.

As far as I'm concerned, anyone who puts conventional AM on the ham bands is a lid, an infidel, and a CPI (Certified Practicing Idiot). But that doesn't mean that PWM doesn't have a future in ham radio. All the big transmitters we make are capable of SSB and ISB at no carrier to full carrier. We split the amplitude and Phase components of the SSB or ISB signal. The PWM modulator controls the PA's anode (or drain) voltage while the RF drive (the phase component which has been clipped by 60-100 db) is applied to the grid (or gate). The result is a very high-efficiency linear amplifier. This same approach could be applied to improve the efficiency of solid-state linear amplifiers; we can keep the output devices saturated so their efficiency is high. And the IGBT switching modulator's efficiency typically runs about 97%. The thing that held this up was the requirement that the modulator be DC coupled (properly, coupled to DC) from the amplitude detector and the requirement that the PA introduce no Incidental Phase Modulation as its DC voltage swings around. With feed-forward phase correction we can deal with the effects of the gate-capacity swing of the FET. The full-power, high-efficiency solid-state 1500 W ham amplifier may not be that far off. We can even directly rectify the power line and pitch the damn "plate" transformer. Float the PA off DC & AC ground the way God intended.

I just gotta say one more thing about conventional AM. I never, in my wildest dreams, thought that conventional AM would be in existence at this point in history. I thought it was on its way out thirty-five years ago. It is absolutely mind boggling that such an inefficient transmission mode could--and has--survived so long, so well. Wanna take a whack at explaining that.

These epistles are getting too long but I enjoy them.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2028. help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: dstiles@juno.COM
Message-ID: <19961017.195552.4815.0.dstiles@juno.com>
Source record: 101612

Hello again to all:

Have received a donation to school ham club and as usual, it is sick.

The radio is an Azden PCS-4000. The PLL will not lock up.

I understand this is a common problem with this radio as it ages and the cure is to replace the VCO.

Has anyone done this? Or has anyone attempted to tweak it back and if so how?

We have manual but schematic is in bad shape.

Homebrewers---anybody ever "de-epoxied" a potted sub-assembly with any success?

any info welcomed

tnx and 73 Dan, KB1BG

2029. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <546ohn$lc6@villa.fc.net>
Source record: 101613
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In Article <1996Oct10.153207.4916@ke4zv.atl.ga.us>, through puissant locution, gary@ke4zv.atl.ga.us (Gary Coffman) soliloquized:
>Many of today's radios have gone to surface mount parts, and that
>makes repair a lot easier. You only need to be able to get to one
>side of a circuit board, so you often don't have to disassemble
>the radio very far in order to replace the bad part. SMD has made
>the repairman's job much easier.

Greetings. The topic has been lost here... "repairman" not the same as "equipment building and repair"... All you needed back then was a roll of solder, some flux, and a 60Watter... compare this to the $500+ Pace SMD rework station... Yes, a repairman IS equipped to repair and maybe even "homebrew" with SMD... but the average Joe "Ham" Sixpack is certainly not.

I can easily repair a DIP-based device... a $15 desoldering iron from RatShack and some experience gives me perfect unsolders 99% of the time... but I can not afford an SMD station.

Not that I don't improvise... I snip the legs off the SMD device with a Dremel and glue down the new device on top of the old and solder in 30ga wires from the old pads to the new.. or use a DIP... or just toss it.

[sorry, pet peeve]

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2030. Re: Smart Gel Cell battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: cstimson@hookup.net
Message-ID: <546vp0$205@loki.tor.hookup.net>
Source record: 101614

tumino@acsu.buffalo.edu (Thomas N Tumino) wrote:

>If the batteries are 12v then you can just "float" them accross your 13.8
>volt supply.....slow but sure and cheap.
>Daniel Lavoie (LavoieD@istar.ca) wrote:
>: I have a- lot of gell cell battery packs that were taken off UPS'. Do you
>: know where I can find a good article on gell battery charging. I would
>: even consider buying the charger from a commercial retailler if you know a
>: good make.

Daniel

If your looking for commercial chargers try the following:

The Battery Company
Ph 1 800-695-9482

Ratelle Communications
Ph (905) 844-4505

They both sell Power Sonic SLA batteries. Ratelle has this nice smart
charger for 6 & 12 V batteries that is good for the full range of AH
ratings available. The Battery Company may be able to send you some
literature that pertains to charging methods of "Powersonic
Batteries" which you may find useful for other makes too.

Hope this helps.

Craig
++
+ Craig Stimson +
+ E-mail: cstimson@hookup.net +
+ AX.25 : VA3DCS@VE3ZRD.#SCON.ON.CA.NA +
++

2031. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <5474cs$4se@newsbf02.news.aol.com>
Source record: 101615

Hi Fred,

Phew, I ain't gonna get to bed on time tonight.

In article <546me6$2h6@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>>What is the waveshape at the PA anode? Is it switched at high frequencies,
>>or a filtered time varying linear amplitude change with no off and on
>>periods?
>
>The 1 KW used a conventional PA output network so the PA conversion
>efficiency was about 82%. The 5 KW used a Tyler Circuit in the anode
>to increase the PA conversion efficiency to about 90%. The grid
>driving pulse on both transmitters was 120 degrees, i.e., zero third
>harmonic. The third harmonic trap in the anode let the anode turn on
>and off very rapidly resulting in reduced dissipation. (Most folks
>think only about the third harmonic when they see a Tyler circuit but
>it's second harmonic control that makes the output stage
>efficient--Tyler's paper is not an easy read but he's quite clear on
>what his objective is. In fact, in our high-power designs we juggle
>things until the net reactance of the third-harmonic trap and the
>output-network input capacitor are series resonant at the second
>harmonic.)

OK I'm sorta familiar with that. I've used such circuits, and even have one in my DX-100. The audio distortion went from 14% at 100 modulation to about 4% after modifying the grid and anode circuit. I used 3 rd and 5 th harmonic resonators in the 6146 leads, and bumped the bias up to 175 volts.

The overall efficiency was about 80%, and that rig has a crappy tank circuit.

>>Fluorescence can be due to glass impuritys, or gas...If the anode isn't
>showing a little color, the getter isn't
>>activated.
>
>The florescence I understand. But I don't know why you say that about
>the anode & getter. The getter is indirectly heated by the filament,
>not the anode.

No, not in the metal anode 3-500Z. It's coated on the anode, and is only fully activated with some anode color.

As a matter of fact, one commercial PA with a 3-500Z driver was suffering chronic gasiing failures, the driver had to be replaced with a lower dissipation tube that showed a slight anode color, and the problem went away.

You can call Eimac and verify this. Most of the old 3-500Z engineers are gone, but Chazen or someone should be aware of it.

>Two points. First, I agree about turn on being a tough time for

>timer. We figured, what the heck, might as well just change the
>design and make it a general product improvement. Well, as Gomer
>said, "Surpize, Surprize." The flipping filament life decreased by
>20-30%!!! Turns out it ain't such a good idea to cool those filament
>seals off too quickly. And the guy who refused to put the run-down
>circuit in his designs back in the 70's, Lloyd Winter, had used enough
>templac to float a battle ship to make his point about filament seal
>temperature excursions. Lloyd always used to tell customers, when
>they asked about run down, that many transmitters had gone off with
>power failure and had no cool down. And no one could ever think of a
>single instance when the filament failed in such a circumstance.

I agree completely. I've used enough templac to paint a car, and found the same thing. When I looked at the 220 for Heath, because of the inrush articles that popped up, I found the largest source of failure was seal damage from overheating. The constant RAPID thermal cycling of the poorly cooled pins was a problem in amplifiers run hard, and the anodes NEVER getting hot enough was the problem in amps run too easy!

I'm off track, but the point is too rapid of cooling or heating , either way, is bad. Too high temperature is a problem, as well as too cold.

>I just gotta say one more thing about conventional AM. I never, in my
>wildest dreams, thought that conventional AM would be in existence at
>this point in history. I thought it was on its way out thirty-five
>years ago. It is absolutely mind boggling that such an inefficient
>transmission mode could--and has--survived so long, so well. Wanna
>take a whack at explaining that.

Well, I dunno. I have a few AM rigs, but I've never made a single contact except on CW with them. I have them because I buy things I don't need, and like to play with stuff that was around when I was young hood...I mean novice. Some people just like old stuff, the AM rigs go well with my old Mustangs and Ramblers that I don't drive, since I do start em and listen to them idle.

73 Tom

2032. Re: Circuit design and etching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: bartelar@telkom04.telkom.co.za
Message-ID: <547ar9$20k@news1.saix.net>
Source record: 101616

eddie jones <eddie@exis.net> wrote:

>Looking for information on computer programs for circuit design and any
>books or other literature on "How to etch circuit boards".

There are some useful pointers in the FAQ at:
http://www.qucis.queensu.ca/home/pham/homebuilt/achh.faq.html

Cheers
Adrian

"It does not do to leave a live dragon
out of your calculations." -- Tolkien

2033. PinLayout TBA570A ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: Ruud de Boo <R.deBoo@amc.uva.nl>
Message-ID: <3267A8FB.1590@amc.uva.nl>
Source record: 101617

Hi,

Can anyone describe the pin layout of this chip ???
Answers by mail:
mailto://R.deBoo@AMC.UVA.NL,
Or to Richard
mailto://richardj@xs4all.nl

Thanx
-- =

Ruud de Boo
Academic Medical Centre, Amsterdam
A.D.I.V. Cluster Divisies
+31 205667098
R.deBoo@amc.uva.nl
Kn=F8tslings at http://huizen.dds.nl/~r_deboo
Arcana info at http://www.xs4all.nl/~cmr/arcana.html

2034. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: geotek@accesscomm.net
Message-ID: <5480o5$imp@bluto.accesscomm.net>
Source record: 101618

Yesterday, I asked the President of our Ham Club if he thought it would be a good idea for me to do a presentation on how PCB's are fabricated. I've been an EE Design Engineer for over twenty years and have had quite a bit of experience in this area, both professional and hobby. He said he thought the subject would be to technical for our club. I guess we will just have to sit there and listen to more bellowing about 15 second DX QSO's.
It seems we've all become Amateur Radio Operators, not Radio Amateurs.

George Carlson KC5RCC
Geotek Design Services
geotek@accesscomm.net

2035. Re: HF Amp using 3-400Z ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <548a14$ki8@newsgate.sps.mot.com>
Source record: 101619

The ARRL Handbook plans for the grounded-grid 4-400 pair should
be a plug-in deal. This is in the 1981 and 1983 handbooks for sure.

I'm not sure what you should do about cathode bias -- the ARRL plans
used a big Zener diode (hard to find sometimes), but a more recent
Ham Radio Magazine article suggested using a 2N3055 with a Zener on it.
You could easily use an LM317 and a trim pot to have an adjustable
bias supply, and bias the 3-400s for maximum smoke.

I'm typing this from memory, so go easy on the flames, eh?

N6OTQ

2036. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: tomrice@netcom.com
Message-ID: <tomriceDzHBLo.E3r@netcom.com>
Source record: 101620

g.banks@taranaki.ac.nz (Greg Banks) writes:
>RG8 type figures to assume that performance will be similar. I wonder how well
>the yellow PVC jacket survives in the sunlight?

Well, check back in a year or two, as I have just
installed 100 meters of this stuff over the ground
up to my remote anyenna site. We shall see.....

73 de WB6BYH
--
"Start off every day with a smile and get it over with." --W.C.Fields
Tom R. Rice
tomrice@netcom.com
CIS: 71160,1122

2037. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <548bnq$i8c@hpcvsnz.cv.hp.com>
Source record: 101621

Carl D. Walker (cwalker@icmp.com) wrote:
: Thomas G. McWilliams wrote:
: >
: > Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: > : And the rise of SMD components has eliminated the need for lots of
: > : precisely drilled holes too. SMD is a godsend for the homebrewer. It
: > : is much easier than working with leaded parts.
: >
: > Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
: > I think SMD is a horror for anyone who wants to service a circuit
: > board. You might be able to replace a resistor, but servicing
: > any active device beyond a simple transistor is damn near impossible.

: Try a good heat gun and make an air director out of bent metal around
: the air output of the gun. That and some small tools like dental picks
: can work wonders with SMD devices. The fancy air desoldering tools
: that the production department are using at my work are not much more
: than that. Yes, they do have some temp control, but just be careful
: and things will work out OK.

My personal experience has been that it's difficult to work with pqfps or other "fine pitch" parts with what I consider "hobby" tools. But Weller WTCP-type soldering stations are readily available at low prices on the surplus market, and with that sort of soldering tool and a bench-mounted magnifier/light, you can work with SOIC packs and resistors and capacitors, certainly. I've replaced pqfps with a Weller station, but occasionally get solder bridges that my old eyes have a hard time seeing; it isn't necessarily easy to get rid of such bridges as I've found from working under a stereo microscope -- then at least they are easier to see. To remove the old, you can cut leads and remove them one-by-one, heat the whole package and remove it all at once (not recommended without practicing on a board you don't care about), or melt the solder and pry up the lead, lead-by-lead. Clean the pads with solderwick, carefully position the new IC and tack leads at opposite corners, carefully check the position, and solder. No, 12-gauge solder and a 200 watt American Beauty aren't going to do the trick...

I do agree with Gary that making an SMT board, at least for anything down to 0805 R's and C's and 0.05" lead pitch ICs, is easier than doing the same circuit with thru-hole parts (thur hole board). For the most part, I don't have any reason to use fine-pitch parts in my homebrew designs anyway, except for a very few special things (perhaps like the latest family of Analog Devices DDS chips).

--
Cheers,
Tom
tomb@lsid.hp.com

2038. Re: WTB 7L12 Plug In

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Oct18.105628.654@main03>
Source record: 101622
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.antenna

In article <53l7q7$a4s@buffnet2.buffnet.net>, daveb@buffnet.net (daveb@buffnet.net) writes:
> Hi,
>
> Anybody know of any reasonably priced 7L12 Tek plug ins for sale??
> Reply to daveb@buffnet.net
> Thanks !!

Yeah, me too!

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

2039. Re: ** FLEA at MIT ** / Electronic Superstore?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: oldbear@arctos.com
Message-ID: <oldbear.3526.00D8D426@arctos.com>
Source record: 101623
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

allen <allenh@tiac.net> writes:

>From: allen <allenh@tiac.net>
>Newsgroups: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.gene
ral,rec.radio.amateur.homebrew
>Subject: Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA
>Date: 15 Oct 1996 15:20:57 GMT
>Organization: The Internet Access Company, Inc.
>Lines: 15
>Message-ID: <540a4p$2us@news-central.tiac.net>

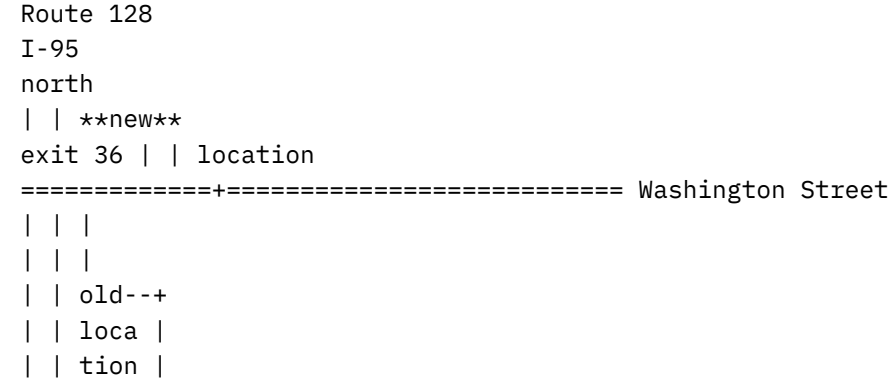
>x@apocalypse.org (Xochi Zen) wrote:

> A better bet for old electronics gear
>>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>>They'll refund your money if you buy something from them and find that it
>>doesn't work when you get it home.

>They used to be in Woburn but I couldn't find them about a month ago.
>I believe that they have moved it all to New Hampshire (darn) . Is Eli
>still in Cambridge ? Does anyone know of others in the area ? I know of
>U DO IT in Needham also .

1. Unless otherwise negotiated with the seller, items bought at
virtually all flea markets, especially old or used equipment, are
sold 'as is' -- what you see is what you get. If you have a
problem with that, you should not be buying in such venues.

2. The Electronic Superstore in Woburn has moved and changed its
name to Electronic Planet. It is much smaller and more focused on
computer-related items. It is in a strip 'flex-space' center (i.e.,
quasi-industrial-retail building) on Washington Street just past
where you used to turn to get to their old location:



| | |
| |
south

There are two other interesting electronics dealers in the same little strip complex with Electronic Planet. One sells new components and tools, similar to You-Do-It, and the other is The Used Computer Store which sells just what its name implies.

The Electronic Superstore, in its larger incarnation complete with lots of industrial surplus and a collection of used test instruments remains in its entirety at its Manchester, New Hampshire location.

Cheers,
The Old Bear

2040. New Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <548uk3$5r@news1.mnsinc.com>
Source record: 101624
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Does anyone know if the new newsgroup:
rec.radio.amateur.boatanchors
has got started yet?

E-mail me!

Bry, AF4K

bry@mnsinc.com
Tagline: Obligatory witticism or other comment at end of a message.
Why do we like to do these things? To relieve stress of course!

2041. Parts needed (Tubular!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <548uk2$5r@news1.mnsinc.com>
Source record: 101625
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

My LIST of parts needed for building a tube xmtr:

1) CHassis - preferably 9 X 12 X 4" with base cover.

2) Matching box - sure, no problem, he he!

3) Tubes:

807
1625
12BY7
6146
6L6
6AQ5A
6CL6
OD3
OC3

4) Tube sockets: for all of the above tubes.

5) Transmitting Variable capacitors, low to medium power level:
30 pF (or 47 pF) trimmer
100 pF
150 pF
200 pF
365 pF

6) 2.5 mH RF Chokes 100 mA or 250 mA preferred.

7) Capacitors:
20 pF mica
22 pF mica
100 pF mica
180 pF mica
220 pF mica
270 pF mica
470 pF mica
.001 uF at 600 V and at 2000 V or at 1000 V
.005 uF at 600 V and at 1000 V
.01uF at 200 V and 600 V or 1000 V
.05uF at 1000 V or more

8) Resistors:
5 K 10 watts
22 K 1 watt or 2 watt
10 ohm 1 watt

330K 2 watt (need QTY 4-8)
27 K 1/2 watt or 1 watt
100 K 1/2 watt or 1 watt
47 ohm 1 watt
470 ohm 1/2 watt or 1 watt
220 k ohm 1/2 watt
2 K or 2.2 K 1 watt

9) Meter - prefer medium size 0-100 mA

10) FT-243 crystals

1805 - 1850 kHz
3515 - 3550 kHz
7010 - 7050 kHz

I only need xtals in THE ABOVE frequency ranges. Thanks.

Please call (301) 990-6070 or e-mail to:
bry@mnsinc.com

Radio AF4K
Brian Carling

Tagline: Obligatory witticism or other comment at end of a message.
Why do we like to do these things? To relieve stress of course!

2042. hints for preamps for v/uhf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: mjappine@news.hit.fi
Message-ID: <54917p$vbg@freenet.hut.fi>
Source record: 101626

hi,

I am looking for helpful hints, schematics and ideas for
building vhf and uhf preamps for my rig.

Thanks for reading this!

Antero Jappinen mjappine@maanantai.hit.fi
OH2LJH OH2LJH@OH2BAR.FIN.EU

2043. New online survey asks--->Why aren't you an ARRL member?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: wb6siv@cyberg8t.com
Message-ID: <wb6siv-1810961547280001@host52.cyberg8t.com>
Source record: 101627

The ham Poll at (www.sarrio.com) shown below asks a new question for the
month of October:

Why Have You Not Chosen To Join The ARRL?

Less than 1/3 of all ham radio operators are members of the ARRL. The
question for this month is
directed to those of you who are not members.

From the list of possible reasons below, select the reason that best
describes why you have not chosen the join the ARRL.

Results as of Oct. 16,1996

The most results as ofhe dues are too high. |********** 12
Their Ham policy positions are not close to mine.|****** 6
They are too closely tied to ham commercial interests. | 0
I was not treated well by one of their representatives.|* 1
I just haven't gotten around to it. |******** 8

Total votes displayed: 27
--
The Raymond Sarrio Co. a full feature Ham Radio Storefront and web site developer. Located
at http://www.sarrio.com.

In association with Brillar Enterprises http://win-win.com/brillar provider of discount
CD-Roms!

2044. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <5494nl$4bu@library.airnews.net>
Source record: 101628

w8jitom@aol.com (W8JI Tom) wrote:

> I used 3 rd and 5 th harmonic resonators

In every analysis I've done--or seen done--the addition of the 5 th harmonic resonator is a waste. The increase in efficiency is generally one percent or less. And the increased circuit losses and circuit complexity offset (cost) eliminate any savings.

>As a matter of fact, one commercial PA with a 3-500Z driver was suffering
>chronic gasiing failures, the driver had to be replaced with a lower
>dissipation tube that showed a slight anode color, and the problem went
>away.

>You can call Chazen

I'll check in with him. It's so implausible that it might be true.

>I have a few AM rigs...because I buy things I don't need, and
>like to play with stuff that was around when I was young hood...I mean
>novice.

Well, that's cool; I understand it. But I was thinking about commercial AM and HF broadcasters when making my disparaging words about the use of AM. I mean, really! You could make a case for the diode detector in the 60's cuz it wuz real 'spensive. But it wasn't in the 70's. Look, we fight sales battles every damn day over the efficiency of transmitters. We've lost sales because one transmitter was a little more efficient that the one we were offering. But the broadcaster who is trying to buy the transmitter with the highest conversion efficiency is buying a transmitter for one of the least efficient communications methods know to mankind. How does AM survive as a medium of transmission. It just don't make no kind of sense to me. It ain't fidelity. It ain't spectrum efficiency. It ain't noise immunity. The only thing is about a dollar less cost in the receiver. Somedays I feel like we're still building buggy whips; nice buggy whips, but still buggy whips.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2045. I AM LOOKING FOR YOUR HOMEPAGE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: kj4uo@aol.com
Message-ID: <549f4g$s2p@newsbf02.news.aol.com>
Source record: 101629

Hi,

I am looking to promote my homepage and I believe the best way to
do it is to have it added as a link from your home page.

What I suggest is that I add your banner and link to my home page and
in exchange, you add your banner and link to my home page.

For instance, I have developed some DTMF software, and let's say you
have developed some amateur related projects. On my home page I would
have:

Excellent link for electronic projects, which would take my visitor
from my page to your page.

On your page, there would be a banner "Excellent DTMF Decoding Software"
this would take your visitor from your page to my page.

So if this sounds like a good deal, email me your banner and homepage
location and I will do the same to you.

I only requirement is that your home page be somewhat electronic related.

Sent the information to KJ4UO@AOL.COM

THanks!

2046. Found - round & square chassis punches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDzHEs0.IJ3@netcom.com>
Source record: 101630

After a bit of research (with help from internet friends) I located a source for round and (1 size) square chassis punches. They are made by Q-MAX in the UK, and sold by FARNELL.

Next step was to find FARNELL. Turns out FARNELL and Newark are in some kind of venture/acquisition/merger/whatever. Anyway, I called my LOCAL Newark distributor (denver) and after a bit of convincing the rep found the FARNELL catalog and identified the punches to me.

They arrived (from stock, a couple of days later).

The sizes I purchased are round 3/8, 1/2, 9/16, 5/8, 3/4, 7/8 and 1" dia., and square 1"x1". The round punches were all in the $7-8 range, and the square punch was $36. The interesting thing is that GREENLEE still sells square punches but they are in the $100 each range. It appears that Q-MAX only makes a 1" square punch (maybe they'll add other sizes later?). There are many other round sizes, but only the one square size (too bad...)

The punches seem to be well made but I haven't tried to destroy one yet so I can't say what quality metal is used.

73 Dave WB0GAZ dgf@netcom.com

2047. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: John Rabson <word.factory@zetnet.co.uk>
Message-ID: <19961018225546682l3@zetnet.co.uk>
Source record: 101631

Gary,

Many thanks for your advice on SMD work. Equipment using SMDs may be more robust in the Cave Radio context (my particular interest) - I will give it a go.

73 de G3PAI

2048. RCA PARTS: MORE ADDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <548odl$ap5@krypto.zippo.com>
Source record: 101632

I HAVE :

PETER DAHL BTA 5R/T MODULATION TRANSFORMER, 5KW ***SOLD***
elctro eng. works Modulation Reactor type e12497 21henry 1.5adc
3,000vrms
34 ohm dcr
electro eng. works reactor High Voltage DC filter choke type 11654-a
3henry 360 cps
6.7 dcr ind rms 375 pk 7,500 v
choke 10HY @ .2ADC
UTC AR-409
RCA A.C. VOLTAGE PICK-UP MI-27516
GE model 9t51y6171, pri. v. 120/240 sec. v. 12/24 kva .250
80 C rise
magnetic control # 34321-U coil v. 115, (have 2)
standard elect. adjust-o-volt type 520BU, input 230 output 0-270
max kva .81 3a
efj air variable 500 uuf 3500V .080 gap
Jennings: 500pf vaccumm variable
Jennings: 1000 pf fixed
Jennings: 75 pf vaccumm variable
3x3000T1 tube rebuilt by Econco
MICA's: sangamo type G3B .0002 @ 20,000 pkv 5.6amp @ 1,000kcs
sangamo type G3B .002 @ 15,000 pkv 20 amp @ 1,000
kcs
sangamo type G3B .00033 @ 20,000 pkv 7.5 amp @ 1,000 kcs
sangamo type G3B .003 @ 12,000 pkv 24 amp @ 1,000kcs
aerovox type 1970S .001 @ 20,000 pkv 15a @ 3,000kcs
13a @ 1,000kcs
7.5a @ 300kcs
cde .00012 MFD @ 6,000 PWV 2.2 A-1 mhz (2024-CM76)
condenser products KMOC 25M005ES .05 MFD @ 25,000 VDC (NEW)
NON-PCB
blower 1.5 hp 3ph cabable of 2.2 @ 120 cfm
ceramic standoff's, feedthru's, all sizes and shapes□
also have all the tunning coils, all below come with standoff's,
strips/taps used with each
sorry no extra tap connectors availible
1> EF JOHNSON EDGEWOUND 31 TURNS 5"DIA COIL LENGTH 5 5/8"
HAS INTERNAL DRUM FOR NULLING

2> EFJ EDGEWOUND 55 TURNS 5" DIA COIL LENGTH 10 3/8"
WITH INTERNAL DRUM

3> EFJ EDGEWOUND 24 TURNS 7 7/8" DIA COIL LENGTH 7 5/16"
INTERNAL DRUM ELECTRIC OPERATED

4> EFJ EDGEWOUND 34 TURNS 8 " DIA. COIL LENGTH 8 3/8"
NO DRUM INSIDE

5> EFJ EDGEWOUND 15 TURNS 5 3/8 DIA. COIL LENGTH 3 1/8"
NO DRUM INSIDE
6> MULTRONICS TUBULAR COIL 3/8"DIA STOCK 4 TURNS 8" DIA
COIL LENGTH 2 7/16"

filiment xfmr's (7.7v@51a, & 12.6v @ 29a)
have mag. switches 70a rated (2)
6A & 30A relays
and many more parts yet to be listed from the RCA BTA 5T 5kw
transmitter....
if you don't see what your looking for, write and ask me....

all items are 'make reasonable offer' * i'm not hard to deal
with....we all like to get something at
'our price' don't we? take a chance, the worst i will do is make a
counter offer....plus shipping
(although, pickup on heavy items would be nice, but not a must)
location address & phone number, are in my sig.

* i do it this way because i don't know what the 'fair market' value
is, you people are the 'market'
so who better to go to for a price... 8-)

==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
Boatanchors: the list: listproc@theporch.com......subscribe boatanchors <your name>
the news group: rec.radio.amateur.boatanchors
news group: ham-am@Listserv@ucsd.edu....Body: add ham-am

2049. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: mai@iquest.net
Message-ID: <548tcq$go_001@news.iquest.net>
Source record: 101633

In article <541pkr$2jb@newshost.cyberramp.net>,
twhite@digitrix.com (Tony White) wrote:
>>I don't have my catalogs hadny, but I have heard of hams using this
>>stuff with some success. I don't recall any numbers on loss but I think
>>the stuff was around 50 Ohms.
>
>It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
>transmit on it -- at least with over 25w power. I'd use RG/8-U instead.
>
Will handle KiloWatt - just not rated.

2050. Kenwood 820S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-18 00:00:00 UTC
From: ej_mars@lagn.com
Message-ID: <76140586@lagn.com>
Source record: 101634

The radio looks and works well on lower side band. The upper side band section needs alignment. A little off freq. Have to turn IF Shift approx. 1 notch to the left to rec. on freq. I would be willing to trade this unit for a Computer, 486 on up. or sell it for $375. Email to ej_mars@lagn.com.

Thanks
KC5EPI

---
* PowerAccess 1.50 No..... Why, have YOU ever snorted laser toner?

2051. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <5497o2$npf@sjx-ixn2.ix.netcom.com>
Source record: 101536

In <548bnq$i8c@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:

>... For the most
>part, I don't have any reason to use fine-pitch parts in my homebrew
>designs anyway, except for a very few special things (perhaps like the
>latest family of Analog Devices DDS chips).
>

Speaking of which, I just received a couple of samples of the AD 9850 DDS chip. Does anyone make any prototyping boards with surface-mount component landings on them? Hmmm, maybe if I find some bare PCB's with the appropriate surface-mount component landings, I can just cut them out of the board and glue them to a piece of copper-clad. Then solder the device to this piece of board and jumper wires to the rest of the circuitry (dead-bug or whatever).

- Jeff, WA6AHL

2052. Re: 120VAC scanner from 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: paul@moe.cyclades.com
Message-ID: <5496rm$ltr1@ha2.rdc1.sfba.home.com>
Source record: 101537

William J. Skellenger (wjskelle@mtu.edu) wrote:

: I took this unit apart (Realistic PRO-2024) and measured the DC voltage
: off of the rectifier on the board. It was 13.5VDC, for all practical
: purposes automotive 12V. I installed a small coaxial power plug and
: soldered it directly to either side of the rectifier on the board.
: After plugging it in, I found that everything worked properly except for
: that it *DIDN'T RECEIVE*.

Good thing that you didn't cook your transformer. You were feeding
12VDC through the transformer secondary, which was basically a short
circuit.

My bet is that you were trying to check the scanner by running off of a
12V "wall wart" or other similarly current-limited device. If you
measured the voltage across the added jack, you probably would have read
3.5V or so, which is the voltage drop across the rectifier diodes. It's
possible that the "brains" are CMOS, with a 3-15V (or so) supply range,
so that's why the scanner appeared to work.

The receiver, OTOH, probably needs the whole 12V or so; otherwise, the
designer would have used a lower voltage. The 3V simply wasn't enough.

If you can, try breaking the circuit through the secondary of the power
transformer. If the xformer is not PCB mounted, you can probably
unsolder one of the secondary wires; connecting on the equipment side of
the rectifier is probably better in that you would not have the ~3V drop
through the rectifier. Most coaxial jacks are set up for an "either/or"
supply, so that the xformer is connected without a plug; disconnected
with a plug. This will give you a decent 12V-in connection.

Also.. be sure to fuse that lighter cord!

de N3EOP/6

--
+---+
| Technical Support Engineer, Cyclades Corporation |
| 800/88-CYCLADES (882-9252) or (510)770-9727, x258 |
| Maker of High Performance Multiport Serial Cards |
| Unsolicited mail ads subject to a $25 handling fee |
+---+

2053. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct19.031229.9218@ke4zv.atl.ga.us>
Source record: 101538
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <546ohn$lc6@villa.fc.net> filipg@paranoia.com (Filip M Gieszczykiewicz) writes:
>In Article <1996Oct10.153207.4916@ke4zv.atl.ga.us>, through puissant locution,
gary@ke4zv.atl.ga.us (Gary Coffman) soliloquized:
>>Many of today's radios have gone to surface mount parts, and that
>>makes repair a lot easier. You only need to be able to get to one
>>side of a circuit board, so you often don't have to disassemble
>>the radio very far in order to replace the bad part. SMD has made
>>the repairman's job much easier.
>
>Greetings. The topic has been lost here... "repairman" not the same
>as "equipment building and repair"... All you needed back then
>was a roll of solder, some flux, and a 60Watter... compare this
>to the $500+ Pace SMD rework station... Yes, a repairman IS
>equipped to repair and maybe even "homebrew" with SMD... but the
>average Joe "Ham" Sixpack is certainly not.
>
>I can easily repair a DIP-based device... a $15 desoldering iron
>from RatShack and some experience gives me perfect unsolders 99%
>of the time... but I can not afford an SMD station.

You appear to have a mistaken impression that SMD work requires
an expensive SMD rework station. In fact it does not. All you
really need is a source of static hot air and a few inexpensive
tools and supplies. A Weller Pyropen Jr is an inexpensive and
convienent source of static hot air. Add tweezers, toothpicks,
small bottles of solder paste and flux, a bit of solderwick, a
bit of modeling clay, and a jeweler's loupe, and you have a
complete SMD rework station that'll fit in a coat pocket and
will work in places where you can't even find an outlet to plug
in your soldering iron.

>Not that I don't improvise... I snip the legs off the SMD device
>with a Dremel and glue down the new device on top of the old and
>solder in 30ga wires from the old pads to the new.. or use a
>DIP... or just toss it.

Yuck! What an ugly technique. Why not just properly remove the
SMD device and replace it with a new one? It isn't hard to do
the repair correctly. You've just got to get over the one pin
at a time fixation soldering irons tend to promote.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems

Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2054. Re: Drake manuals FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gbostick@luna
Message-ID: <549qvc$h2s@news.usf.edu>
Source record: 101539
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

K9SQG (k9sqg@aol.com) wrote:
: Have excellent copies of service manual for TR-7 plus owner's manuals for
: TR-7, RV-75, CW-75, P-75, L-7, PS-7, SP-75. All shipped priority mail for
: $20.

: K9SQG@AOL.com

2055. Toroid Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: jimford@pacbell.net
Message-ID: <32688bfb.2229955@news.pacbell.net>
Source record: 101540

Toroid Coils are available from Amidon,Inc 3122 Alpine Ave Santa Ana, CA 92704 (714) 850-4660 Fax (714) 850-1163

They have kits (at a much better price) of both ferrite and powdered iron toroids. The kits are a good deal compared to the individual prices.

Jim Ford, N6JF

2056. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <54aaf8$836@newsbf02.news.aol.com>
Source record: 101541

In article <5494nl$4bu@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>In every analysis I've done--or seen done--the addition of the 5 th
>harmonic resonator is a waste. The increase in efficiency is
>generally one percent or less. And the increased circuit losses and
>circuit complexity offset (cost) eliminate any savings.

It helped in the DX-100, although I can;t say how much without digging up the paper work. The largest change was getting the bias up, second largest a third harmonic resonator in the grid, and so on down the line. I wanted to do 90% or so, but never quite made it.

Remember one thing Fred, when the layout is crap the most esoteric things make a difference. Changing the impedance or length of a cable, or relocating a component can sometimes make a large performance change. The DX-100 is not particulary well laid out.

>I'll check in with him. It's so implausible that it might be true.

Get some gettering info on the 3-500Z, it explain some of those cosmic photon arcs. The 500Z absolutely getters via the anode coating, and the material is only fully activated at a dull red color. You can run the filament all week, and you won't de-gas the tube.

The worse thing in the world is to let a 3-500 sit around cold for months, and then apply full anode voltage. I've sucessfully de-gassed em with positive grid bias and low anode voltage, running the anode red at just over 1.5 kV for a half hour or so.

73 Tom

2057. Re: ** FLEA at MIT **

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: rand777@ids.net
Message-ID: <3268d3a4.11363742@155.212.1.8>
Source record: 101542
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

After reading this thread..it seems that Mr. Xochi Zen lacks the basic
skills for doing business at a flea market...KNOWLEDGE and
INTELLIGENCE. He is correct in his final evaluation...with his
limitations, he should stay away from flea markets. RR

==========

On 15 Oct 1996 11:08:42 -0400, x@apocalypse.org (Xochi Zen) wrote:

>
>Is this the one where cantankerous old men sell stuff that their
>wives have been begging them to get rid of? One thing that I've found
>is that *some* of the dealers there sell stuff that doesn't work and
>refuse to take anything back. A better bet for old electronics gear
>is probably the Electronics Superstore (in Waltham... or is it Woburn?).
>They'll refund your money if you buy something from them and find that it
>doesn't work when you get it home.
>
>I'd like to see the dealers at the MIT flea market be held to this sort of
>policy. If people don't have ethical standards, I say *impose* some on
>them.
>
> - Xochi
>

Robert Randolph
Newport, RI
rand777@ids.net

2058. Re: Dual band for DC Reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: rohrwerk@pconline.com
Message-ID: <54atat$rng@bell.pconline.com>
Source record: 101543

Tim Hynde (mlc@izzy.net) wrote:
: Im a bit new at this but after getting my W1FB Universal DC RX going
: I began to wonder if I couldn't add a selector switch and switch in
: different torroids and caps for two or more bands.
:
: I realize this could cause a bit more instability but if leads are kept
: short etc. is this a resonable idea or is it not worth the effort?
:
: Tim ka8ddz

don't know that circuit specifically... as a general rule it can be done,
results can be variable. Depending on the bands involved, you may want to

1) switch in the bare minimum of extra capacitance to lower the frequency

2) switch a completely different set of frequency-determining components

3) use a frequency doubler for harmonically related frequencies

4) just build completely separate VFO's for the different bands.
considering all the effort needed :-)

John K0JD
rohrwerk@pconline.com

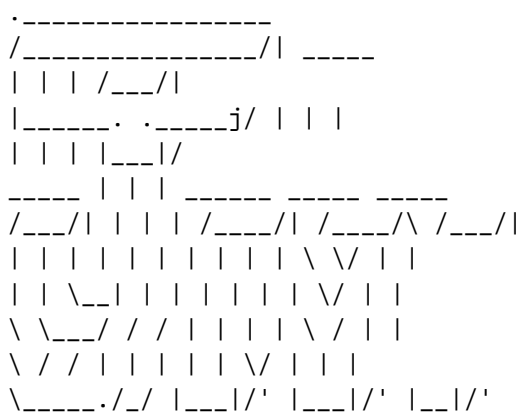
2059. Please help find Manual- Allied A2516 Ham receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: Jim Larson <james_l@efn.org>
Message-ID: <Pine.SUN.3.95.961019092947.4084H-100000@garcia.efn.org>
Source record: 101544
Cross-posted to:
rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.ham-radio

Please help me find a source for a manual/schematics for an old Allied
model A2516 ham receiver. It is an older tube type, a kit I think.
I have tried Sam's and Sarrio with no luck. Does anyone know some good
sources for manuals or possibly an individual that would have a xerox
copy available? Please forgive me if this is in an FAQ somewhere,
I am a newbie, and this is my first "taste of ham" :)

p.s. I'm hooked.....

Thank you ALOT!



James K. Larson - james_l@efn.org - Junction City, Oregon

2060. Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: Loek d'Hont <ldhont@ti.com>
Message-ID: <01bbbdde$015bbf80$105e5bc0@A0927429.itg.ti.com>
Source record: 101545
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

I am restoring some radios but have problems with repairing the aluminum coating.
Does anyone know what this clear, kind of yellow finish is that you see on most aluminum equipment chassis, and on aluminum antennas?

I don't think it is anodized, it looks like the aluminum parts are dipped in something, because you can still see the "drips" in the yellow coating.

Does any-one know that this "something" is that these parts are dipped in?

Thanks,

Loek LDHONT@ti.com

2061. Wanted Radio Receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: yves lajeunesse <yveslaj@aei.ca>
Message-ID: <32690B5B.1E9F@aei.ca>
Source record: 101546

Does anybody know of a manufacturer or retailer that sells Ham
Radio/Receiver Kits that you can build at home?
The make and model doesn't matter but I would like to get a location
to find them and prices if possible?
Thanks in advance

I can be reached by E-Mail At <yveslaj@aei.ca>

2062. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: awilliam@neosoft.com
Message-ID: <awilliam-1910961257460001@fullnews.neosoft.com>
Source record: 101547
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

>Does anyone know what this clear, kind of yellow finish is that you see on
>most aluminum equipment chassis, and on aluminum antennas?

It sounds like the aluminum has been treated with alodine. Alodine makes
aluminum corrosion resistant. When I did my 90 days painting navy
aircraft, we applied it to bare aluminum with a sponge tipped applicator
and washed it off with water when the metal had turned the proper color.
It is also used on some of the mil spec electronics I work with.

Andy

2063. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: "Johnny G." <JayGee@worldnet.att.net>
Message-ID: <32694E13.5893@worldnet.att.net>
Source record: 101548
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

Andy Williams wrote:
>
> >Does anyone know what this clear, kind of yellow finish is that you see on
> >most aluminum equipment chassis, and on aluminum antennas?
>
> It sounds like the aluminum has been treated with alodine. Alodine makes
> aluminum corrosion resistant. When I did my 90 days painting navy
> aircraft, we applied it to bare aluminum with a sponge tipped applicator
> and washed it off with water when the metal had turned the proper color.
> It is also used on some of the mil spec electronics I work with.
>
> Andy

We still use alodine in the aircraft industry. The stuff we use is a dry powder that we dissolve in water. We apply the resulting solution per your description. It protects the aluminum from corrosion, and it's electrically conductive. The alodine powder and solution react explosively with methyl-ethyl ketone.

2064. Re: 137 Mhz Preamps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct19.173739.11760@ke4zv.atl.ga.us>
Source record: 101549

In article <54149n$8n5@kirin.wwa.com> Bigdad <Bigdad@Rworld.com> writes:
>Does anyone have or know where to get plans to build a low noise
>preamp for use in the 137 MHz band (2 Meters should work) I
>already have the Satellite Handbook, im looking for other options
>here. Perhaps even a place that sells kits. Thanks

If you want a ready to go preamp, ARR and SSB Electronics have
them. If you want to roll your own, check out the various Proceedings
of the Central States VHF Society volumes published by the ARRL.
GASFET preamp design has been covered extensively in those volumes.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2065. Re: The bandwidth of the technologically impressed & homebrewing &c

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct19.162553.11350@ke4zv.atl.ga.us>
Source record: 101550

In article <1996Oct14.121122@nova.wright.edu> nyoung@nova.wright.edu writes:
>
>Anybody for BPSK on 1.75 km? (But first you have to explain what
>BPSK is... nice and slow... so I can copy down the dits and dahs.)

Don't worry, Nils, all communications at 1.75 km is nice and slow. :-)

If you really want to start a discussion of BPSK (or QPSK), I'd
be delighted to participate. It really is pretty simple, and pretty
impressive too.

Gary

--
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Lawrenceville, GA 30244 | |

2066. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct19.171344.11646@ke4zv.atl.ga.us>
Source record: 101551

In article <wa2iseDzCMw0.KDt@netcom.com> wa2ise@netcom.com (Robert Casey) writes:
>In article <tgmDzCHqy.Aur@netcom.com> tgm@netcom.com (Thomas G. McWilliams) writes:
>>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>>: And the rise of SMD components has eliminated the need for lots of
>>: precisely drilled holes too. SMD is a godsend for the homebrewer. It
>>: is much easier than working with leaded parts.
>>
>>Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
>>I think SMD is a horror for anyone who wants to service a circuit
>>board. You might be able to replace a resistor, but servicing
>>any active device beyond a simple transistor is damn near impossible.
>>
>
>You could do "surface mount" style with regular DIP thru hole parts,
>bend the leads out so it makes a flat footprint. Resistors and caps
>and transistors are also easy. IF transformers are more difficult,
>but one could bend the leads a little bit (make a little hook at the
>lead end). I've done this and it worked. Or drill the holes for the
>hard parts only.

That saves having to drill the board, but it isn't the real
reason you want to learn and use SMD technique. The real reason
is that leaded parts are becoming less easy to find because
manufacturers have increasingly changed over to SMD, and that
drives demand for the part manufacturers and distributors. In
10 years, I'd be real surprised if many parts were at all easy
to find in leaded configurations. That means we won't have much
choice if we want to build but to adopt SMD techniques.

Fortunately, those techniques are fairly easy to learn and apply.
And it doesn't cost much to equip yourself to do it. It just takes
a different way of thinking about how you mount and dismount
components, and a slightly different skill set for soldering
and desoldering.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2067. Re: Ethernet Coax for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct19.174039.11894@ke4zv.atl.ga.us>
Source record: 101552

In article <543tas$mji@newshost.cyberramp.net> twhite@digitrix.com (Tony White) writes:
>>>>I don't have my catalogs hadny, but I have heard of hams using this
>>>>stuff with some success. I don't recall any numbers on loss but I think
>>>>the stuff was around 50 Ohms.
>>>
>>>It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
>>>transmit on it -- at least with over 25w power. I'd use RG/8-U instead.
>>
>>Why not transmit on it? If it hasn't had vampire taps punched into
>>it, it's as good as RG-8 for transmitting, and better shielded too.
>>I'm real leery of any of it which *has* had vampire taps punched into
>>it, though. If they aren't potential arc paths, they have at least
>>destroyed any weatherproofing the cable may have had.
>
>You're kidding -- /58 better than /8? Well, I guess I'll have to try it,
>then. If I melt my finals, I'm coming after you... :-)

You haven't been paying attention. You don't vampire tap thinnet,
we're talking about thicknet cable here, and it is basically
RG-8 with a better shield.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2068. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: jrweiss@seanet.com
Message-ID: <N.101996.152145.74@Default>
Source record: 101553
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

On 10/19/96 9:53AM, in message
<01bbbdde$015bbf80$105e5bc0@A0927429.itg.ti.com>, "Loek d'Hont"
<ldhont@ti.com> wrote:

> I am restoring some radios but have problems with repairing the aluminum
> coating. Does anyone know what this clear, kind of yellow finish is
> that you see on most aluminum equipment chassis, and on aluminum
> antennas?
>
> I don't think it is anodized, it looks like the aluminum parts are dipped
> in something, because you can still see the "drips" in the yellow
> coating.
>
> Does any-one know that this "something" is that these parts are dipped
> in?
>

I think zinc chromate used to be used. I'm not sure if it is still available
or has been replaced by something "better."
--
John Weiss
Bare Bones BBS, Seattle, WA
206-368-7672

2069. Re: Nichrome wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <3269B647.47AE@worldnet.att.net>
Source record: 101554

Try "C and H Sales Co.", a surplus house. Last year they had at least 2
types: 400 wt., #23AWG, 3/16" od coil, 6" long, 27 ohms/coil @ $0.89
each.... or... 600 wt., #23, 8"long, 3/16 ", 18 ohms @ $1.09.

They are in Pasadena, CA - Phone (800) 325-9465 or (213) 681-4925.
The last time I dealt with them, the minimum order was $30. You can
order less, but like many, they added a $5 fee.

BTW, Be sure to use high-temp (nickel plated) crimp connectors, not the
"standard" type.
Woody

Joe Schwob wrote:
>
> I am rebuilding a very small high heat oven. Does anyone know where I
> can get Nichrome wire to complete the job?
>
> Joe Schwob
> KB8TV

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2070. WTB 2500 MHz down-converter kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: dave.des@metronet.com
Message-ID: <54blgs$qb3@newnews.metronet.com>
Source record: 101555

About 10 years ago I remember seeing 2500MHz --> commercial TV band down-converters for $30 or so. Can someone here point me to something like this? The signals I'm after are not scrambled or sync-inverted or anything.

TNX!
Dave (KD5KZ) <dave.des@metronet.com>

2071. Need solar panel informantion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: ghopper@eskimo.com
Message-ID: <ghopper-1910961541110001@10.0.2.15>
Source record: 101556

I am hoping some solar panel experts out there can point me toward some suppliers that meake good panels (or good sources for used panels) and information about using them.

Thanks

Grant
KB7WSD
ghopper@eskimo.com

--
Grant's generic sig file.

2072. Re: Simple Morse Receiver Circuit ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: bruce muscolino <w6toy@erols.com>
Message-ID: <54bovp$qec@boursy.news.erols.com>
Source record: 101557

Contact MXM Industries, ROute 1 Box 156C, Smithville, Texas 78957, (512) 237-3906. They offer a product called the Simple RX -- can be built for any ham band from 80 meters through 20 meters. Could be put on other frequencies as well. It is a single conversion superhet based on the NE602 and has a small ceramic filter in the if. It can be tuned with a variable capacitor or a varactor, I don't know the kit price. The circuit board is about 1 inch by 3.5 inches. They also manufacture QRP transceiver kits.

73,
Bruce -- W6TOY/3

2073. Re: Is building equipment a lost art?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: Michael Toner <mtoner@bnr.ca>
Message-ID: <32697359.41C67EA6@bnr.ca>
Source record: 101558

Another way to remove a SMD from a PCB is to use a hot air gun.
You need enough heat to melt the solder, but it is quicker
and does less damage than cutting the leads with a knife.
On the down-side, it tends to de-solder adjacent components...

Cheers

-Mike

--
==
Michael Toner | phone: (613) 763-8556
Dept 5S13 M/S 047 | fax: (613) 763-8825
Northern Telecom Limited |-----------------------------------
P.O. Box 3511, Station C | The opinions expressed herein
Ottawa, Ontario, Canada | are my own and do not necessarily
K1Y 4H7 | reflect those of my employer.
==

2074. Stock Quotes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: MarkBrown@markbrown.com
Message-ID: <32698A4A.1A43@markbrown.com>
Source record: 101559

Does anyone know how to get free stock quotes off of side band fm?
thanks mark

2075. Re: Parts needed (Tubular!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.101996.120143.53@treasure-d28.syix.com>
Source record: 101560
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

10) FT-243 crystals
>
> 1805 - 1850 kHz
> 3515 - 3550 kHz
> 7010 - 7050 kHz
>
> I only need xtals in THE ABOVE frequency ranges. Thanks.
>
> Please call (301) 990-6070 or e-mail to:
> bry@mnsinc.com
>
> Radio AF4K
> Brian Carling

Was FT-243 the 1940's military, or the 50' and 60's style? Not the 70's + small ones I hope. I have some of each, but they are collecting dust.
Just curious.

Bill

2076. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct19.165731.11527@ke4zv.atl.ga.us>
Source record: 101561

In article <3266C196.794BDF32@icmp.com> "Carl D. Walker" <cwalker@icmp.com> writes:
>Thomas G. McWilliams wrote:
>>
>> Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>> : And the rise of SMD components has eliminated the need for lots of
>> : precisely drilled holes too. SMD is a godsend for the homebrewer. It
>> : is much easier than working with leaded parts.
>>
>> Come on, Gary. 'Fess up. How do you replace a 120 lead qfp ic?
>> I think SMD is a horror for anyone who wants to service a circuit
>> board. You might be able to replace a resistor, but servicing
>> any active device beyond a simple transistor is damn near impossible.
>
>Try a good heat gun and make an air director out of bent metal around
>the air output of the gun. That and some small tools like dental picks
>can work wonders with SMD devices. The fancy air desoldering tools
>that the production department are using at my work are not much more
>than that. Yes, they do have some temp control, but just be careful
>and things will work out OK.

Thomas' original post hasn't made it here, but let me use this
as a way to comment to both of you.

The secret to working with SMD is in applying heat to *all* the
connections at the same time. The best way to do that is with
a static hot air source. The little Pyropen with suitable shrouds
works great for that for small and medium pin count packages.
For the really big parts, you need a bit more heat.

There are a couple of problems with using electrical heat guns.
There is too much hot oxygen in the output, and it can cause
problems with the joints due to near instant corrosion. Your
hot air source should be depleted of free oxygen. A torch does
this for you automatically since most of the free oxygen has
combined with the fuel, and the air stream is mostly fairly
inert combustion products.

The second problem with electric heat guns is that the air flow
is much too rapid. This will blow your parts around and won't
let surface tension align them automatically for you. Again,
the torch, with proper shroud design, can deliver a low speed
hot air flow precisely where you want it and in precisely the
correct amount for the work you are doing.

For the really big chips, I often use an ordinary hardware store
propane torch fitted with a homemade shroud. Of course you have

to work quickly (that's something you learn very early on with SMD) or you run the risk of scorching the board. You can regulate the temperature of the static air by the length of the shroud and by the distance from the board (you want to adjust the torch for a neutral flame, so you have to use other means to adjust the temperature of the hot air at the part). This is one of those things, like arc welding, which is easier to demonstrate than to explain. With practice, you pick up a feel for it, and can do clean work with no damage to the board.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2077. re: is equipment building and repair a lost art? your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-19 00:00:00 UTC
From: markl@dove.net.au
Message-ID: <845682825mnewsmarkl@dove.net.au>
Source record: 101635
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

>
>
> I think the Amateur Community is not as " tuned into " electronics as it once
> was. With the actual queations and answers presented there is no need to learn
> Ohms or Kirchoffs law How many can calculate the gain to a common emmiter
> amplifier circuit. You do not learn that by reading a Q & A Manual.
> I used the ARRL License manuals in the early 1970s. It was basically a sylibus
> (sp) of what one needed to know to pass the exam. Then you " hit the books "
> for the answers. Now you just memorize the answers to the questions. Sure
> some knowledge has to soak in, but the majority appears to be forgotton once
> " you passed " is heard . I happen to be in the business and the kinds of
> questions I receive have really changed over the 7 years I've been involved.
> Now I speand most of my time merely reading the manual verbatium to the caller
> who appears to be willing to pay long distance charges to be read to. Not
> complaining, the customer needs and abilities have changed over the years.
> I have chatted with EE degreed Extra class license holders who could not cut
> a dipole antenna which I found amazing but true none the less.
> I do agree the need for club projects, how about showing some club members how
> to photo etch a circuit board, or what positive feedback really does, build an
> antenna tuner or SWR meter Building is great fun. It's up to the builders of
> the community to give a hand and show the new comers what they are missing
>
> Gary
>
> .

This is not unique to "new" amateurs. The other day at the radio club I repaired a radio for a full call (has had a licence for 30+ years). The fault was a simple mechanical mis-alignment of the PTT plunger onto the switch. This same amateur needed help to determine that the lead fromn the battery charger has a break in it.

Mind you, he is a good operator
Mark.

2078. Re: HF Amp using 3-400Z ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <326c916e.17145341@eskinews.eskimo.com>
Source record: 101562

Jim <jstrohm@texas.net> wrote:

>The ARRL Handbook plans for the grounded-grid 4-400 pair should
>be a plug-in deal. This is in the 1981 and 1983 handbooks for sure.
>
>I'm not sure what you should do about cathode bias -- the ARRL plans
>used a big Zener diode (hard to find sometimes), but a more recent
^^^^^^^^^^^^^^^^^^^^^

One good source for 50 watt zener diodes is K2AW's Silicon Alley (the same fellow who's been advertising in QST forever). He stocks 12 different voltages and can get other voltages on special order. $7.50 each. And he's a great guy to deal with. His phone # is 516-334-7024. The usual disclaimer applies.

73, Bill W7LZP
wrt@eskimo.com

2079. Lampkin Labs Serv Monitor / Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: Tom Castle <afn17891@afn.org>
Message-ID: <54c6e1$fso@huron.eel.ufl.edu>
Source record: 101563

Hi Tom here... Just trying an off the wall shot at finding,

a service manual or schematic dia for a Lampkin Labs Type 107C...

If you one [either] e-mail me an we will get together on getting

a copy of it from you... I have been told the 100 series an the

200 series have a lot in common so a schematic of one of the 200

series could possibly help..

Thanks for reading...

De Tom 73

2080. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct20.031855.13172@ke4zv.atl.ga.us>
Source record: 101564

In article <961015200857_74003.470_BHR64-1@CompuServe.COM> 74003.470@CompuServe.COM (Paul Ostby) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>I think the ideal setup would be a photoplotter. I've thought
>>about taking one of my old junk plotters and replacing the
>>pen with a laser diode. I'd use the pen down and pen up commands
>>to turn the laser on and off. That way I could plot the circuit
>>directly to photosensitive board stock. My only concern is that
>>the red light won't work with the common photoresists. Perhaps
>>there are resists suitable for this. Has anyone tried this?
>
>I've tried using a 670nm, 4mW laser diode. It doesn't work with any
>photoresists that I've tried. The ones I tried were:
> GC Electronics "Positive-type" resist (cat # 22-074)
> M.G. Chemicals "KPR Photo Resist" (negative type, cat # 701)
> Ever-Muse presensitized P.C.B. (Circuit Specialists Inc. cat # PP101)
>I tried exposures as long as 30 minutes on one spot.
>
>I, too, would like to hear from anyone who knows of a resist that *will* work
>with a laser diode.
>
>Paul Ostby

I guess we're going at this the wrong way. The resists are all
activated by UV, we're not going to get any action with red light.
I haven't ever heard of a diode UV laser, and I doubt even one of
the new blue LEDs would work. Looks like we need to make a collimated
UV light source that'll fit in the pen carrier. The only UV light I've
got is in the EPROM eraser, and that's too big. Does anyone know if
the cheap multimode plastic fiber cable will carry UV? If it will,
the light can be remote from the pen.

Gary

--
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Lawrenceville, GA 30244 | |

2081. Looking for good homebrew receiver design.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: cajuncru@sprynet.com
Message-ID: <3269C690.2D50@sprynet.com>
Source record: 101565

I know a little about electronics. I understand things like gates, transistors, etc, but I do not exactly have the knowledge to build a computer from scratch.

I also have very little money to devote to the world of Ham Radio. I would like to get a good transceiver for about $200, maybe $300

Could I build a good myself from a kit? Do they work well? I'm interested mainly in voice communications, a little CW (not a whole lot right now), using repeaters (and their autopatch), and possible RTTY/etc in the future.

Know of a good transceiver that I could buy or make?

What are the differences bewtween used and new in price and quality for transceivers?

What is the greatest distance a 2 meter signal will go at max. power on a Techinican License and average antenna? 200 miles? 1000 miles? Does this bounce of the atmosphere?

PLEASE EMAIL me your responses, I do not check usenet that often.

THANK YOU and 73!

2082. Re: Need solar panel informantion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: robert@kd3bj.ampr.org
Message-ID: <robert.845778836@kd3bj.ampr.org>
Source record: 101566

ghopper@eskimo.com (Grant Hopper) writes:

>I am hoping some solar panel experts out there can point me toward some
>suppliers that meake good panels (or good sources for used panels) and
>information about using them.

>Thanks

>Grant
>KB7WSD
>ghopper@eskimo.com

>--
>Grant's generic sig file.

Grant (and others):

Check the ads in Homepower Magazine. The have a web site. Use a search
engine to find the site. Also check Solar Today magazine. It's a trade
pub, but I find it in the local town bookstore in a nearby college town.
There are some alternative news groups on solar, but I can't get them
from my site.

--
Robert Garland NX3S @ N3ACL.PA.USA.NOAM
Hilltown Township Bucks County robert@kd3bj.ampr.org
Pennsylvania USA Grid FN20ii
"Ham Radio is a calling"

2083. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct20.072452.14246@ke4zv.atl.ga.us>
Source record: 101567

In article <546me6$2h6@library.airnews.net> jfriley@iadfw.net (J. Fred Riley) writes:
>
>I just gotta say one more thing about conventional AM. I never, in my
>wildest dreams, thought that conventional AM would be in existence at
>this point in history. I thought it was on its way out thirty-five
>years ago. It is absolutely mind boggling that such an inefficient
>transmission mode could--and has--survived so long, so well. Wanna
>take a whack at explaining that.

Interesting discussion. I'd like to take a crack at this non-technical
point. A broadcaster survives by selling his product, an audience,
to his customer, the advertiser. As long as the installed base of
his product has AM receivers, he can't lure them with some other
modulation. They'll just switch to his competitors, and he'll starve.
(Well, if he switches to FM, he won't starve, but the FM allocations
in the lucrative markets are all taken.) And of course, the audience
isn't going to buy a receiver for a new kind of modulation as long
as there's no broadcaster sending it. So there's a chicken and egg
effect.

The only viable way out of this is a forced conversion by *all*
the players at once. This is what the FCC is doing to broadcast
TV. We're all going to have to change over to digital under the
same timetable. That avoids the problem of the audience switching
to those who don't changeover, because there won't be any. So
the audience has to buy new receivers, and other broadcasters
don't gain a competitive advantage when one station switches
to the new modulation because they'll all be switching.

There *is* another way, and that's to maintain backward
compatiblity. We did that when we went from B&W to color
television with NTSC. That was an awful kludge, and saddled
us with bad video for nearly 4 decades. We could have gone
PAL instead, but that would have obsoleted our product's
installed base of B&W receivers. If we'd done it all at once
like the digital switchover is going to be done, it would have
worked, but we were afraid to do that. We didn't know how
addictive TV was back then.

if we'd tried to work into it individually, we'd have starved
because the audience wouldn't have rushed out to buy dual
standard sets. Lots of UHF stations did starve until TV
sets were mandated to receive both VHF and UHF, and that
was a minor difference compared to an incompatibility between
B&W and color.

There is a new standard for AM broadcast lurking out there awaiting approval which is *transitionally* compatible. That's compatible digital. The broadcaster continues to broadcast AM while adding a digital broadcast on the same channel at the same time. It is cleverly designed so users with old receivers don't notice it, but users with new digital receivers can gain the benefit of it, stereo audio at least as good as FM with even better immunity to noise and fading, and requiring lots less power to broadcast (a 50 watt compatible digital signal has equivalent coverage to a 5,000 watt conventional AM signal).

I'm afraid, however, that if the FCC doesn't mandate that new receivers include the ability to receive the digital signal, the ultimate changeover of shutting down the conventional AM broadcast after a transition period will never occur. (AM radio isn't as addictive as TV, and the audience would just continue to switch to FM as they're already doing instead of buying a new radio just to receive AM digital.)

It's a hard problem to move a huge installed base to a new platform. We've seen that in the PC world, with aggravating limitations built into even our newest machines just so that they'll be backward compatible with old DOS software. Broadcast has the same sort of problems, but more so because the installed base is much larger, and much more firmly entrenched.

Gary
--
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Lawrenceville, GA 30244 | |

2084. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct20.045630.13584@ke4zv.atl.ga.us>
Source record: 101568

In article <542qqo$63l@sjx-ixn3.ix.netcom.com> jeffa@ix.netcom.com(Jeff Anderson) writes:
>In the past I've used a drill-press (although holes need to be fairly
>spot-on, through-hole parts will, in most cases, tolerate some slop).
>But why go through the hassle? Interestingly, in twenty years of
>engineering I've *never* seen an engineer prototype a circuit by
>actually laying out a PCB. It's *always* been wire-wrap, dead-bug, or
>perf-board. Some may do PCB proto's (probably for microstrip
>circuits?), but I've not come across them.

Yeah, when you're working with MMICs and the like, stripline is the
only way to go. Most of the RF stuff I've built in the last several
years has been for VHF+ until I reccently started my HF I/Q receiver
project. I just naturally continue to work with printed board.

I have done wirewrap for logic circuits, and occasionally dead bug
some circuit that doesn't lend itself well to board layout in the
space I have, but I like to avoid manual wiring as much as possible
and prefer to use a printed board right from the start. It usually
takes me less time to lay out and etch a board than it does to wire
up a circuit by hand. And there's less chance of a wiring error too.
I also think I have much better control of strays.

>>Your SMD technique is *horrible*.
>
>To each his own. It's actually a very common technique, it doesn't
>require any special tools (other than a *good* pair of tweezers and a
>tiny point on the soldering iron (again, Metcals are GREAT) - no solder
>paste, no hot-air tool), and it works *very* well. Our tech can
>assemble a board very quickly using this technique, and the board looks
>like it came off the manufacturing line. Hot-air is only used to
>remove large IC's.

Well, I suppose whatever works is Ok, but I find using hot air and
solder paste a lot easier. It works great and is very neat and fast.
I never have a solder bridge, and while it still takes a sharp eye
and steady hand, it's lots less demanding than trying to solder pad
by pad.

>But why use SMD parts for home-brew in the first place? Leaded parts
>are so much easier to use.

How much longer do you expect leaded parts to be around? Nearly
everything new is being built with SMD. Some parts are already
only available as SMD. Some heavy parts may continue to be
leaded, mostly for mechanical reasons, but I expect the majority
of parts to move pretty exclusively to the SMD form in a fairly

rapid fashion. We might as well get used to working with them
now.

Gary
--
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Lawrenceville, GA 30244 | |

2085. Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <326f3903.2636643@eskinews.eskimo.com>
Source record: 101569

If you're new at homebrewing amplifiers, you might want to check out AG6K's web site for a lot of good information:

http://www.vcnet.com/measures/

There is some personal stuff in there, since the author feels he was treated rather poorly by a well-known ham organization (I'm staying out of that), but the technical advice appears to be first-rate.

73, Bill W7LZP
wrt@eskimo.com

2086. Re: Parts needed (Tubular!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <54dlvv$l02@dfw-ixnews9.ix.netcom.com>
Source record: 101570
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In <N.101996.120143.53@treasure-d28.syix.com> bbaka@syix.com writes:

>Was FT-243 the 1940's military, or the 50' and 60's style? Not the
70's + small
>ones I hope. I have some of each, but they are collecting dust.
>Just curious.

Bill,

The FT-243s are the boxy military ones that are screwed together. If
you've got some you're not using I'm interested, since I've got all the
parts together to build a '40s-style TX and RX but no crystals!

Thanks and 73,
Mike, KK6GM

2087. Re: Parts needed (Tubular!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <54dn7t$mhl@dfw-ixnews6.ix.netcom.com>
Source record: 101571
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In <54dlvv$l02@dfw-ixnews9.ix.netcom.com> mjsilva@ix.netcom.com(michael silva) writes:

'Scuse the "private" post -- hit the wrong button!

73,
Mike, KK6GM

2088. Re: WTB 2500 MHz down-converter kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: stevem@best.com
Message-ID: <54e199$h4h@shellx.best.com>
Source record: 101572

In article <54blgs$qb3@newnews.metronet.com>,
David de Schweinitz <dave.des@metronet.com> wrote:
>About 10 years ago I remember seeing 2500MHz --> commercial TV band
>down-converters for $30 or so. Can someone here point me to something
>like this? The signals I'm after are not scrambled or sync-inverted or
>anything.
>
> TNX!
> Dave (KD5KZ) <dave.des@metronet.com>

Try Phillips-Tech Electronics in Scottsdale Az. 602-947-7700. Their
'96 catalog has downconverters starting at around $140.

I work with this stuff quite a bit as our ATV repeater output is
at 2.4GHz, but I have not seen any low cost "kits" in quite some
time. Most kits are in the more pricy Down East Microwave class
used for satellite and weak signal applications.

Your next best bet is the Ham fleamarkets. I see quite a few of
those old inexpensive downconverters and dishes for sale. I think
this is because many of the "Wireless Cable" services are going
belly up from competition from DSS. Services here in the San
Francisco Bay area are on the decline and I see a lot of the old
"Pirate" hardware floating around.

Steve Muther
WF6R

2089. Re: Need solar panel informantion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: bgudgel@eskimo.com
Message-ID: <DzLD0C.8IG@eskimo.com>
Source record: 101573

: Check the ads in Homepower Magazine. The have a web site. Use a search
: engine to find the site. Also check Solar Today magazine. It's a trade

: Robert Garland NX3S @ N3ACL.PA.USA.NOAM

Also check out the links on Trace Engineering's R&D site at

www.eskimo.com/~trace

Homepower Magazine should be there too.

Bob KI7IQ

2090. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <54d9vp$tve@library.airnews.net>
Source record: 101574

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> NTSC. That was an awful kludge, and saddled
>us with bad video for nearly 4 decades. We could have gone
>PAL instead

You, dear sir, are a man after my own heart. Norm Parker was once describing, over dinner, his involvement with committees that adopted NTSC (Never the same color), Multiplex FM Stereo (with its 22 db S/N penalty), and C-QUAM. When I opined that he had backed yet another failed system, I was accused of having verbally assaulted him.

The proof is in the pudding, as they say. I've seldom been in a PAL or SECAM country where the average TV didn't produce acceptable color. I've seldom been an NTSC set capable of displaying acceptable color. It is with a dark humor that I go into electronics superstores and look at the rows of demonstrators all tuned to the same program and all producing their own unique picture--each one wrong in its own way.

Norm defended the adoption of NTSC by citing PAL's inability to deal with saturated colors. When I noted that, in the real world, we don't deal with saturated colors, he was nonplussed. He used the same logic in dealing with AM Stereo: C-QUAM produced distortionless audio with a perfect wide-band diode detector. He ignored the effects of real-world IF strips on the phase modulation sidebands that can cause actual distortion to be higher that of a pure quadrature scheme. If technical merit had any meaning at all, Cliff Leitch's AM stereo system would have been adopted and we could have started reduction of the carrier level as early as 1990. Now, we're stuck. And I'm permanently prejudiced; I'll never vote for a backward-compatable scheme again.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2091. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct20.061408.13908@ke4zv.atl.ga.us>
Source record: 101575

In article <gradyr-ya023080001710960117000001@news.mindspring.com> gradyr@mindspring.com (Grady Russell) writes:
>
>Well I'm glad to see at least one person thinks it's not a lost art...now
>could one of you find gentleman (or ladies) point me in some good
>directions to build a base 2m radio? Just a tech now but wanting to learn
>about building one myself,etc. I keep looking for sources but really don't
>have much to go on.

Someone has already mentioned the TenTec kit. If a kit is acceptable to you, that's a good one. But if you really want to roll your own from scratch, we have to ask just how basic a radio will you accept?

If crystal control is acceptable, there are a number of designs in older issues of the Handbook and in RSGB publications. Many start with a varactor modulated crystal oscillator near 18 MHz and follow that by two triplers to reach 2m, and feed that into a driver and a PA transistor. This is a very straight forward design using only 5 transistors. 500 Hz deviation at the crystal frequency multiplies out to 4.5 kHz at 2m, just about perfect. (There are single chip transmitter subsystems available too, check out the Motorola MC2800 for example, and that can drive a hybrid brick, cutting your transmitter down to basically 2 chips, though the second will need a heatsink.)

For receive, the only sensible way is to use one of the single chip receiver subsystems. The older chips take 10.7 MHz RF and filter and hard limit it then downconvert it to 455 kHz for demodulation. You only need an oscillator and multiplier to feed a front end mixer that puts out 10.7 MHz RF when tuned to a 2m frequency. The subsystem chip does the rest. Some of the newer chips feature the first mixer and local oscillator on board as well. Motorola has an application note for such a single chip 2m receiver. You may want to put a helical resonator filtered preamp in front of it. Circuits for that can be found in the Handbook, the RSGB books, or the Proceedings of the Central States VHF Conferences.

Of course you need a mic amplifier and a output audio amplifier for the transmitter and receiver respectively as well, but this is a trivial one chip item in each case. (Though if you want to do it right you'll have some peak limiting in the mic amp to prevent over-deviation on voice peaks. There are special chips available to do this too.)

If you want to build a synthesized radio, however, you'll probably want to use a different topology for the transmitter. Usually, you'll want the VCO directly on-frequency at 2m. Since this isn't directly crystal controlled, you can modulate it enough to directly get 5 kHz deviation (if you've designed the loop filter correctly). This directly feeds the driver and PA stages, or a hybrid module like those used in commerical equipment, eliminating the tripler stages. But you need a divide by N stage, a phase detector, and a crystal reference oscillator to complete the PLL. Some control circuitry is also needed to control the divide by N stage so you can select different frequencies.

The same circuits can be used in the receiver to supply its LO, but offset 10.7 MHz to act as the conversion oscillator. Most of this is available on a chip today, so it isn't quite as complicated as it may sound. But designing a good PLL with low phase noise is still a non-trivial project for the scratch builder. There isn't a whole lot in the amateur literature about building PLLs. This is where consulting chip manufacturers' application notes and looking at the schematics and theory of operation of commercial equipment can be helpful.

If you want to scratch build, I suggest you start with the simpler crystal controlled radio. Later you can add a synthesizer as you gain experience. Or, you might choose to use a numerically controlled DDS at 18 MHz to feed the triplers. This may produce better results than using a PLL, and may be easier to do as well. DDS has been a hot topic in the amateur literature recently, with several good articles and construction projects.

If you just want to say "I built it myself", then buy the TenTec kit. It has most of the features of the Japanese radios, has an excellent manual to lead you through construction, and works quite well when you're finished. While this isn't as educational as scratch building, you will become familiar with one way a PLL radio can be designed. (If you really want an education, buy the Ramsey kit and learn how a PLL radio should *not* be designed.)

An intermediate choice between those two extremes is to buy and build the Hamtronics kits. They are crystal controlled receiver and transmitter kits. They work Ok, and can save you having to scrounge the parts for your own design. The instructions are rather sparse, and the circuits don't always work as they should, so there's more challenge to get them running than with the TenTec kit. (But they're much less of a challenge to get working right than the Ramsey kit.)

Gary
--
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Lawrenceville, GA 30244 | |

2092. Drake L-7 junker wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: k9sqg@aol.com
Message-ID: <54efh1$ob3@newsbf02.news.aol.com>
Source record: 101576

Looking for spare parts for my L-7 in case I need them. A junker L-7
would be of interest. K9SQG@AOL.com

2093. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: TSJV87A@prodigy.com
Message-ID: <54e7bf$1cde@useneta1.news.prodigy.com>
Source record: 101577

At one time, I had ideas about setting up a radar system. High power microwave is not healthy.

-
ERNIE TSJV87A@prodigy.com

2094. Re: www.hamradio-online.com: Is Ham Radio Still Relevant?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: "William A. Wetzel" <n6rky@pacbell.net>
Message-ID: <326AD713.31D3@pacbell.net>
Source record: 101578
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Ed Mitchell wrote:
>
> With the just announced loss of another 5 MHz of Amateur allocated UHF spectrum
> in the U.S., its time to ask the hard question: Is Ham Radio Still Relevant?
>
> We've posed that question and provided some answers - but not nearly enough.
> Times have changed. Ham Radio of the 21st century will not be like ham radio of
> the 20th century. Now is the time to engage in discussion on how to confront
> the challenges head on.
>
> "Is Ham Radio Still Relevant?" is the subject of our newest editorial opinion
> at Ham Radio Online. At http://www.hamradio-online.com
>
> Stop on by. Lots more cool stuff than *anywhere* else on the web. Now read in
> 47 countries around the world.
>
> ------------------------
> Ed (KF7VY) and Kim (N7VPL) Mitchell
> email to vbook@vbook.com
> Visit Ham Radio Online, it's free! at
> http://www.hamradio-online.com

In response to Ed's question...

YES it is! But we do need to make it clear to Washington D.C. if we
hope not to lose any more frequencies. It appears that the loss for
frequencies is increasing at an alarming rate lately.
--
William A. Wetzel
N6RKY@JUNO.COM
N6RKY@PACBELL.NET

2095. Re: Is building equipment a lost art?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct20.232534.16746@ke4zv.atl.ga.us>
Source record: 101579

In article <32697359.41C67EA6@bnr.ca> Michael Toner <mtoner@bnr.ca> writes:
>
>Another way to remove a SMD from a PCB is to use a hot air gun.
>You need enough heat to melt the solder, but it is quicker
>and does less damage than cutting the leads with a knife.
>On the down-side, it tends to de-solder adjacent components...

See another of my posts about electric hot air guns. Hot oxygen is
corrosive, a torch is better because the air stream is mostly inert
combustion products. As to de-soldering surrounding components,
use of a hot air shroud on the hot air source, and use of modeling
clay to form protective heat dams, can deal with that.

Gary
--
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Lawrenceville, GA 30244 | |

2096. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <54em53$rjl@newsbf02.news.aol.com>
Source record: 101580

In article <326f3903.2636643@eskinews.eskimo.com>, wrt@eskimo.com (Bill Turner) writes:

>
>If you're new at homebrewing amplifiers, you might want to check out AG6K's
>web site for a lot of good information:
>
>http://www.vcnet.com/measures/
>
>There is some personal stuff in there, since the author feels he was treated
>rather poorly by a well-known ham organization (I'm staying out of that), but
>the technical advice appears to be first-rate.
>
>73, Bill W7LZP

Hi Bill,

First, all of Measures stuff was sent out by QST to several independent engineers for review.

Unfavorable comments were received from a list that read like who's who in RF engineering. It included engineers at Harris, Collins, Eimac, NASA and many other places. Out of dozens of replys, not one was favorable. Measures uses his web page to lay blame on Dick Ehrhorn, QST, and even me.

The only thing QST handled poorly was printing Measures flawed theories without proper review.

I offered, and still offer, to debate Mr. Measures or his representative in an open forum on Internet or in any publication. The only restriction I require is we discuss one point at a time, and that both of us refrain from wild personal accusations about manufacturers, other people, or each other. In short, the only restriction is the debate be kept to technical issues, and not be full of personal attacks or wild conspiracy theories.

I would advise anyone looking for "good" amplifier tips to read Eimac's "Care and Feeding of Power Grid Tubes, or many of the excellent articles from QST or the Handbook back when proper technical editing was in vogue and people understood tubes, like in the 70's and earlier.

While many of Measures' suggestions are harmless, some are not. Some suggestions will put the user in harm's way, or cause equipment damage. I'd hate to see someone ruin a $500 tube, or worse yet hurt themselves, following poor advice.

73, Tom

2097. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: Stephen Ickes <thebizlk@erols.com>
Message-ID: <326B138A.4682@erols.com>
Source record: 101581

Excellent points. It's not surprising that AM broadcast still exists.
It still works. We still have FM stereo (technically inferior to other
systems), NTSC (nuff said below), the current CD system, PCs, VHS
videotape, internal combustion engines.... ad naseum. AM is just one
of many things that shouldn't exist but do mainly due to inertia.

Large infrastructure systems tend to change slowly.

Gary Coffman wrote:
>
> In article <546me6$2h6@library.airnews.net> jfriley@iadfw.net (J. Fred Riley) writes:
> >
> >I just gotta say one more thing about conventional AM. I never, in my
> >wildest dreams, thought that conventional AM would be in existence at
> >this point in history. I thought it was on its way out thirty-five
> >years ago. It is absolutely mind boggling that such an inefficient
> >transmission mode could--and has--survived so long, so well. Wanna
> >take a whack at explaining that.
>
> Interesting discussion. I'd like to take a crack at this non-technical
> point. A broadcaster survives by selling his product, an audience,
> to his customer, the advertiser. As long as the installed base of
> his product has AM receivers, he can't lure them with some other
> modulation. They'll just switch to his competitors, and he'll starve.
> (Well, if he switches to FM, he won't starve, but the FM allocations
> in the lucrative markets are all taken.) And of course, the audience
> isn't going to buy a receiver for a new kind of modulation as long
> as there's no broadcaster sending it. So there's a chicken and egg
> effect.
>
> The only viable way out of this is a forced conversion by *all*
> the players at once. This is what the FCC is doing to broadcast
> TV. We're all going to have to change over to digital under the
> same timetable. That avoids the problem of the audience switching
> to those who don't changeover, because there won't be any. So
> the audience has to buy new receivers, and other broadcasters
> don't gain a competitive advantage when one station switches
> to the new modulation because they'll all be switching.
>
> There *is* another way, and that's to maintain backward
> compatiblity. We did that when we went from B&W to color
> television with NTSC. That was an awful kludge, and saddled
> us with bad video for nearly 4 decades. We could have gone
> PAL instead, but that would have obsoleted our product's
> installed base of B&W receivers. If we'd done it all at once

> like the digital switchover is going to be done, it would have
> worked, but we were afraid to do that. We didn't know how
> addictive TV was back then.
>
> if we'd tried to work into it individually, we'd have starved
> because the audience wouldn't have rushed out to buy dual
> standard sets. Lots of UHF stations did starve until TV
> sets were mandated to receive both VHF and UHF, and that
> was a minor difference compared to an incompatibility between
> B&W and color.
>
> There is a new standard for AM broadcast lurking out there awaiting
> approval which is *transitionally* compatible. That's compatible
> digital. The broadcaster continues to broadcast AM while adding
> a digital broadcast on the same channel at the same time. It is
> cleverly designed so users with old receivers don't notice it, but
> users with new digital receivers can gain the benefit of it, stereo
> audio at least as good as FM with even better immunity to noise and
> fading, and requiring lots less power to broadcast (a 50 watt compatible
> digital signal has equivalent coverage to a 5,000 watt conventional AM
> signal).
>
> I'm afraid, however, that if the FCC doesn't mandate that new
> receivers include the ability to receive the digital signal, the
> ultimate changeover of shutting down the conventional AM broadcast
> after a transition period will never occur. (AM radio isn't as
> addictive as TV, and the audience would just continue to switch
> to FM as they're already doing instead of buying a new radio just
> to receive AM digital.)
>
> It's a hard problem to move a huge installed base to a new platform.
> We've seen that in the PC world, with aggravating limitations built
> into even our newest machines just so that they'll be backward
> compatible with old DOS software. Broadcast has the same sort of
> problems, but more so because the installed base is much larger,
> and much more firmly entrenched.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

2098. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-20 00:00:00 UTC
From: sam@stdavids.picker.com
Message-ID: <SAM.96Oct20050554@colossus.stdavids.picker.com>
Source record: 101582
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <n1istDzBwqJ.FHt@netcom.com> n1ist@netcom.com (Michael L. Ardai) writes:

> It would be nice for people to properly describe the condition of what they
> sell. But to limit people to only sell working items? That's ridiculous.

Yeh, my best purchases have been of dead things. In fact, much of my audio,
video, and test equipment was obtained in that condition. The prices are
generally right! :-)

--- sam

2099. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: Andy Cook <g4piq@blacksheep.org>
Message-ID: <54frnb$d39@pheidippides.axion.bt.co.uk>
Source record: 101486

Interesting discussion about getters and the 3-500Z and so on. I know of one TL922 amp with a pair of 3-500Zs in which was left turned on for about a 6 month stretch but without being significantly used as an RF amp. The amp will now only do about 500W out and, as no expert and on anecdotal evidence, I put this down to some form of poisioning of the heaters. Is this a non-reversable process that a few hours of giving the amp a good caning won't cure, and do people have any comments on the merits of running the heaters at overvoltage for a short time to burn the rubbish off the surface?

Andy Cook, G4PIQ.
g4piq@blacksheep.org

2100. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <54fqor$fgd@villa.fc.net>
Source record: 101487

In Article <540np5$66o@news.mtu.edu>, through puissant locution, dmbrodbe@mtu.edu (David Brodbeck) soliloquized:
>Another good approach is to make the schematics available somewhere on
>the World Wide Web. I know of several places where it's relatively easy to
>put up a small page.

Greetings. Ever check size of a good TIFF of a schematics? 4-5MB... figure compressing to a JPG ... maybe 100-200KB... how many of these can you fit in a 1MB account? :-| The ONLY way you can get this scheme off the ground is to get an .edu to dedicate a few dozen MB or some commercial company do some "PR" :-)

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2101. Handheld scope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: "D. J. Wang (N2YKP)" <ddw2@lehigh.edu>
Message-ID: <326B7DF0.6E16@lehigh.edu>
Source record: 101488

Greetings,
I found an interesting ad in EDN magazine and asked for further info
regarding an handheld scope I thought may be of interest to people in
this news group:

----------osziFOX
(R) An universal service oscilloscope

Once oscilloscopes were heavy and clumsy to handle but over the years
they
have got
smaller and smaller. The latest development in this field has just
appeared:
a memory
oscilloscope with a build in voltmeter in a handy, slim housing,
scarcely
longer than a
pencil and about as thick as your thumb.

Despite its small size, its performance can match that of a service
oscilloscope. With a
sampling rate of up to 20 MHz, even signals in microprocessor
circuits
can be
recorded.The small housing means that the LC-Display is
correspondingly small. Its relatively large matrix dots, however,
make
the display legible even at relatively long distances. The background
lighting further enhances the display.

The osziFOX has many uses in the worlds of work and hobby. It can be
used for
taking
measurements in:

amplifiers, digital circuits, telephone installations, hobby
electronics,
production-line tests, servicing, on-the-spot measuring.

With the osziFOX-Software for MS-DOS or MS-WINDOWS and the serial cable,
the
recorded signals can be shown simultaneously on a PC screen
[IBM-compatible] via the serial interface. For documentation purposes,
the
recorded signals can be stored on disk, or the signal image can be
printed

out.

Connection to the supply voltage [+9VDC...+13VDC] is via the cable and clips
provided or from an optional AC adapter.

Technical Data

Sampling rates: 50ns, 100ns, 0.5us...1ms
Input divider: 1V, 10V and 100V
Input coupling: AC, DC and Groung [GND]
Input impedance: 1Mohm
Trigger: +/-INTERN, +/-EXTERN, AUTO
Trigger level: six different Levels
Trigger enable: Continuous or Single
Voltmeter: AC or DC Voltmeter
LC-Display: 16 x 32 pixel resolution
LED-background illuminated, green
Operating voltage: +9VDC...+13VDC external, 10mA....90mA
For PC operation: MS-WINDOWS or MS-DOS-Version
At least 128KB main memory, RS232 interface
VGA or EGA monitor, optional printer
Dimensions: 165mm x 33mm x 20mm
Weight: approx. 85g
Warranty: 3 years

Distributor Pricing 9/1996 20 MHz Oscilloscope "osziFOX"

Sample Unit USD 99.99 at your local Radio Shack Store available.
100-400 pcs USD 72.50
500-900 pcs USD 69.95
1000-2400 pcs USD 68.00
2500-4900 pcs USD 67.65
5000-9900 pcs USD 67.30
10000 and more pcs USD 65.00

Shipment includes osziFOX(R) V3.0 Software for MS-DOS and MS-WINDOWS 31/2",
Trigger Cable and Clip, Ground Cable and Clip, Power Cable with alligator
clips, Serial Cable. Manual is provided in the Help File of the software for
MS-Windows.
Prices do also include duties and delivery costs to U.S. Border.

Fixed Retail Price USD 99.99 + Tax + Shipping/Handling

Packaged in Master Package of 100pcs available only (No gift box).

Payment terms are 50% in advance and 50% on delivery.
Delivery terms: Small quantities available on stock. Up to 12 weeks on huge
quantities.

WTT Inc.

DJ Wang/ N2YKP/3

2102. xtal filters, can I replace?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: cbs5ld@sun.leeds.ac.uk
Message-ID: <1996Oct21.100958.3884@leeds.ac.uk>
Source record: 101489

I've been building the G4BWE 80m / 20m superhet receiver. It has a xtal filter made up from 8.87...MHz colour tv xtals (8 of them). As I don't have the facilities for accurately checking their frequency I was thinking of using a 9MHz filter from somewhere. Is this alright (the 5-5.5 MHz VFO should be able to deal with the IF change no problems) from the point of view of input and output impedances and other stuff like that. If so then where in the UK would I be able to get these xtal filters? TIA

73 de Laurens RS171840

2103. Kenwood XCVR computer control

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: "J. Scott Northcutt" <snorthcutt@celerity.com>
Message-ID: <326BBA3C.3FE3@celerity.com>
Source record: 101490
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Greetings all,

I've been kicking around the notion of controlling my old Kenwood Ts-440 HF rig with my PC. I've found plenty of shareware programs that handle the PC end of things, but I'm a little shy about forking over 100+ bucks to get the official Kenwood interface box (especially since we have a new baby at home now). Are there kits and/or schematics for boards out there which could replace the Kenwood box? I assume it's just a TTL to RS-232 interface, but I'm not sure. Also, what about the EPROMs which plug into the radio? Are those only available on the used market these days? I'd be happy to hear from anyone who uses PC control for a '440 (homebrewed or otherwise). Thanks a lot.

73,
--Scott - AD4JR
p.s. - response via e-mail in addition to reply to the newsgroup would be greatly appreciated, as I check e-mail much more frequently. Thanks!

--
J. Scott Northcutt -- Hardware Engineer, Digital Video Products
Celerity Systems, Inc. -- Knoxville, TN -- (423) 539-5300, ext. 328
e-mail: snorthcutt@celerity.com (wk) OR snorthcutt@1stresource.com (home)
ham radio: AD4JR O- #include std_disclaim.h

2104. Re: Smart Gel Cell battery charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: Robert Ganter 3039 <ganter@ens.ascom.ch>
Message-ID: <326B677F.2564@ens.ascom.ch>
Source record: 101491

Daniel Lavoie wrote:
>
> I have a lot of gell cell battery packs that were taken off UPS'. Do you
> know where I can find a good article on gell battery charging. I would
> even consider buying the charger from a commercial retailler if you know a
> good make.
>
> My requirements are to be able to rechage a battery pack with a combined
> power rating of 200 watts/hour.
>
> Thanks
>
> Daniel
> VE3DCL

IN one of the last (the 1993 issue, I think) ARRL handbooks, there is a
charger for Gel cell batteries. It uses standard components troughout
and should be easy to adapt for Your Ah-ratings.

Another approach is to use a special IC from Unitrode (the UC3906, not
shure about the number). They have a webpage with complete datasheets.

Very easy to use IC, but quite expensive.

73

Robert HB9NBY

2105. Re: Kenwood XCVR computer control

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: stevem@best.com
Message-ID: <54g7v8$oa1@shellx.best.com>
Source record: 101492
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <326BBA3C.3FE3@celerity.com>,
J. Scott Northcutt <snorthcutt@celerity.com> wrote:
>Greetings all,
>
>I've been kicking around the notion of controlling my old Kenwood Ts-440
>HF rig with my PC. I've found plenty of shareware programs that handle
>the PC end of things, but I'm a little shy about forking over 100+ bucks
>to get the official Kenwood interface box (especially since we have a
>new baby at home now). Are there kits and/or schematics for boards out
>there which could replace the Kenwood box? I assume it's just a TTL to
>RS-232 interface, but I'm not sure. Also, what about the EPROMs which
>plug into the radio? Are those only available on the used market these
>days? I'd be happy to hear from anyone who uses PC control for a '440
>(homebrewed or otherwise). Thanks a lot.
>
>73,
>--Scott - AD4JR
>p.s. - response via e-mail in addition to reply to the newsgroup would be
> greatly appreciated, as I check e-mail much more frequently. Thanks!
>
>--
> J. Scott Northcutt -- Hardware Engineer, Digital Video Products
> Celerity Systems, Inc. -- Knoxville, TN -- (423) 539-5300, ext. 328
>e-mail: snorthcutt@celerity.com (wk) OR snorthcutt@1stresource.com
>(home)
> ham radio: AD4JR O- #include std_disclaim.h

The external box for the '440 is nothing more than a level translator.
converts TTL on the radio side to RS-232 on the computer side. You
can use the Maxim MAX232 series ICs to do that.

I'm not aware of any EPROMS that need to installed in the radio.
In my 440, the only ICs that needed to be installed were an 8255
UART and a 4040 ripple counter if memory serves.

Good Luck

Steve Muther WF6R

2106. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.misc ng

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: jbj@intr.net
Message-ID: <54fso2$i6p@news.intr.net>
Source record: 101493
Cross-posted to: rec.radio.amateur.boatanchors,rec.antiques.radio+phono,rec.radio.amateur.homebrew

Robert Casey (wa2ise@netcom.com) wrote:
: As per the usenews standard procedure, I posted the binary images
: in the binaries group: alt.binaries.pictures.misc and not in this
: non-binary group here. Images of an ordinary AM tube radio of the
: late 50's that I modified to use sub-mini vacuum tubes. Bear with
: my satisfaction on the success of this silly project. Anyway, I
: changed the IF amp tube's grid bias from ground to the AVC line
: (bias thru the 1st IF secondary, that is). So, that's what's
: different from 2 weeks ago.

: Image of the radio insides with the sub-mini's in place, another
: image of the schematic of this radio.
: This might have been the next generation of radio electronics,
: if transistors had not been developed.

: Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
: and ranging from 3cm to 5 cm tall. Mostly found in military surplus
: "boatanchor" radios of more recent tube vintage. I could post some
: info on various tubes, I have a manual that includes some sub-mini's.

I have an interest in these wire-base tubes. They had a brief
existance. I understand that they were used in portable
applications like 2-way radios, hearing aids and model
airplanes. I don't expect that there will ever be a big demand
for these, but I am trying to keep a stock of them for people
who have use, and I will gladly accept them from anyone who
is ready to discard them.

-- Andy

--
Andrew Mitz
arm@jbj.org
Bethesda, MD

2107. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <54g9rm$d10@newsbf02.news.aol.com>
Source record: 101494

In article <54frnb$d39@pheidippides.axion.bt.co.uk>, Andy Cook
<g4piq@blacksheep.org> writes:

>
>Interesting discussion about getters and the 3-500Z and so on. I know of
>one TL922 amp with a pair of 3-500Zs in which was left turned on for
about
>a 6 month stretch but without being significantly used as an RF amp. The
>amp will now only do about 500W out and, as no expert and on anecdotal
>evidence, I put this down to some form of poisioning of the heaters. Is
>this a non-reversable process that a few hours of giving the amp a good
>caning won't cure, and do people have any comments on the merits of
>running the heaters at overvoltage for a short time to burn the rubbish
>off the surface?
>
>Andy Cook, G4PIQ.

Hi Andy,

I'm not completely positive of this, but I believe the 922 has series connected filaments and also runs them a bit hot. Both are very undesirable.

The filaments have probably already been completely de-carburized through out the structure by the long filament hours, or perhaps contaminated by the long filament operation with a cold anode and no gettering.

All you can do is try, they'll either get worse, stay the same, or improve...hi.

By the way, the reason series connected filamnents are so bad is the thinnest most fragile filament has the highest dissipation at turn on. It also is the quickest filament to heat, and the temperature difference causes the resistance of the thinnest filament to heat even more rapidly than the heavier filament in the colded filament tube.

The filament less likely to stand the thermal shock (it's virtually all thermal, not magnetic) receives the most turn on power, and the most rapid heating.

Another problem is the operating bias switches back and forth between the tubes at a power line rate, with the total bias shift almost 28 volts from the extreme end to end of the directly heated filament chain (with 5 volt filament tubes). That always causes some unwanted and unnecessary noise or hum on a pure carrier.

Series connected filaments are bad enough in Christmas tree lghts, but they are idiotic in a power amplifier.

73 Tom

2108. Help with Intel 82510

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: bailey@osb1.wff.nasa.gov
Message-ID: <54g2e4$1ns@post.gsfc.nasa.gov>
Source record: 101495

I am trying to initialize an 82510 in an embedded design and am having great problems. I am simply trying to put the 82510 in the 8250 compatability mode and set the baud rate to 1200 baud. I have read all the appropriate data books and this seems like a simple proposition. Sometimes the chip initializes correctly and sometimes it does not. Does anyone have any ideas? Here is my 'C' code:

```
/*-----------------------------------------------------------*/

GIRBANK = 0x00; /* Switch to bank 0...8250 mode */
LCR = 0x80; /* Setup for baud selection */
BAL = 0xa0; /* Set 1200 baud...with 16 Mhz crystal */
BAH = 0x01;
LCR = 0x03; /* 8 data bits, no parity */

while(1) {
/* Wait til TX buffer empty */
while( ((value = LSR) & 0x40) == 0);

TXD = 0x41; /* Write the character 'A' to port */
}

/*-----------------------------------------------------------*/
```

Thanks,

Steve

2109. Linear Amp. WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: jimo@vt.edu
Message-ID: <54gdq6$g8g@solaris.cc.vt.edu>
Source record: 101496

Anyone have a 3cx3000 amp or a 4cx5000 amp for sale?

2110. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.misc ng

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: Roger Basford <Basford@g3vkm.demon.co.uk>
Message-ID: <hUyx3GAi$3ayEw0A@g3vkm.demon.co.uk>
Source record: 101497
Cross-posted to: rec.radio.amateur.boatanchors,rec.antiques.radio+phono,rec.radio.amateur.homebrew

In article <54fso2$i6p@news.intr.net>, Jeff Johnson <jbj@intr.net>
writes
>Robert Casey (wa2ise@netcom.com) wrote:
>: As per the usenews standard procedure, I posted the binary images
>: in the binaries group: alt.binaries.pictures.misc and not in this
>: non-binary group here. Images of an ordinary AM tube radio of the
>: late 50's that I modified to use sub-mini vacuum tubes. Bear with
>: my satisfaction on the success of this silly project. Anyway, I
>: changed the IF amp tube's grid bias from ground to the AVC line
>: (bias thru the 1st IF secondary, that is). So, that's what's
>: different from 2 weeks ago.
>
>: Image of the radio insides with the sub-mini's in place, another
>: image of the schematic of this radio.
>: This might have been the next generation of radio electronics,
>: if transistors had not been developed.
>
>: Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
>: and ranging from 3cm to 5 cm tall. Mostly found in military surplus
>: "boatanchor" radios of more recent tube vintage. I could post some
>: info on various tubes, I have a manual that includes some sub-mini's.
>
>I have an interest in these wire-base tubes. They had a brief
>existance. I understand that they were used in portable
>applications like 2-way radios, hearing aids and model
>airplanes. I don't expect that there will ever be a big demand
>for these, but I am trying to keep a stock of them for people
>who have use, and I will gladly accept them from anyone who
>is ready to discard them.
>
>-- Andy
>
I came across a British military "boatanchor" recently that used this
series of tubes, the A43R transceiver. Also, I worked in the 60's and
70's on a navigation system (Decca Hifix) that used these extensively.
They were also used in the UK as well for "deaf-aids" in the 50s, my
grandad had one which needed regular battery changes! If I ever get any
info on the A43R I might be chasing you for some spares!

73, Roger G3VKM

////////////////////////////////////
* e-mail: Basford@g3vkm.demon.co.uk *
* Roger Basford, Haddiscoe, Norfolk U.K.*

```
*//////////////////////////////////////*
```

2111. ATV 420/430 Mhz receive only beam antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: paolo@onramp.net
Message-ID: <54g66t$59r@news.onramp.net>
Source record: 101498

Does anyone have some good drawings on homebrew 420/430 Mhz
ATV receive beam antenna?

Please e-mail: paolo@onramp.net
or post here.

Thank you for responding.

Paolo - KC5VPV

2112. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <54gmsk$lut@peabody.colorado.edu>
Source record: 101499

In article <1996Oct20.031855.13172@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:

>I guess we're going at this the wrong way. The resists are all
>activated by UV, we're not going to get any action with red light.

Some resists require handling under safelights - these will be exposed by blue not to mention UV light - so blue LEDS might have a chance of being useful. A company makes a little UV-curer, for things like bonding teeth and doublet lenses. The UV source is a quartz-halogen bulb, filtered for near UV, and delivered with a small length of fiber-bundle, I think glass-based (since the bulb runs HOT). But unless you do something special to change it, glass and all plastics except polycarbonate are transparent in the near-UV, ~320-400 nm

>I haven't ever heard of a diode UV laser, and I doubt even one of
>the new blue LEDs would work. Looks like we need to make a collimated
>UV light source that'll fit in the pen carrier. The only UV light I've
>got is in the EPROM eraser, and that's too big. Does anyone know if
>the cheap multimode plastic fiber cable will carry UV? If it will,
>the light can be remote from the pen.

Spencer Gifts (and Edmund Scientific) black lights are only a few tens of dollars, and emit wads of light in the 360 nm neighborhood. The handheld minerallights are smaller, a bit more intense, and much more expensive. Neither is collimated.

UV diode lasers remain to be invented, and after that will be at least another decade before they are as cheap as the red ones are now, if ever.

Other UV lasers tend to be big and/or expensive. I've built a few nitrogen lasers - 337 nm - but it would be quite a project to fold one into a photoresist exposure station. Commercial UV lasers are all more than a few kilobucks.

UV LEDs also remain to be invented, but will come on the scene first.

Bruce
N6URH

2113. Re: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <54gdpu$4ef@sf18.dseg.ti.com>
Source record: 101500

In article <5409e9$dhs@news3.microserve.net>, tyler@cyberia.com says...
>
> Sorry to post here, it seems like the only place to post this sort of
> thing.

This IS the correct place for this question.

> Did anybody ever convert a CB to 10 meters?

I've converted DOZENS of them over the years.

> Is it easily done?

Yes, if you know what you're doing. You didn't say what kind you have,
and what you want to do with it.

> (nothing is ever easily done, but is it easier than making Hillary
> Clinton a nice lady?)

No comment... I'm a Republican... take a guess at my opinion! ;)

> It is going to need retuned to go to those freqs,

Yes, alignment of the VCO, receiver front end, and transmitter chain is
required after conversion, but this is not difficult to accomplish, IF
you know what you're doing.

> but you've also got to get rid of that 40 channel knob as far as tuning
> goes. How do you tune the band?

You just use the 40 channel knob. You could build a VFO, but it's not
worth the trouble. If you want VFO tuning, buy an HR-2510, HTX-100, or
something along those lines.

> Any help would be greatly appreciated... 73s Tyler N3SPD

Locate someone (another ham, library, etc) who has a good collection of
"73" magazine. Search the issues from about 1976 through about 1984 or
so (give or take a couple of years). They ran a continuing series of
articles entitled "CB To Ten". See also QST, August 1981, plus other
issues, and other magazines. In general, this sort of thing became a
popular thing to do about 1980 +/- a couple of years. There is a store
in Arizona called CBCI (that stands for CB City International). It is
run by Lou Franklin, K6NH, a long-time bootleg CBer who caters to other
bootleg CBers, but expanded his product line to suck in the hams. His
prices (when I checked a few years ago) were really OBSCENE, but he has
a very complete product line with virtually anything you could want to
modify a CB radio. Look in any recent issue of QST for his ad. If you

can find the Sams Photofacts book on your CB, buy it. The information
is invaluable, and the schematics are large and easy to read.

Other questions? email me privately.

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

2114. Re: Best CB's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: Adriaan <adpe1khp@pi.net>
Message-ID: <326C6EF5.5AED@pi.net>
Source record: 101501

krimson@micron.net wrote:
>
> Can anybody suggest a good quality brand and model handheld CB? My
> main criteria is sound and quality.
>
> Thanks if you can help me.
>
> Gary DarbyThe Best CB-set is that one without a Vol, speaker and a antenna.

--
Cuagn, Adriaan

PE1KHP Radiozendamateur

Homepage http://home.pi.net/~adpe1khp/home.htm
Packet Radio PE1KHP@PI8APD

QRV with VHF dx-ing SSB on 2 meter Tropo, MS, Sp-e and Aurora
---
There a lot of hamfun to do on 70cm, don't give it to the CB

2115. FS 811-A tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: ergo@leonardo.net
Message-ID: <ergo-2110961336590001@a22.leonardo.net>
Source record: 101502

I have 10 RCA and Raytheon 811-A tubes, NOS, that I would like to trade
for some type of audio frequency output tube (6550? EL34? 6C33C-B?),
anything with a lower plate impedance or voltage. Can anyone use these?

Eric Steinberg
1614 Silver Lake Bl.
Los Angeles, CA 90026

(213)665-8483

--
!klacktoveedsedsteen!

2116. Need Measurements Corp. Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <326BF310.F67@HVWTech.com>
Source record: 101503

I am looking for a manual for a Measurements Corp. model 58 UHF Field Strengh meter.

I would prefer an original manual but would be glad to get a photocopy if an original is not available.

Will, of course, gladly pay for manual, copies, postage etc. Pls. reply via email:

Mark@HVWTech.com

Thanks.

2117. Need Measurements Corp. Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <326BF330.438@HVWTech.com>
Source record: 101504

I am looking for a manual for a Measurements Corp. model 58 UHF Field Strength meter.

I would prefer an original manual but would be glad to get a photocopy if an original is not available.

Will, of course, gladly pay for manual, copies, postage etc. Pls. reply via email:

Mark@HVWTech.com

Thanks.

2118. SB-220 Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: kd7iy@rmci.net
Message-ID: <54g0qs$q2@clark.zippo.com>
Source record: 101505

Does anyone now who has parts for the SB-220 Heathkit Amp. Needed are the filter caps and the multimeter. E-Mail direct thanks.

Mac KD7IY

kd7iy@rmci.net

2119. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <54gdv0$4ef@sf18.dseg.ti.com>
Source record: 101506

In article <32625588.6870@kodak.com>, bmitchel@kodak.com says...
>
>Hi everybody,
>
>I have been on the QRP-L for a long time, and have seen
>the list change considerably since it started.
>
> Because it is becomming a list more of people building
>kits and Chasing foxes, I proposed that a new QRP-HB homebrew list be crea
>ted.
>
> Many people e-mailed me directly, and said, good idea..Many
>posting to the list directly said, No Way.
>
> Now, my question is is there enough interest out out there to support
>a QRP-HB (Homebrew) list or not?
>
> By some people on the list, I was told to come here and post
>(rec.radio.amateur.homebrew).
>
> With the current thread that is going on here, it seems that
>Homebrewing in general is at risk.
>
> What do you all think?
>
> 73
> Brad Mitchell
> WB8YGG

I'd like to see a newsgroup for QRPers. I mentioned this to a couple
of friends who are QRP-L members. They both said this idea has been
brought up many times, and each time, it was shot down in flames. I
can't see why, but that's what happened.

73 / 72 from D/FW
--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)

. . . . . .

2120. Re: Is building equipment a lost art?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <54fstd$1u5@sjx-ixn7.ix.netcom.com>
Source record: 101507

In <1996Oct20.232534.16746@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>In article <32697359.41C67EA6@bnr.ca> Michael Toner <mtoner@bnr.ca> writes:
>>
>>Another way to remove a SMD from a PCB is to use a hot air gun.
>>You need enough heat to melt the solder, but it is quicker
>>and does less damage than cutting the leads with a knife.
>>On the down-side, it tends to de-solder adjacent components...
>
>See another of my posts about electric hot air guns. Hot oxygen is
>corrosive, a torch is better because the air stream is mostly inert
>combustion products. As to de-soldering surrounding components,
>use of a hot air shroud on the hot air source, and use of modeling
>clay to form protective heat dams, can deal with that.

Some years ago I often visited a manufacturing subcontractor in the Southeast who used hot air for re-attaching SMD rework. These looked like big soldering pencils sans tip, and attached to both the AC line and the compressed-air lines that ran throughout the facility. They didn't seem to have a problem with their joints, so I don't think I'd worry too much about hot-air induced corrosion problems. Take a stroll through an electronics tool catalog (Techni-Tool, for example) and you'll see any number of hot-air SMD soldering tools.

If I were to use hot-air rather than an iron, I'd buy one specifically made for SMD work. With them you can control the heat, and they come with different size directors (deflectors?). I don't know how well a standard hot-air gun would work, but you can't control their heat and they're big and unwieldly. Gary's idea of the Weller propane device is a good one, too.

Then again, Friday I visited our manufacturing subcontractor (local here in the Silicon Valley), and they used Metcal stations throughout (this is a fancy soldering iron). At home I use my Weller iron (I'd rather have a Metcal - I'm keeping my eyes open at the swapmeets!).

In other words, use whatever works best for you. If you use an iron, there are three things that you'll need. 1) Very small tip, 2) very thin gauge solder, 3) tweezers. The method Laura mentioned earlier is a common one for soldering SMD devices and works quite well (tin one pad, hold part to this pad and reflow solder, then solder all other pads). You don't need to invest lots of money for new equipment.

Oh, and make sure your bench is well lit!

- Jeff, WA6AHL

2121. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.misc ng

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: anders.harwe@mailbox.swipnet.se
Message-ID: <54gnuc$58r@mn5.swip.net>
Source record: 101508
Cross-posted to: rec.radio.amateur.boatanchors,rec.antiques.radio+phono,rec.radio.amateur.homebrew

In article <wa2iseDzLz0z.Lnn@netcom.com>, wa2ise@netcom.com says...
>
>As per the usenews standard procedure, I posted the binary images
>in the binaries group: alt.binaries.pictures.misc and not in this
>non-binary group here.

When and under what title, I cani¿½t find it.

It shows the fact does we need an own binaries newsgroup.

Anders

2122. Re: Is equipment building and repair a lost art? NO!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: gradyr@mindspring.com
Message-ID: <gradyr-2110961102150001@user-168-121-178-82.dialup.mindspring.com>
Source record: 101509

In article <54fqor$fgd@villa.fc.net>, filipg@paranoia.com (Filip M Gieszczykiewicz) wrote:

> In Article <540np5$66o@news.mtu.edu>, through puissant locution, dmbrodbe@mtu.edu (David Brodbeck) soliloquized:
> >Another good approach is to make the schematics available somewhere on
> >the World Wide Web. I know of several places where it's relatively easy to
> >put up a small page.
>
> Greetings. Ever check size of a good TIFF of a schematics? 4-5MB... figure
> compressing to a JPG ... maybe 100-200KB... how many of these can you
> fit in a 1MB account? :-| The ONLY way you can get this scheme off
> the ground is to get an .edu to dedicate a few dozen MB or some
> commercial company do some "PR" :-)

All it takes is a little negotiation...Mindspring for instance offers 10MB of space for your WebPage. Mindspring is a VERY large ISP that provides access in lots of SouthEastern Cities. If you have a smaller ISP but Mindspring access (or something similiar), tell the smaller company! They want your business...I used to be on a server that allowed me 30MB of diskspace for a website. How...I told them I wanted it and paid an extra $5/month for it. I live in a small town of 40,000 and could get it done...surely someone in a larger city with several ISP's available can do it.

Sounds like a wonderful idea...I wished someone would pursue it!

Also...consider making it a .gif. The image is a B/W and by reducing it down to B/W only, size will be very little...about 20K. 1024K/20K can get 50 schematics up and still have 24K for a text only webpage. Want fancier webpage, cut down a schematic or two.

Grady

2123. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <54g8rp$1ho@li.oro.net>
Source record: 101510
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

"Loek d'Hont" <ldhont@ti.com> shared these priceless pearls of wisdom:
->I am restoring some radios but have problems with repairing the aluminum
->coating.

What you are looking at is the chromate version of Alodine. Alodine is an aluminum chemical film corrosion inhibitor and is really quite excellent. Most well-stocked automotive paint stores (not the handyman stores) have alodine.

I would suggest that you get a bottle of Metl-Prep while you are there. It is a alkaline etch for the aluminum that strips the old corroded aluminum surface down to the bare clean metal. THEN Alodine it and it is good for a long time. Watch out, the stuff will turn you into a girl if you spill it on the wrong spot.

Be VERY CAREFUL with the Alodine. There have been some credible reports that it is a decent carcinogen. Then again, the same is said of filet mignon.

If the paint stores don't have it, the aircraft parts houses certainly have it. We couldn't live without it in the flying game. By the way, if you have the option to use stainless steel hardware with the chassis, it will cut WAY down on that "powder white" corrosion that you see.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

2124. Re: Ethernet Coax for ham use, thicknet same as RG8 + more shielding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDzMz78.1Lr@netcom.com>
Source record: 101511

In article <548tcq$go_001@news.iquest.net> mai@iquest.net (Patrick Croft) writes:
>In article <541pkr$2jb@newshost.cyberramp.net>,
> twhite@digitrix.com (Tony White) wrote:
>>>I don't have my catalogs hadny, but I have heard of hams using this
>>>stuff with some success. I don't recall any numbers on loss but I think
>>>the stuff was around 50 Ohms.
>>
>>It is exactly 50 ohms. I use it for VHF/UHF receivers, but I wouldn't dare
>>transmit on it -- at least with over 25w power. I'd use RG/8-U instead.
>>
>Will handle KiloWatt - just not rated.

The low voltage markings on the ethernet thicknet coax is just to make
the fire inspectors happy, that serious power would not be piped thru
it when used in office buildings. That it could be strung thru the
ceiling without being enclosed in conduit. In ham use it can handle
whatever foamed RG8 can handle. Inspect it for vampire tap holes
though.

2125. Re: ** FLEA at MIT ** Sunday 20 October Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: mc@shore.net
Message-ID: <54fkss$3d8@northshore.shore.net>
Source record: 101512
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

In article <SAM.96Oct20050554@colossus.stdavids.picker.com>,
Sam Goldwasser <sam@stdavids.picker.com> wrote:
>In article <n1istDzBwqJ.FHt@netcom.com> n1ist@netcom.com (Michael L. Ardai) writes:
>
>> It would be nice for people to properly describe the condition of what they
>> sell. But to limit people to only sell working items? That's ridiculous.
>
>Yeh, my best purchases have been of dead things. In fact, much of my audio,
>video, and test equipment was obtained in that condition. The prices are
>generally right! :-)
>
>--- sam
This whole thread is getting ridiculous! If you don't like the deal don't
buy it! Stay home!

Michael Crestohl, KH6KD/W1
mc@shore.net

2126. Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: VINCENT COPPOLA <vinyc@snet.net>
Message-ID: <326C3BDD.389E@snet.net>
Source record: 101513

In reference to one of the amateur radar messages recently posted, I would like to get a copy of the Gunnplexer Cookbook article refering to chirp with a Gunnplexer. I have done some experimenting with FM-CW on the MACOM 87127 by modulating the varator with a triangle wave with a period of 10 hz and amplifying the audio tones from the mixer. Of course the higher the frequency the farther the object.

I think i would prefer to use a pulse radar, which is legal on all of the amateur microwave bands except for 23 cm and 3cm. Does anybody know why? I would like to correspond with anybody sharing a similar interests.

Viny Coppola N1VC

2127. FS: New 4CX1000A Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: beard@acca.nmsu.edu
Message-ID: <54gdb4$csn@bubba.NMSU.Edu>
Source record: 101514

I have a new 4CX1000A socket in original box. $75.00 plus shipping.
I also have several practically new 4CX1000A tubes. I built a
4CX1000A amp several years ago and acquired several brand new tubes that
have only been used in my amplifier. I now live in a crowded
neighborhood and can no longer use the amplifier. Let me know if you
are interested in the tubes and we will talk.

WA4QGA
David Beard
(915) 566-3525 after 6 PM Monutain Time

73

2128. Best CB's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: krimson@micron.net
Message-ID: <54ecrs$q9b@is05.micron.net>
Source record: 101583

Can anybody suggest a good quality brand and model handheld CB? My main criteria is sound and quality.

Thanks if you can help me.

Gary Darby

2129. Re: WTB: WX satellite rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <326B0132.74D7@magg.net>
Source record: 101584

Mitch Kobierowski (KJ7JA) wrote:
>
> Hi all,
> I am looking for a used 137.xx Mhz WX satellite receiver. I built up
> the circuit boards for the decoder and interface board that were in 73
> Amateur radio magazine several months ago (or was it longer?). I
> modified an old scanner, built a preamp, but I get a lot of noise and
> the picture resolution is not very good. I have looked at the hamtronics
> kits, but they were a little more than I wanted to spend. I would like
> to find a good receiver at a reasonable price. The age of the receiver
> is not important as long as it works. I would even be interested in a
> kit that someone built that dosen't work as long as it has the documents
> with it. I noted that in the magazine article some things weren't very
> clear, and if anyone else has built the circuits or attempted to build
> the circuits and can't get them to work I would be glad to share the
> info I learned.
>
> 73's
> Mitch (KJ7JA)Hi Mitch,

Somewhere on my shelves I have the Hamtronics VHF WEFAX receiver, IF board and audio. As I recall there is a P.S. built in along w/ an A/D converter I used to use with MultiFAX software. Xtaled for 137.5. Front panel has volume and squelch. Rear panel has antenna in, connector for lines to the computer. This is all nicely built in a Pac-ATec enclosure. Haven't used it in years. Also have a Spectrum Int'l 1.7 Gig to 137 downconveter. Let me know if you're interested and what you trhink is reasonable for the RX.

Dale WA2YPY

2130. Modified AM tube radio using sub-mini tubes, pix in a.b.p.misc ng

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-21 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDzLz0z.Lnn@netcom.com>
Source record: 101585
Cross-posted to: rec.radio.amateur.boatanchors,rec.antiques.radio+phono,rec.radio.amateur.homebrew

As per the usenews standard procedure, I posted the binary images in the binaries group: alt.binaries.pictures.misc and not in this non-binary group here. Images of an ordinary AM tube radio of the late 50's that I modified to use sub-mini vacuum tubes. Bear with my satisfaction on the success of this silly project. Anyway, I changed the IF amp tube's grid bias from ground to the AVC line (bias thru the 1st IF secondary, that is). So, that's what's different from 2 weeks ago.

Image of the radio insides with the sub-mini's in place, another image of the schematic of this radio.

This might have been the next generation of radio electronics, if transistors had not been developed.

Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter and ranging from 3cm to 5 cm tall. Mostly found in military surplus "boatanchor" radios of more recent tube vintage. I could post some info on various tubes, I have a manual that includes some sub-mini's.

2131. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: "Paul J. Adam" <paul@jrwlynch.demon.co.uk>
Message-ID: <HBRzRXAcfSbyEwoT@jrwlynch.demon.co.uk>
Source record: 101436
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

In article <54g8rp$1ho@li.oro.net>, Jim Weir <jim@rst-engr.com> writes
>What you are looking at is the chromate version of Alodine. Alodine is an
>aluminum chemical film corrosion inhibitor and is really quite excellent.
>Most well-stocked automotive paint stores (not the handyman stores) have
>alodine.

We use something similar as ALOCROM for repairing damaged anodising on
Sting Ray and Spearfish hulls.

>I would suggest that you get a bottle of Metl-Prep while you are there. It
>is a alkaline etch for the aluminum that strips the old corroded aluminum
>surface down to the bare clean metal. THEN Alodine it and it is good for a
>long time. Watch out, the stuff will turn you into a girl if you spill it
>on the wrong spot.
>
>Be VERY CAREFUL with the Alodine. There have been some credible reports
>that it is a decent carcinogen. Then again, the same is said of filet
>mignon.

It's a major hazard, as far as our safety people are concerned, and I'm
frankly surprised it's available retail. Handle it with great care.

It does work well, though, which is why its corrosive and carcinogenic
properties are tolerated.

--
"There are four kinds of homicide: felonious, excusable, justifiable and
praiseworthy."
Ambrose Bierce, "The Devil's Dictionary"

Paul J. Adam paul@jrwlynch.demon.co.uk

2132. Need RF connector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Rory.Davis@wymple.gs.NET
Message-ID: <199610222137.QAA20844@wymple.gs.net>
Source record: 101437

Hello all:

I'm looking for a U.S. source for the PC mount RF connectors used by ICOM and other manufacturers for inter-board coaxial connections. These are the jacks that are about .35" high, .15" shell inside diameter, center pin .06" diameter. Mounting tabs are .2" apart for the shell, with the center pin connection offset .1" between them (in a triangular shape). Material is silver plated. Insulator looks like nylon.

The mating plug crimps to RG-174 (in the Icom rigs it's grey cable).

Can anyone come up with the manufacturer and part number, maybe a distributor? Icom America stocks them in small quantities, but the folks there don't have a clue as to who makes them.

BTW, I need over a thousand of them. (sheesh...)

73
Rory N7CR

crdavis@gs.net

2133. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <54jfih$24d@li.oro.net>
Source record: 101438
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

"Paul J. Adam" <paul@jrwlynch.demon.co.uk> shared these priceless pearls of
wisdom:
->>
->>Be VERY CAREFUL with the Alodine. There have been some credible reports
->>that it is a decent carcinogen. Then again, the same is said of filet
->>mignon.

->It's a major hazard, as far as our safety people are concerned, and I'm
->frankly surprised it's available retail. Handle it with great care.

->It does work well, though, which is why its corrosive and carcinogenic
->properties are tolerated.

Are you talking about the Alodine or the filet? {;-)

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

2134. Free money

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: a043971t@bcfreenet.seflin.lib.fl.us
Message-ID: <54jet0$5ou@nntp.seflin.lib.fl.us>
Source record: 101439

Well now that I have your attention, I need schematics, for any thing and
everything. I just started my ham shack. So EM me back. KF4MKU standing by.

--
KF4MKU
/\/\/\/\
| |
| () () | DUH?
| _\ |
| |
| __/ |
\ /
_____/ 73's and have a nice day :-)

(Joey Solomon)
a043971t@bcfreenet.seflin.lib.fl.us

2135. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <326D315E.1269@up.net>
Source record: 101440
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

Has anyone used Zinc-Chromate for this purpose...used to be available
at most Automotive Supply stores...rather expensive, though.

Paul J. Adam wrote:
>
> In article <54g8rp$1ho@li.oro.net>, Jim Weir <jim@rst-engr.com> writes
> >What you are looking at is the chromate version of Alodine. Alodine is an
> >aluminum chemical film corrosion inhibitor and is really quite excellent.
> >Most well-stocked automotive paint stores (not the handyman stores) have
> >alodine.
>
> We use something similar as ALOCROM for repairing damaged anodising on
> Sting Ray and Spearfish hulls.
>
> >I would suggest that you get a bottle of Metl-Prep while you are there. It
> >is a alkaline etch for the aluminum that strips the old corroded aluminum
> >surface down to the bare clean metal. THEN Alodine it and it is good for a
> >long time. Watch out, the stuff will turn you into a girl if you spill it
> >on the wrong spot.
> >
> >Be VERY CAREFUL with the Alodine. There have been some credible reports
> >that it is a decent carcinogen. Then again, the same is said of filet
> >mignon.
>
> It's a major hazard, as far as our safety people are concerned, and I'm
> frankly surprised it's available retail. Handle it with great care.
>
> It does work well, though, which is why its corrosive and carcinogenic
> properties are tolerated.
>
> --
> "There are four kinds of homicide: felonious, excusable, justifiable and
> praiseworthy."
> Ambrose Bierce, "The Devil's Dictionary"
>
> Paul J. Adam paul@jrwlynch.demon.co.uk

2136. Looking for LOWFER experimental transmitter schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: twhite@digitrix.com
Message-ID: <54jl47$c0q@newshost.cyberramp.net>
Source record: 101441

I'm looking for some schematics for LOWFER experimental band transmitters. So far I've found only one, and certain components in the design make it less than desirable for me to try. Specifically, I'm wanting to try to build it with surplus components and home-wound coils.

I've looked at several of the LOWFER-oriented WWW pages already.

If you've got something, please email me. If you've got a schematic and can digitize, please feel free to email attach. If not, email me and I'll send you a SASE. Thanks.

2137. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <54jmto$qab@library.airnews.net>
Source record: 101442

w8jitom@aol.com (W8JI Tom) wrote:

>The getter...in the metal anode 3-500Z. It's coated on the anode, and is only
>fully activated with some anode color.

You're absolutely correct, Tom. Reid was kind enough to get the drawings out and check for me. He says, " The 3-500Z uses only a [zirconium] coating on the anode for gettering in the 3-500Z. This works to some degree at anode temperatures as low as 300 degrees C, but better of course when the anode is red hot. There is no tab or other getter in the tube."

I doubt that the filament is getting the anode hot enough to be effective but I do not know that for sure. If it isn't doing a good job--as implied--then idling the filaments with no anode color would certainly be inappropriate.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2138. Antenna Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Philip Simpson <phil.simpson@dial.pipex.com>
Message-ID: <326DA266.EA6@dial.pipex.com>
Source record: 101443
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur,rec.radio.shortwave,rec.radio.amateur.homebrew

Hello,

I would be grateful if any kind DXer's would kindly forward various articals on both antenna design and manufacture, my main areas of intrest include, anything from begineer designs thru novice to advanced designs.

Thank-you in anticipation

73's Phil

Please respond direct to e-mail address.

2139. Schematics for Car Radio AM to SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: mwilsher@randomhouse.com
Message-ID: <54jkbg$pd5@lex.zippo.com>
Source record: 101444

Does anyone have or know of schematics for a converter to listen to
SW on a cars AM radio.

thanks
Mike W KC5BOD

2140. SSTV,FAX,RTTY,CW, multimode Cheap!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <326D9DC6.5165@concentric.net>
Source record: 101445

If your looking for an inexpensive interface for Slowscan, Fax,
or RTTY check out this page.

http://www.concentric.net/~n9zle/hc.html

Spectrum display, scope, Device will decode CW too.
plus much much more. As little as $17 can get you this device.
N9ZLE
PS: The device will work with EZSSTV too.

2141. LOWFER - VLF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Dave Riley <daveaa1a@pcix.com>
Message-ID: <326D6D0A.5EB4@pcix.com>
Source record: 101446

Gudday,
Saw thread on bbs of Station SAQ in Grimestone Sweeden will broadcast
commeration message on the 23rd at 0900Z on 17.2 khz Yes 17.2 KHZ
CW with 200kw Alexanderson Alternator built in 1924..

Break out the Variometer and Coherer..

Hope to catch it on the Solid Stated RAK and E-Probe out in the woods.

Anybody else round here doing this schtuff??

Dave AA1A, 186.7 CCW FN42pb QRV/QRU daveaa1a@pcix.com

2142. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: pfriedr@azstarnet.com
Message-ID: <pfriedr.44.001905A0@azstarnet.com>
Source record: 101447

In article <1996Oct22.150659.23375@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>From: gary@ke4zv.atl.ga.us (Gary Coffman)
>Subject: Re: Is equipment building and repair a lost art? Your comments, please.
>Date: Tue, 22 Oct 1996 15:06:59 GMT

>speed. Turn on and turn off delays would be a bigger problem.

Use a mechanical shutter.

2143. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.102296.084711.09@treasure-d10.syix.com>
Source record: 101448
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
> and ranging from 3cm to 5 cm tall. Mostly found in military surplus
> "boatanchor" radios of more recent tube vintage. I could post some
> info on various tubes, I have a manual that includes some sub-mini's.

Well, in my day, early 60's they were being used as television antenna pre-amps
and called Nuvistors. That was almost the last hold out of tubes until those
silly-assed 5 functions in one tube compactrons came out. Fortunately those
only lasted a few years, since almost every one was proprietary.

Bill Baka

2144. Re: opening ICOM battery pack BP84?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: poplawtm@ykt0.attnet.or.jp
Message-ID: <54ldef$2hl@ykt0.attnet.or.jp>
Source record: 101449

As I sit here reading your post I glanced down at what was one a Icom BP-84 pack I tried to take apart. I tried to pry the bottom off and managed to do so with only <minor> damage. It is glued all around by an unknown type of adhesive. Inside you'll find the batteries themselves easy to remove. The bottom was permanently deformed by the process and wouldn't look right. If I find a similiar sized piece of black plastic to glue back in its place I might try to put it back together again. I decided to get one of the cheap replacement packs sold in the back of Ham Magazines. If I had it to do again I would get a NIMH replacement with twice the capacity or the same capacity and half the size of the humongus BP-84 - and might try heating the bottom of the pack to try and loosen the adhesive.

Cheers,

arisk@spidernet.COM.cy (Aris Kaponides) wrote:

>Can someone give some idea as to what is the best way to open the icom
>batt pack BP84 so that i can replace the cells?
>Thanks in advance
>de Aris-5B4JE

2145. Re: atv

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDzqoMI.HGw@netcom.com>
Source record: 101450

in <32670DD7.428@cris.com>, bob wrote:
: Hi I'm trying to locate an article on how to build a atv transmitter in
: the 440 rage. (the arrl blew it again.)

Electronics Now magazine, July and August, 1994.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2146. Quadrature modulator/demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: maroof@triton.kaifnet.com
Message-ID: <54h4j9$2fu@post.servtech.com>
Source record: 101515
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.design,sci.electronics.basics

Can anyone tell what a 'quadrature modulator' is? Is it used only for FM or
can it be used for AM and SSB detection too?
Has anybody used the Maxim MAX2450 quadrature modulator/demodulator?
Thanks for the help.

Maroof

2147. Re: New Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: herndon@texas.net
Message-ID: <54h6r9$m7f@news2.texas.net>
Source record: 101516
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <548uk3$5r@news1.mnsinc.com>, bry@mnsinc.com says...
>
>Does anyone know if the new newsgroup:
>rec.radio.amateur.boatanchors
>has got started yet?
>
>E-mail me!
>
>Bry, AF4K

I received this today from the obvious place on the internet. I'm forwarding it to you with the thought you might be interested in this subject.

K5FNI

If a message is ever rejected, please contact the list's owner:
listown@jackatak.theporch.com

For information on this service and how to use it, send the following request in the body of a mail message to listproc@theporch.com:

HELP

All requests should be addressed to listproc@theporch.com.

WELCOME TO THE BOATANCHORS MAILING LIST

We hate to say "welcome" with our hand stuck forward looking for money, but this is important for our survival as a useful resource.

TANSTAAFL (There Ain't No Such Thing As A Free Lunch):
The "boatanchors" list is privately funded and managed, which we feel gives more stability than a site dependent upon an individual's affiliation with an employer or university.

In the interest of keeping it this way, the members of the list have agreed among themselves to help defray the costs of its distribution through annual subscriptions, beginning 15 March 1996, with an annual fee of $12.00.

You will, as a new subscriber, have a "trial" subscription of about four to six weeks, which should give you plenty of time to look us over and make up your mind, as well as time to get your subscription in and processed.

If you find the information and fellowship here useful to you and you want to do your part to ensure the continuation of 'boatanchors'

you may send your subsription of $12.00 (be sure to include your email address on the check) to:

Jack G. F. Hill
P. O. Box 1685
Brentwood, TN 37024-1685

We can also take MASTERCARD, VISA, and AMEX -- FAX your card number and expiration date (with email address) to:
(615) 459-0038
The charge will be from "Delker ELectronics, Inc"

Now, with the business out of the way, on to more about the BoatAnchors mail list...

1. This mailing list is devoted to the discussion of vintage communications equipment, which we fondly refer to as "Boatanchors," and to closely related subjects. The central theme is vintage amateur radio equipment using vacuum tube (firebottle) technology, but we have been known to drift into discussions of such things as entertainment boatanchors, early tuned fgeeder antennas, telegraph keys, classic electronic/radio books and radio history.

** Note **
There are some topics that are too emotionally charged to generate worthwhile posts: in particular, the ARRL, Code versus No-Code, and the Examination Process, are all topics that can be discussed in other forums, and are considered inappropriate for this list. Please do not even *think* about posting about these subjects.

**** Special Note:
Even though we all prefer that there be few or no "rules" we have to have three hard and fast ones:

First, because, in the past, we have encountered problems with ARRL Bulletins being posted to the Boatanchors List, we must ask that you never post an ARRL Bulletin here, even if the subject matter is PRIMO Boatanchors.
Just do NOT do it.

Second, please do NOT ever "ping" the list... There is NO reason to send a test message to the list. If you are encountering delivery problems, please contact:

listown@jackatak.theporch.com

Due to the size of the list, even one or two "pings" result in a very heavy (and unnecessary) load on the list (especially if it is trying to recover from a crash.)

Third, do not discuss list policies on the list. There are other suitable forums available for such discussions, but never is the list an appropriate venue.

2. You will find the accumulated wisdom available here to be an invaluable resource if you have questions about vintage radio operation, maintenance, restoration, or history. If you have knowledge or expertise that can help answer a question, please post your responses. You may think that the answer to a specific question is best directed to the poster via direct e-mail. Sometimes, that is the best approach. But, some of the better threads on this list have been generated by a single question. So, when in doubt, post the response to the group.

3. As in most polite societies, we deplore the use of ANY electronic violence such as flames, personal attacks, and long-winded diatribes of any type. Please be courteous and polite. We think this mailing list has one of the highest signal-to-noise ratios on the InterNet and we want to keep it that way!

4. For sale notices and items wanted are welcome, IF the items are boatanchors and related equipment.

-- For long lists of items, direct them to:
listown@jackatak.theporch.com
so they may be made available to those who want them without burdening the entire list... And,

-- Please do ALL the haggling and negotiating via private e-mail or other means.

-- And, PLEASE do not post an advertisement for a commercial venture whether a newsletter, book, organization, or the like. We agreed long ago that these types of commercial uses of the list were at odds with the spirit and culture of the list. And please note that "commercial" has NOTHING to do with IRS status... it refers to organizations (and individuals) who habitually perform a service or sell something.

5. We ask that you limit the size of your responses, where possible. In particular, the list culture is different from many corporate environments, and the wholesale inclusion of a previously posted message is considered in bad taste when you use the reply function. Please edit the original posting to delete the parts that are not needed to understand your response. That effort will reduce bandwidth and storage requirements which, in turn, will make all subscribers much happier!

For long posts, such as a construction project, listing of military equipment contracts, and the like, please consider sending them to the list owner (listown@jackatak.theporch.com) so they can be posted to the list server for optional downloading, rather than posting a long post to the list as a whole.

6. This is the third incarnation of the Boatanchors mailing list. The original listowner was Jim Lockwood, KM6NK, who began the list at his workplace in August 1992 as a way to find other people who share his interest and passion for "heavy iron." When Jim moved East and

gave up his InterNet access, the reins were transferred to Paul Prescott, N1AAC, who ran the list for about 12 months through the good graces of MIT. In December 1994, "BoatAnchors" found a home on theporch.com with the current listowner, Jack GF Hill, W4PPT.

One of the more interesting things about this list is the fact that most of the original subscribers are still around.

7. The listowner is happy to provide this service via a list processor that supports subscribe, unsubscribe, and subscription delivery option changes and functions via correctly formatted messages. Problems that cannot be resolved by sending e-mail to the list processor should be addressed to:

listown@jackatak.theporch.com

Please *do not* submit such administrative messages to the whole list! Such messages only irritate the readers. If you remember only one thing from this message, remember that a "Help" message to the list processor (listproc@theporch.com) will get you instructions on how to unsubscribe or change your subscription options.

8. Hot Spare Boatanchors List

In order to reduce the affect of host outages at the main list server site such as we all experienced in Fall '94, a "hot spare" list server is set up at boatanchors@beacons.cts.com. It will normally be disabled, but in case of an outage at theporch.com a message will be sent to the list indicating the spare list address is to be used for list postings until the problem is resolved.

The subscription list will be mirrored at the spare site so that the disruption of list traffic will be minimal. The spare site will not be activated unless the outage persists for more than a day. In case of an extended outage of the main list site, subscribe/unsubscribe requests can be handled by the spare site since it runs the same software as the main site. Use the address listproc@beacons.cts.com, list name BOATANCHORS, for such requests.

9. This subscription is available in two formats. The first, also the default is to have each posting to the list mailed to you separately. If you want it like that, you don't have to do anything. The second option is to receive digests which means the messages are collected and mailed out to you only if it exceeds a length limit (approx. 1,000 lines or a time limit (one day). To change to the digest form, sent email to:

listproc@theporch.com

with the following body:

set boatanchors mail digest

If you want to temporarily suspend receiving the list but don't want to
sign off the list, you can set your mail to postpone by sending email
to listproc@theporch.com with the following in the body of the mail:

set boatanchors mail postpone

This will stay in effect until you change your mail status to one of:

ack noack or digest
(ack, the default, reflects your posting to the list back to you;
noack is individual messages, like 'ack' but does NOT send your
own submissions to you;
digest sends a daily compendium of messages, or when there are 1,000
lines of message)

10. Getting the FAQ

If you want to read the FAQ for the boatanchors mailing list please
send email to listproc@theporch.com with the following content:

get boatanchors FAQ

You will receive this via email in a short while.
Please note: the FAQ is about BoatAnchors, the gear, not about the mail list!

11. Again, welcome to Boatanchors!

2148. Re: FAX SSTV RTTY WEFAX with SoundBlaster: OK!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Eric Boll <ericboll@comland.com>
Message-ID: <54hkli$ia9@kermit.comland.com>
Source record: 101517
Cross-posted to: alt.ham-radio.digital-voice,es.rec.radio.amateur,fido7.hamradio,rec.radio.amateur,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,su.org.ham

Please check with your internet service provider. I am unable to access
the sites mentioned in your article.
Regards,
Eric Boll

2149. Re: your LISTSERV request "help with intel 82510"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Listserv@ucsd
Message-ID: <199610220447.VAA25756@mail.ucsd.edu>
Source record: 101518

```
The mailing list "with" could not be found.
You may use the INDEX command to get a listing
of available mailing lists.
```

2150. Test / Ignore

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: jsm@deepcove.com
Message-ID: <54hk7f$2b1@noc.van.hookup.net>
Source record: 101519

```
test
```

2151. Re: New Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: mc@shore.net
Message-ID: <54i5l7$mui@northshore.shore.net>
Source record: 101520
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

The boatanchors newsgroup is called rec.radio.amateur.boatanchors - and you subscribe using your newsreader program. The information file that was posted refers to the Boatanchors-List, a fine-business mailing list that has been around since August 1992 and is an excellent resource on the subject. The two are not the same - one is a mail reflector and the other is a usenet newsgroup.

73,

Michael Crestohl, KH6KD/W1
mc@shore.net

2152. New HamRadio Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: markg@wcoil.com
Message-ID: <54ial7$d1u@tofu.alt.net>
Source record: 101521

Just put up a new site at http://alpha.wcoil.com/~markg/hamradio/main.html

Will be posting some homebrew info, schematics misc....

Mark Gierhart
(KE8MB)

2153. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: jeroen@psas01.cern.ch
Message-ID: <DzoFLJ.Dv7@news.cern.ch>
Source record: 101522

In article <1996Oct20.031855.13172@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>
>I guess we're going at this the wrong way. The resists are all
>activated by UV, we're not going to get any action with red light.
>I haven't ever heard of a diode UV laser, and I doubt even one of
>the new blue LEDs would work. Looks like we need to make a collimated
>UV light source that'll fit in the pen carrier. The only UV light I've
>got is in the EPROM eraser, and that's too big. Does anyone know if
>the cheap multimode plastic fiber cable will carry UV? If it will,
>the light can be remote from the pen.

Plastic fiber won't pass UV light. In fact, it will be quickly
degraded by any UV light of useful intensity. A quartz fiber
might work. Any optics in the light path would have to be quartz
too. Finally, plotting would have to be (very) slow to adequately
expose the resist.

Jeroen Belleman
Jeroen.Belleman@cern.ch

2154. Re: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Ramon Gandia <no.spam@see.signature.part>
Message-ID: <326CBDD7.42F9@see.signature.part>
Source record: 101523

tyler wrote:
>
> Sorry to post here, it seems like the only place to post this sort of hting.
> Did anybody ever convert a CB to 10 meters? Is it easily done? (nothing is
> ever easily done, but is it easier than making Hillary Clinton a nice lady?)
> It is going to need retuned to go to those freqs, but you've also got to get
> rid of that 40 channel knob as far as tuning goes. How do you tune the band?
>

Syhthetized ones are tough to convert. Donate it to Goodwill or
the Salvation ARmy, get a nice tax deduction for it, and then
with the help of husband Billy Boy the Bozo and his tax plan,
go buy a nice, new FT-707 or 706. Heh heh.

--
In order to foil SpamBots, my e-mail address is not
machine readable. Please reply to address below:

Ramon Gandia, Nome, Alaska | rfg.at.nome.dot.net
AL7X S/V Seven Stars |
907-443-2437 fax 907-443-2487 | where at=@ dot=period

2155. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Ramon Gandia <no.spam@see.signature.part>
Message-ID: <326CBE72.2083@see.signature.part>
Source record: 101524

Ernest Hansen wrote:
>
> At one time, I had ideas about setting up a radar system. High power
> microwave is not healthy.

CW or FM radars (not pulsed type)(also known as doppler radars)
do not need high power.

But I can see it, converting your Kenmore Microwave oven into
a radar set....and you can roast winnies in it while watching
the traffic. Bet you can sell something like that to the
Hiway Patrol!!

--
In order to foil SpamBots, my e-mail address is not
machine readable. Please reply to address below:

Ramon Gandia, Nome, Alaska | rfg.at.nome.dot.net
AL7X S/V Seven Stars |
907-443-2437 fax 907-443-2487 | where at=@ dot=period

2156. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Ramon Gandia <no.spam@see.signature.part>
Message-ID: <326CC042.7260@see.signature.part>
Source record: 101525

J. Fred Riley wrote:
>
> Same thing--insofar as the modulation of the anode is concerned. PWM
> rigs are high-level plate modulated. The modulated stage doesn't know
> the difference.

I recall these Continental rigs. The r.f. tube and the modulator tube were in Series for DC, and the voltage would split between them. The modulator, or switch, would vary the voltage on the tubes, at peak the full supply voltage would appear across the r.f. tube, at a valley, the r.f. tube was basically zero.

Also, as I recall, the thing was not very linear (not enough to pass the proof-of-performance FCC test, so Continental sampled the r.f., fed it back (negatively) to a correction amplifier or speech amplifier to distort the modulation in such a way that the resulting distortion was cancelled and a clean output would result.

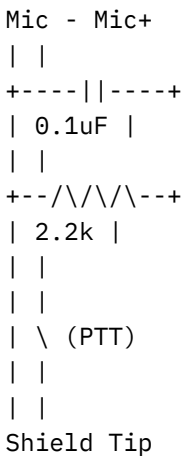
This same thing was also with the old Doherty transmitters with quadrature-fed (r.f) tubes that were grid modulated and also acchieved high efficiency without transformers and modulation chokes. Westinghouse liked these, if I recall correctly.
--
In order to foil SpamBots, my e-mail address is not
machine readable. Please reply to address below:

Ramon Gandia, Nome, Alaska | rfg.at.nome.dot.net
AL7X S/V Seven Stars |
907-443-2437 fax 907-443-2487 | where at=@ dot=period

2157. MIC/PTT interface HTX-202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: kdl@planet.net
Message-ID: <54iiar$ggt@jupiter.planet.net>
Source record: 101526

Help! I am trying to interface an external MIC/PTT combo to my Radio Shack HTX-202 HT. The diagram in the book is incorrect (it just doesn't work when wired as shown). I have taken apart one of the Mic's that RS sells and that didn't help much (I think I diagrammed it wrong). This is how it appeared to me:



Where did I go wrong (and don't tell me it was buying RS in the first place).

Thanks for the help,
73 de Kelly
KB2SYD

2158. Re: Ham-Homebrew Digest V96 #453

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: w1gak@mindport.NET
Message-ID: <199610221400.KAA09862@Eden.mindport.net>
Source record: 101527

Does anyone know where I can get schematics for VGA monitors? The company I consult for uses them on small boats and they get lots of pounding and vibration. I put 2 in the trash yesterday. I could repair them and give them away or save a few bucks. Also SMPS used in PC's (250 to 500 watts). Should be good for something in the shack! I have disposed of at least a dozen monitors in the past year. $250 $300 a pop adds up quick.
spencer trombly
w1gak@polaris.mindport.net

2159. CB to 10 conversions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <315987506@dental3.ab.umd.edu>
Source record: 101528

Dean, KC5NG-
Dean, since the type exceptance done by the FCC on CB's a few
years ago, what is the:
1. Best rig to convert? (i.e. gives the most features such as
memory, etc.)
2. The cheapest to convert? (just change a cheap PLL crystal or a
chip)
3. The easiest? (all parts identifiable and visable)

I have been thinking about a CB to 10 for the coming sunspot activity
and would appreciate any input to answer these questions, any
suggestions?

73 - 72 (feelow QRPer)
John <N3REY>
Always QRP!

2160. Copy Manual VF-1 (Heatn VFO)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: chasteenj@juno.COM
Message-ID: <19960913.014109.5487.0.chasteenj@juno.com>
Source record: 101529

Hello All

I have a DX-40 Xmitter and VF-1 VFO .
Deake 2B Receiver
Problem.... I need a copy of the manual for the VFO.
Would really appreciate a copy of the
Heath construction manual.

It would be nice to have a copy of operators
manual for the Drake Receiver.

I want to be ready to start work on my old BA equioment
just as soon as I take the Gen. License Exam.

Thanks for your help.
EX W9YWP near Chicago
73 John

chasteenj@juno.com

2161. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <54inci$eh3@library.airnews.net>
Source record: 101530

You remember the theory well. But the series arrangement actually has three variants, one called classic, one called PWM, and one called PWM; Harris used PDM, Collins/Continental used PWM.

> the thing was not very linear (not enough to pass the proof-of-performance FCC test, so Continental sampled
>the r.f., fed it back (negatively) to a correction amplifier

That's entirely incorrect. Either one of the three systems is very linear. Harris did sample the RF and feed it back into the power control and audio circuits. Collins/Continental never did use RF feedback on any PWM rig--and there's lots of reasons why. Collins/Continental did use an advanced feed-forward error correction circuit that sampled, among other things, the total supply voltage. The input audio/DC-Reference signal was corrected for non-linearities in a four-quadrant Hilbert Multiplier stage.

>This same thing was also with the old Doherty transmitters with
>quadrature-fed (r.f) tubes that were grid modulated and also
>acchieved high efficiency without transformers and modulation
>chokes. Westinghouse liked these, if I recall correctly.

No. Western Electric was the big Doherty amplifier manufacturer before Continental Electronics came along; Westinghouse developed their own high-level plate modulated transmitter called the 50-HG. The grids of the Doherty were not modulated by CEC; that was Western Electric. We always used a screen modulated driver. Mr. Weldon, the founder of Continental Electronics, found a new way to drive the carrier tube (grounded-grid) that stabilized the input impedance and lowered the feedback requirement from 30db to 10 db.

I should add that feedback was used in almost all transmitters (except the Collins/Continental) to control the hum from the PA filament. For instance, on the 50 KW AM that Harris made, the noise was about -52 db and 99% of that was attributable to the PA and Driver filaments. They used RF feedback to control that hum. A side benefit (for them) was also to use the RF feedback to control a power drift problem that the early PDM rigs had.

FRED

JFRILEY@airmail.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2162. Looking for smallest possible xtal osc. homebrew transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Iwan Latev <latev@xs4all.nl>
Message-ID: <54int7$75b@news.xs4all.nl>
Source record: 101531

Hi i am a rc enthousiastic and i am looking for transmitters for
telemetrie use is there anybody who has a schematic for this

please write to latev@xs4all.nl

2163. quadrature modulator/demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Walter Rawle <walter_rawle@ena-east.ericsson.se>
Message-ID: <326CFF73.388E@ena-east.ericsson.se>
Source record: 101532

Quadrature modulation, in simple terms, simply refers to the separation of the baseband signal into two components, like the Fourier transform sine and cosine series; mixing these two components up the RF frequency independently, and then re-combining them in a linear combiner (a simple summing circuit). The two baseband components are referred to as the I, for in-phase, and q, for quadrature phase, components. The LO signals that up-convert the baseband components to RF are equal in frequency but phase shifted 90 degrees. These circuits can theoretically be used for all modulation/demodulation techniques, but are very popular for various data communications such as pi/4 DQPSK. For AM and SSB, undergraduate communications textbooks will refer to synchronous detection. This is essentially a quadrature demodulator in disguise. Hope this helps

walter rawle VE1AWS/W4

2164. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct22.150659.23375@ke4zv.atl.ga.us>
Source record: 101533

In article jeroen@psas01.cern.ch (Jeroen BELLEMAN) writes:
>
>Plastic fiber won't pass UV light. In fact, it will be quickly
>degraded by any UV light of useful intensity. A quartz fiber
>might work. Any optics in the light path would have to be quartz
>too. Finally, plotting would have to be (very) slow to adequately
>expose the resist.

I wonder. I would assume that exposure is a function of
time * luminous flux/area. If I can expose a 3x5 board
in 10 seconds with a 60 watt sunlamp, that's 15 million
square mils. Now suppose I can concentrate that down to
a spot 50x50 mils, wouldn't that allow an exposure time
of 0.001667 second, or a plotting speed of 30 ips?

I'm not sure I could concentrate a 60 watt sunlamp down
that tightly without burning something up, but most of the
sunlamp's output isn't UV. If I used an 8 watt germicidal
lamp, it would probably put out more UV but lots less heat,
so things shouldn't melt too quickly if I concentrated that
down to a 50 mil spot. I could live with a 30 ips plotting
speed. Turn on and turn off delays would be a bigger problem.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2165. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct22.162625.23686@ke4zv.atl.ga.us>
Source record: 101534

In article <326CBE72.2083@see.signature.part> no.spam@see.signature.part writes:
>Ernest Hansen wrote:
>>
>> At one time, I had ideas about setting up a radar system. High power
>> microwave is not healthy.
>
>CW or FM radars (not pulsed type)(also known as doppler radars)
>do not need high power.

That's right. Our Harris doppler weather radar runs a whopping
20 watts chirp, but gives us the same 250 mile coverage as our old
75 kW pulse radar. The major difference is the vast improvement
in receiver technology. Instead of a 1N21B diode detector in the
front end, the newer unit uses a GASFET preamp, coherent detection,
and DSP back end processing.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2166. Need info on QB4/1100

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-22 00:00:00 UTC
From: Karl Martin Gjestrum <kytdalen@applause.no>
Message-ID: <326D1C81.53BE@applause.no>
Source record: 101535

I have a friend with a homebuilt linear amp for 80-10M. It uses a phillips QB4/1100 tube. He need all possible info on the tube,and he wonder if the 3-500z is possible to use. he also need schematic for qb4/1100 (socket configuration and power specs.) He would like to know if the 3-500z is a possible replacement. And would also like to know about any possible replacement tubes. Or even better compatible tubes with a higher power rating.

Best 73 de Karl, LA7EJA

2167. Re: Schematics for Car Radio AM to SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: twhite@digitrix.com
Message-ID: <54k16c$loj@newshost.cyberramp.net>
Source record: 101451

In article <54jkbg$pd5@lex.zippo.com>, mwilsher@randomhouse.com says...
>
>
>Does anyone have or know of schematics for a converter to listen to
>SW on a cars AM radio.

MFJ makes a kit for one, I think.

I might have a schematic on one, too. Let me dig through the archives.

2168. 4-1000A (Pair) Plans/Construction Hints

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: bobbyhigg@aol.com
Message-ID: <54k617$406@newsbf02.news.aol.com>
Source record: 101452

My parts kit runith over and is about to become reality! Before I etch the first piece of metal, I would like to find others that have built or have information concerning the construction of th Bill Brown "Bomb" as described in ham rags of the 60's. If you have anything that would assist me, please let me know.

Thanking you in advance--Bob--WB0DBM

2169. Re: Quadrature modulator/demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: andy@moose.mv.com
Message-ID: <DzpqEF.6yq@mv.mv.com>
Source record: 101453
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.design,sci.electronics.basics

maroof@triton.kaifnet.com (Maroof H. Choudhury) writes:
> Can anyone tell what a 'quadrature modulator' is? Is it used only for FM or
> can it be used for AM and SSB detection too?
> Has anybody used the Maxim MAX2450 quadrature modulator/demodulator?
> Thanks for the help.

A quadrature modulator simply takes 2 signals and suppressed-carrier
modulates them onto 2 RF carriers that are 90 degrees out of phase
(sine and cosine). If the 2 baseband signals are 90 deg out of phase
with each other, you can get SSB at the output, either upper or lower
depending on how you combine the outputs of each modulator.

I've used the RF Micro-Devices RF2422 which is a part for the 1 GHz to
2.5 GHz range with internal quadrature carrier phasing. Works like a
champ within it's ratings and limitations. Quite a simplification from
the procedures of a decade ago. They have a web site with data sheets
and app notes - http://www.rfmd.com/

Andy Borsa RF/Wireless Design Consultant andy@moose.mv.com

2170. Re: Schematics for Car Radio AM to SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <326DCCC3.1A78@wenzel.com>
Source record: 101454

mwilsher@randomhouse.com wrote:
>
> Does anyone have or know of schematics for a converter to listen to
> SW on a cars AM radio...

There is a crystal-controlled converter for WWV in our technical library
at www.wenzel.com. Other nearby frequencies may be tuned or the crystal
may be switch selected.

2171. Re: Wanted Radio Receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Madjid VE2GMI <mboukri@CAM.ORG>
Message-ID: <326DAD2E.67A4@CAM.ORG>
Source record: 101455

yves lajeunesse wrote:
>
> Does anybody know of a manufacturer or retailer that sells Ham
> Radio/Receiver Kits that you can build at home?
> The make and model doesn't matter but I would like to get a location
> to find them and prices if possible?
> Thanks in advance
>
> I can be reached by E-Mail At <yveslaj@aei.ca>

Ten Tec, Ten Tec, MFJ

Madjid, VE2GMI

2172. QRP transmitter (or amp) for Kantronics Freedom VFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: "David W. Knisely" <dk84538@navix.net>
Message-ID: <326E1283.481E@navix.net>
Source record: 101456

Does anyone have (or know where I can get) a decent schematic for a simple two-band (80m and 40m) QRP transmitter which can be fed by the Kantronics Freedom VFO? The VFO produces 2 milliwatts and has "high impedance" output (what it exactly runs in impedance, I have no idea). Thanks.

David W. Knisely, KA0CZC email: dk84538@navix.net
1616 North 14th St., Beatrice, Nebr. 68310

Prairie Astronomy Club, Inc. http://www.infoanalytic.com/pac/

BABYLON 5: Our last best hope for QUALITY science fiction.

2173. 220 NOTES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Georges Berthiaume <gb@interweb.com>
Message-ID: <54koem$kml@nic.ott.hookup.net>
Source record: 101457

Hi,

Does anyone know if the 220 notes publication is still around?

Would there be a recent address?

Or even better, does someone have back copies that I would pay
to have copied and sent to me?

Thanls,

Georges
VE3PFZ

2174. Re: Handheld scope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-2310960700120001@wd1v.mv.com>
Source record: 101458

In article <326B7DF0.6E16@lehigh.edu>, "D. J. Wang (N2YKP)"
<ddw2@lehigh.edu> wrote:
>Greetings,
I found an interesting ad in EDN magazine and asked for further info
> regarding an handheld scope I thought may be of interest to people in
> this news group:
> DJ Wang/ N2YKP/3

As the major manufacturers of oscilloscopes STOP the production of
analog scopes, digital alternatives are the rave. And when they show
up for $100 or less, its an opportunity one should examine carefully.

Since digital "sampling" can be accomplished in a variety of ways,
what gets presented isn't always what you might expect. "A little
knowlege is a dangerous thing."

My home page has a link to the latest "Digital Scope.FAQ" that
characterizes some of the concerns one might investigate PRIOR to
selecting a scope.

73,

John D. Seney
http://www.mv.com/ipusers/wd1v

2175. 6 meter mod for homebrew tv ant?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <54l06s$80t@news3.microserve.net>
Source record: 101459

Thanks for reading this post. I recently received an used tv antenna from my brother-in-law. It's in good shape since it was in the attic. (no corrosion) The longest dipole is just a little shorter than is needed for the 6 meter band. I put some 8" extensions on each side of the dipole but have yet to cut them. My question is this:

What length should I cut the dipole to to get in the middle of the band? (52Mhz)

I have calculated it at 113.5 inches from tip to tip. (1/2 wavelength) should it be a little longer or shorter? Any help would be greatly appreciated. I'm building a qrp single chip 6 meter fm transmitter and would like to use this antenna. Thanks...

73 de Tyler
N3SPD

2176. Re: www.hamradio-online.com: Is Ham Radio Still Relevant?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: dave@fgh.fgh.oz.au
Message-ID: <DzqC71.I5w@fgh.fgh.oz.au>
Source record: 101460
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Get this massive cross-post out of aus.radio.amateur.*, or get it cancelled.

--
Dave Horsfall VK2KFU dave@fgh.oz.au Ph: +61 2 9957-4224 Fx: +61 2 9922-5286
FGH Decision Support Systems P/L, 77 Pacific Hwy, Nth. Sydney, 2060, Australia

2177. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: "Robert L. Morgenstern" <robertlm@erols.com>
Message-ID: <326E24B4.30A1@erols.com>
Source record: 101461

Stephen Wandling wrote:
>
> Brad:
>
> Your posting has had me waxing philosophical. Stuff like humans need to
> communicate, and then when given the method or opportunity, have nothing
> to say.
>
> As an old CW op (1952) I recall many 'identical' ?conversations?:
>
> XMTR IS . . .
> RCVR IS . . .
> RST IS . . .
> GOTTA GO
>
> I guess my point is that I found it so exciting to fire up that 6L6,
> press the key and hear my call letters coming back. Beyond that it was
> just QRP, DX or as you say Fox hunts. The medium was the message.
>
> I am interested in Homebrew. Homebrew anything. It's something that I
> can provide some helpful information on at times. Kits are not
> homebrew. My own take on QRP is that it's small, cheap, portable and
> doable. I've had this fantasy of camping on some mountain ridge, with
> my antenna strung in the alpine firs, snug in my sleeping bag, tapping
> away to someone sitting in their shack in town.
>
> Is there more than that?Hi Stephen;
>is there more than that< Yup; How about solar driven QRP on the beachwith the Atlantic
Ocean as your gnd, a home brew 20m vert. and a plain
ol' straight key.Been there; done that; its a rush, let me tell you it
still is a rush. Guy in G3 land sez" rpt your power source and wattage"
The XYL refuses to be near me at a time like that..embarrased ! A grown
man (65) behaving like a kid. We all get older(hopefully) but the
trick to staying young is not to grow up. Enough philosophy.
73's /72's
Bob..WA2EAW

2178. TRIDENT TR2400 - SCHEMACTICS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199610231428.MAA14991@netra01.origin.com.br>
Source record: 101462

Some time ago I posted a message refered
to this TRIDENT TR2400 SCANNER.
I'm looking for it's schemactics, CPU pro-
gramming procedures, and so on.
If I know the "real" Manufacturer, will
help too. I have a "CPU" problem on such
rig and I'm trying to make the 1570 to
2060MHz range to work properly (I
have lack of sensibility on this GHz
range).
I supouse that this is any "asian" manu-
facturer, TRIDENT is just a label and ACE
Comms is the US distribuitors, but they
seems not have such information.
Any help?

Best regards. Marcus Ramos.
PY3CRX
Homebrewing from 170KHz to 10.25GHz
(mramos@originet.com.br)

2179. Re: Wanted Radio Receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Madjid VE2GMI <mboukri@CAM.ORG>
Message-ID: <326DAD6D.393D@CAM.ORG>
Source record: 101463

yves lajeunesse wrote:
>
> Does anybody know of a manufacturer or retailer that sells Ham
> Radio/Receiver Kits that you can build at home?
> The make and model doesn't matter but I would like to get a location
> to find them and prices if possible?
> Thanks in advance
>
> I can be reached by E-Mail At <yveslaj@aei.ca>

Ten Tec, Ten Tec, Ten Tec, MFJ

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows found there

2180. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <54leeh$g7s@newsbf02.news.aol.com>
Source record: 101464

In article <54jmto$qab@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>You're absolutely correct, Tom. Reid was kind enough to get the
>drawings out and check for me. He says, " The 3-500Z uses only a
>[zirconium] coating on the anode for gettering in the 3-500Z. This
>works to some degree at anode temperatures as low as 300 degrees C,
>but better of course when the anode is red hot. There is no tab or
>other getter in the tube.

And hence my point about some of the wild claims about parasitics and such.

There are two primary causes of arcing in the 3-500Z (assuming it was good at one time). You either have let the thing sit dead cold long enough for it to gas up, or you've never run the thing red enough to properly getter the tube.

The worse thing in the world for tubes like the 4-125, 3-400, 4-400, 3-500Z, 3-1000Z, 4-1000A, and others is to NEVER run them with some anode color.

When you turn em on, it won't be a little space Martian causing an avalanche of current, it'll be gas. The only way to de-gass em is to get the anode hot, and you can't do that without making em arc unless you pull the grids up positive and lower the HV.

73 Tom

2181. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: jbj@intr.net
Message-ID: <54lgja$krb@news.intr.net>
Source record: 101465
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

bbaka@syix.com wrote:
: Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
: > and ranging from 3cm to 5 cm tall. Mostly found in military surplus
: > "boatanchor" radios of more recent tube vintage. I could post some
: > info on various tubes, I have a manual that includes some sub-mini's.

: Well, in my day, early 60's they were being used as television antenna pre-amps
: and called Nuvistors. That was almost the last hold out of tubes until those
: silly-assed 5 functions in one tube compactrons came out. Fortunately those
: only lasted a few years, since almost every one was proprietary.

: Bill Baka

The Nuvistors I have seen are metal tubes that were smaller than
the (glass) pencil tubes. The pencil tubes have leads that were
either all in a row, or all on the circumference of a circle;
the nuvistor pins were arranged differently.

--
Andrew Mitz
arm@jbj.org
Bethesda, MD

2182. Re: Free money

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Steve Simpson <Steve@chubs.demon.co.uk>
Message-ID: <NxloFaAawkbyEwrr@chubs.demon.co.uk>
Source record: 101466

In article <54jet0$5ou@nntp.seflin.lib.fl.us>, Joey Solomon <a043971t@bc
freenet.seflin.lib.fl.us> writes
>Well now that I have your attention, I need schematics, for any thing and
>everything. I just started my ham shack. So EM me back. KF4MKU standing by.
>
>--

You might like to think again before posting a message with a title like
"Free Money"!!

Most people will ignore it and some people have their systems set up to
delete them on download.

It won't attract anyones attention it will just piss them off.

Regards
--
Steve "Chubby" Simpson
HTML Programmer/Night Club D.J.
Steve@chubs.demon.co.uk
G7NAY@GB7MSW.#33.GBR.EU
HTTP://www.chubs.demon.co.uk

2183. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct23.155039.27948@ke4zv.atl.ga.us>
Source record: 101467
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

In article <N.102296.084711.09@treasure-d10.syix.com> bbaka@syix.com writes:
>Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
>> and ranging from 3cm to 5 cm tall. Mostly found in military surplus
>> "boatanchor" radios of more recent tube vintage. I could post some
>> info on various tubes, I have a manual that includes some sub-mini's.
>
>Well, in my day, early 60's they were being used as television antenna pre-amps
>and called Nuvistors. That was almost the last hold out of tubes until those
>silly-assed 5 functions in one tube compactrons came out. Fortunately those
>only lasted a few years, since almost every one was proprietary.
>
>Bill Baka

Nuvistors are different from the pencil tubes (which are older). The
Nuvistor had a metal envelope and a form factor like a fat TO-5 transistor.
The pencil tubes have a glass envelope, and are tall and slender with wire
leads coming out one end. AFAIK Nuvistors were only offered as triodes,
with the 6CW4 being the most popular, but the pencil tubes came as tetrodes
and pentodes too (some with leads coming out both ends, some with contacts
which snapped into a holder like a fuse). The Nuvistor worked well at VHF,
but the pencil tubes didn't (too much lead inductance).

There were also planar tubes, some of which slightly resembled the pencil
tubes, except that they had a grid disc in the middle, and those did work
well at VHF and UHF. Other planar tubes, such as the gold plated WE416B,
looked more like a Nuvistor on steroids, though it had a grid ring and a
plate cap. These would work up into the low GHz. Other planar tubes were
called lighthouse tubes, and also worked up into the GHz. The metal/glass
2C39 is a popular example, since superceded by the metal/ceramic 3CX100A5
which is still used as a power amplifier tube at L band.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2184. Re: Antenna Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: James Lee Tabor <ku5s@wtrt.net>
Message-ID: <326E52AD.2952@wtrt.net>
Source record: 101468
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur,rec.radio.shortwave,rec.radio.amateur.homebrew

Philip Simpson wrote:
>
> Hello,
>
> I would be grateful if any kind DXer's would kindly forward various
> articals on both antenna design and manufacture, my main areas of intrest
> include, anything from begineer designs thru novice to advanced designs.

CAPMan - The recognized leader in HF propagation prediction software
using the
proven IONCAP engine. CAPMan is a mature package for amateur and
professional
alike featuring advanced system analysis.

CAPMan is excellent for system analysis, meaning in part that it
really shines for use in learning how a particular antenna will
work under real world conditions.

Good Luck,
Jim
--
CAPMan HF Propagation Prediction & System Analysis Software
http://ourworld.compuserve.com/homepages/KU5S

2185. Re: MIC/PTT interface HTX-202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct23.152156.27750@ke4zv.atl.ga.us>
Source record: 101469

In article <54iiar$ggt@jupiter.planet.net> kdl@planet.net (Kelly L) writes:
>Help! I am trying to interface an external MIC/PTT combo to my Radio
>Shack HTX-202 HT. The diagram in the book is incorrect (it just doesn't
>work when wired as shown). I have taken apart one of the Mic's that RS
>sells and that didn't help much (I think I diagrammed it wrong). This is
>how it appeared to me:
>
>
> Mic - Mic+
> | |
> +----||----+
> | 0.1uF |
> | |
> +--/\/\/\--+
> | 2.2k |
> | |
> | |
> | \ (PTT)
> | |
> | |
> Shield Tip
>
>Where did I go wrong (and don't tell me it was buying RS in the first place).

The 2.2 k resistor forms the "leaky PTT" for the radio, and is configured
properly. The radio should be going into transmit with the circuit as shown
when you close the PTT switch.

If it is a dynamic element you're trying to use, the capacitor
needs to be in series with it rather than in shunt, and probably
should be a larger value as well. If you're trying to use an electret
element, the circuit should work as shown if the FET preamp is built
into the element, though I'd drop the shunt capacitor value to 0.001uF.
If the element doesn't have a built in preamp, you'll need to add one
to boost its output up enough to drive the radio. You need about
100 mV peak to peak to drive the radio to 5 kHz deviation. If your
mic element is putting out lots less than that, it won't do without
an added preamp.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2186. Re: ** FLEA at MIT **

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <326f7d74.6710528@139.187.128.43>
Source record: 101470
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,sci.electronics.misc,rec.radio.amateur.homebrew

In the newsgroup sci.electronics.misc.
mlc@izzy.net (Tim Hynde) thoughtfully posted:

> This was truly one of the more entertaining posts I've read.

Oh, I kinda liked the "Windows is a piece of $#!%" and "My watch boots in 100nSec" posts.

;^)

> c.) I haven't found a flea yet that you couldn't find 120VAC SOMEWHERE, If
> your spending more than a hundred dollars or so test it out before you buy.

Ah! If you are really serious about buying equipment, carry one of those little 200W 120VAC inverter bricks *with you* in your backpack, along with a cigarette socket to car battery clip adapter. Keep a small marine or gel-cell battery in your car (or with a friend who has a table).

This way, when you "roll up" on a good deal, ask the seller if you can borrow his cigarette lighter, or car battery, for a few minutes. If you can't use his car (and if you have time), run back and get your battery.

If he refuses...There's your answer!

I keep an 8-cell "AA" battery holder and an assortment of pigtail power connectors in my backpack. This way, I have an adjustable 1.5 to 12V power source to test things there on the spot (I'm planning on making a complete test box, complete with ammeter and current limiting).

I also carry a bunch of "AAA" and "C" cells in my backpack ("C" cells can be shimmed into "D" holders with a few coins between the batteries).

The same rule applies, If they won't let you test it.....etc,etc,etc.

Will they give you their business card or phone number? Make it clear you will not bother them unless absolutely necessary (secretly write down their license plate number, for "Justin Case").

Also carry a pocket DMM (This is a *must* for any flea enthusiast - NEVER buy batteries w/o testing them first!) and a small, bright flashlight (for "inspections").

Smell the equipment too! This can be a big clue as to it's condition. Does it smell like something blew up? Does it smell musty or moldy?

Another clue I have found is the physical condition of the unit. Sometimes the "cleanest" unit of the bunch is the one that failed prematurely and got stuffed on a shelf or back in the box. Whereas the "used looking" units were just taken

out of service.

More importantly than "functional", is "complete".

Nuthin' worse than getting something and finding out a piece, or a board, or a module, or an expensive or rare IC is missing. Now you know it's not functional, and there may be little chance of it even becoming functional again.

I always assume "dead" until happily proven otherwise. Follow your instincts! If you have doubts, there's a reason! I always concider the scrap value of the item also. Any expensive goodies in it? The power switch may be worth more than the item!

Some of my best deals were the "I don't know if it works...Oh,..five bucks" deals.

It's a gamble...Ya' win some, ya' loose some!

Caveat Emptor!!!!! <sp?>

(Let duh buyer beware!)

Cheers,
Paul Grohe

Paul Grohe National Semiconductor Corp.
Sr. Electronics Technician 2900 Semiconductor Drive
AMPS New Products Eng Group Mail Stop C2693
Mailto:grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
(408) 721-7389 Tel (408) 721-2513 Fax

http://www.national.com

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Usenet Disclaimer: Any opinions expressed are mine, not NSC's

PLEASE! NO Solicitors/Junkmail/Pyramid/Chain/MLM/Headhunters!

2187. Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: bratcher@worldnet.att.net
Message-ID: <326e81ae.76945952@NETNEWS.WORLDNET.ATT.NET>
Source record: 101471
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Which recieving tubes can be used for transmitting also?
I've done it with a 6L6WGB, a 1U4 & a 3A5.
Which tubes make good RF amplifiers? I'm not expecting a lot of power maybe 50 watts max. I've heard some sweep tubes can do up to maybe 200W in CW or SSB service. I remember seeing a magazine article using a pair of 50C5's. Also heard of using 45 tubes but not sure what they would put out.

2188. Re: CB to 10 meters? anybody ever do it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: bratcher@worldnet.att.net
Message-ID: <326e86c1.78245094@NETNEWS.WORLDNET.ATT.NET>
Source record: 101472

My first 10 meter rig was a 4 channel tube type Johnson (Viking
Messenger?) mobile CB. Don't remember which Johnson model it was.
Conversion was pretty easy in 1975. So was getting crystals.

2189. Modulated CW for FM Transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: markn1wes@juno.COM
Message-ID: <19961023.141651.4511.0.markn1wes@juno.com>
Source record: 101473

Hello,

I'm looking for a simple circuit that can be built to generate modulated CW tones
for an FM transceiver and also has a PTT delay feature that would allow the use
of a straight key or keyer/paddle combo to send MCW in semi-break in style.

We are attempting to get more new HAMs involved in CW and presently they need
to pass a 5 wpm before they can even practice on the air. If only someone made
cheap VHF QRP CW rigs or kits like everybody and his brother does for HF.

Thanks for your replies.

2190. Re: Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <54lle5$ale@hpcvsnz.cv.hp.com>
Source record: 101474

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

some things about exposing a photoresist coated board with a plotter
driven light source.

FWIW, I've had good success laser printing to a sheet of tracing paper
which I then use as a transparency to expose a board coated with
Shipley AZ111S photoresist (probably same as the GC positive stuff;
GC probably just repackages the Shipley). With a 300dpi laser printer,
I can do 8 mil lines/8 mil spaces, though given a choice I'll not go
smaller than 10 mil/10 mil; a 600dpi could perhaps do 5 mil/5mil.
This is a whole lot easier for me than mucking about trying to get a
light source in the pen holder of my HP7220 flatbed. But there are
folk who swear by plotting directly to a bare board with the correct
pen/ink combination. I don't think they claim 5mil/5mil or even
reliable 8mil/8mil though.

It may be that an inkjet printer can put down dense enough ink on a
transparency to be used for board exposure, but I've not played with
that. But I do know that it's darn hard to get good enough density
on a laser-printed transparency. The tracing paper thing works much
better for me. You can get the laser printer to handle the thin paper
by folding a leading edge over a thicker piece of paper (e.g., 20 pound
stock).

For anything where dimensions are really important, it's hard to
equal a photoplotted transparency. It's worth getting one made for
critical things, IMO.

--
Cheers,
Tom
tomb@lsid.hp.com

2191. Re: CB to 10 conversions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961023092900.22823B-100000@primeline.net>
Source record: 101475

On 22 Oct 1996, JOHN F. McCLUN wrote:

> Dean, KC5NG-
> Dean, since the type exceptance done by the FCC on CB's a few
> years ago, what is the:
> 1. Best rig to convert? (i.e. gives the most features such as
> memory, etc.)
You won't get much features from a cb.

> 2. The cheapest to convert? (just change a cheap PLL crystal or a
> chip)
Almost any 3 crystal cb (usually 10.240,10.695, and 38 or so Mhz)

> 3. The easiest? (all parts identifiable and visable)

I like the older PLL tuned Uniden radios (most from that era should
be easy.

> I have been thinking about a CB to 10 for the coming sunspot activity
> and would appreciate any input to answer these questions, any
> suggestions?

Stay away from newer radios (the pll ICs were designed for CB use ONLY.

> 73 - 72 (feelow QRPer)
> John <N3REY>
> Always QRP!
>
>

Gary Tait , VE3VBF
Sorry for snipping messages,My newsserver won't allow less new lines
than old.

2192. Re: Schematics for Car Radio AM to SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961023093440.22823C-100000@primeline.net>
Source record: 101476

On 22 Oct 1996 mwilsher@randomhouse.com wrote:

>
> Does anyone have or know of schematics for a converter to listen to
> SW on a cars AM radio.
>
> thanks
> Mike W KC5BOD

Check out back issues of Radio Electronics(Electronics Now), and popular Electronics.

Gary Tait , VE3VBF
Sorry for snipping messages,My newsserver won't allow less new lines than old.

2193. Re: Wanted Radio Receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: akent@bga.com
Message-ID: <54mevi$kbo@news3.realtime.net>
Source record: 101477

Because the folks here don't want you to know WHERE Ten Tech is:
Here is a toll free phone number for you:

1-800-833-7373

If you want a pretty nice regenerative receiver kit for Ham bands,
look at the model 1253, at $59 bucks. It is in a very nice metal
cabinet, and works very well. While it does not have the sensitivity
of some high dollar scanners, you can hear around the world with it,
none the less.

No, I don't work for TT, but I like their stuff, and it IS made in the
US.

BTW: Their 2m/6m and other transceiver kits are getting an UPGRADE! I
wanted to get the processor source, and modify the unit to be able to
scan. You will be able to upgrade your TT kits for SCANNING ability! I
talked with an engineer today, asked for the processor software
source, was declined, but was assured that they are working on a
scanning capable upgrade! Really good of them, I thought!

Have fun.
Kent - KC5WPW

Madjid VE2GMI <mboukri@CAM.ORG> wrote:

>yves lajeunesse wrote:
>>
>> Does anybody know of a manufacturer or retailer that sells Ham
>> Radio/Receiver Kits that you can build at home?
>> The make and model doesn't matter but I would like to get a location
>> to find them and prices if possible?
>> Thanks in advance
>>
>> I can be reached by E-Mail At <yveslaj@aei.ca>

>Ten Tec, Ten Tec, Ten Tec, MFJ

>-----------------------------
>Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
>NEC4WIN Antenna simulation for Windows found there

2194. Re: Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: drassew2@aladdin.co.uk
Message-ID: <54lnu3$555@Arthur.interalpha.net>
Source record: 101478

dgf@netcom.com (David Feldman) wrote:

>I'm trying to find a catalog vendor by the name of "Farnell". Does anyone
>have their catalog? What is their phone number?

>Thanx,

>73 Dave WB0GAZ dgf@netcom.com

Their Phone number in the UK is

+44 113 263 6311
Farnell have just taken over Newark Electronics, giving us access to
their whole range.
73 Andy G4JNT

2195. Operating Contest for HomeBrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Dan Metzger <dmetzger@monroe.lib.mi.us>
Message-ID: <326E9C64.3A4E@monroe.lib.mi.us>
Source record: 101479

I've been QRT for 27 years, so please forgive me if this is a dumb question. Is there an operating contest for home-brewers? I'm building a HB transceiver, and have dreams of calling CQ HB and landing at the bottom of a pileup, just like rare dx. - Dan, K8JWR (e-mail reply appreciated - work often makes me miss postings)

2196. Re: Please help find Manual- Allied A2516 Ham receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Bob Miller <bmiller@calweb.com>
Message-ID: <326EE935.70C4@calweb.com>
Source record: 101480
Cross-posted to:
rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.ham-radio

Jim Larson wrote:
>Hi Jim

Try W7FG Vintage Manuals
800 807 6146
3300 Wayside Drive
Bartlesville, OK 74006

> Please help me find a source for a manual/schematics for an old Allied
> model A2516 ham receiver. It is an older tube type, a kit I think.
> I have tried Sam's and Sarrio with no luck. Does anyone know some good
> sources for manuals or possibly an individual that would have a xerox
> copy available? Please forgive me if this is in an FAQ somewhere,
> I am a newbie, and this is my first "taste of ham" :)
>
> p.s. I'm hooked.....
>
> Thank you ALOT!
>
>
> ._____
> /_____/| _____
> | | | /___/|
> |_____. ._____j/ | | |
> | | | |___|/
> _____ | | | _____ _____ _____
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> \ / / | | | | | \/ | | |
> _____./_/ |___|/' |___|/' |__|/'
>
> James K. Larson - james_l@efn.org - Junction City, Oregon

2197. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: cj@hth.com
Message-ID: <326e9c57.533816@news.buller.se>
Source record: 101481
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something (big or small) with the BASIC Stamp
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
```

```
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax PIC och BASIC STAMP produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

2198. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-23 00:00:00 UTC
From: Jim Cross <vactubes@cinternet.net>
Message-ID: <326E9D6D.48EA@cinternet.net>
Source record: 101482
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

> >Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
> >> and ranging from 3cm to 5 cm tall.

Subminis came mainly in three sizes:

T3 (tubular, 3/8" diameter)
T2 (tubular, 2/8" diameter)
T2x3 (tubular flattened, 3/8" x 2/8", mostly Raytheon originated types)

> AFAIK Nuvistors were only offered as triodes,
> with the 6CW4 being the most popular,

Note that the nuvistor types 7587 and 8380 are both tetrodes.

I'm trying to gather a set of nuvistors, and I am looking for types:
8058, 8203, 8227, 8382, 8393, 8441, 8456, 8627, 8627A, 8628, and 8808.

Reply via Email if you have extras to trade. Condition is unimportant,
except they must display well.

Jim Cross - vactubes@cinternet.net

2199. antenna tuner design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Paul Butler <pbutler@cyberramp.net>
Message-ID: <326F0164.45D9@cyberramp.net>
Source record: 101386

I am looking for some schematics on antenna tuners that can be built. If anyone knows of any please let me know.
Paul Butler-- de AB5TD
73's

2200. Re: New online survey asks--->Why aren't you an ARRL member?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: rcmorris@mars.ark.com
Message-ID: <54n376$66e@news1.planeteer.com>
Source record: 101387

wb6siv@cyberg8t.com (Raymond Sarrio) wrote:

>The ham Poll at (www.sarrio.com) shown below asks a new question for the
>month of October:

>Why Have You Not Chosen To Join The ARRL?

>Less than 1/3 of all ham radio operators are members of the ARRL. The
>question for this month is
>directed to those of you who are not members.

>From the list of possible reasons below, select the reason that best
>describes why you have not chosen the join the ARRL.

>Results as of Oct. 16,1996

>The most results as ofhe dues are too high. |********** 12
>Their Ham policy positions are not close to mine.|****** 6
>They are too closely tied to ham commercial interests. | 0
>I was not treated well by one of their representatives.|* 1
>I just haven't gotten around to it. |******** 8

>Total votes displayed: 27
>--
>The Raymond Sarrio Co. a full feature Ham Radio Storefront and web site developer. Located
at http://www.sarrio.com.

>In association with Brillar Enterprises http://win-win.com/brillar provider of discount
CD-Roms!
>
Greetings,
If you think things are bad re: national membership in the USA.
Radio Amateurs of Canada have approximately 20 percent membership of
all Canadian hams.
73. Ray. VE7FBJ.

2201. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: vk7cs@vision.NET.AU
Message-ID: <199610240747.SAA22671@saturn.vision.net.au>
Source record: 101388

Hi everybody!

Please help if you can.

I am looking for a QST article in 1992 called "Low Cost Digital

Signal Proccessing for the Radio Amateur" by Dave Hershberger.

I need to know the month it was published so that I can try to

get a copy through the Library.

73's Alex VK7CS

2202. Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: jpoll@redrose.net
Message-ID: <54nc7a$s6@lily.redrose.net>
Source record: 101389
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi.

I have a friend who swears up and down that the length of the coaxial cable to maintain resonance at a given frequency is important for reducing the SWR. He feels that it acts in a similar principal to the fact that the elements of an antenna must be cut to the correct length for the antenna to be resonant at a given frequency.

It seems to me I have also read somewhere that this is a myth. I need the true scoop on this. I'm preparing to put up a pretty good antenna system on my roof (a homebrew 10 meter antenna cut to exactly the middle of the band), and don't want to purchase an extra 6 ft of Belden 9913 coax only to have it looped up and losing signal, when in reality I could of used 20 feet instead of 26 feet of cable.

Please carbon copy any responses to this post to jpoll@redrose.net so I don't miss any good info.

Thanks

Jim

2203. NEED Scattering parameters for TP2180 PSE HELP if you have it

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: speedy
Message-ID: <54n0gi$gj@Steinlager.tip.net>
Source record: 101390

```
Help me pse i need Scattering parameters for an TP2180 transistor
i am going to use it on 144mhz

pse send mailto:jorgenj@uddeholm.se
```

73 de SM4WDQ
J&#65533;rgen

2204. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct24.140727.3033@ke4zv.atl.ga.us>
Source record: 101391
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <54nc7a$s6@lily.redrose.net> jpoll@redrose.net (James Pollock) writes:
> I have a friend who swears up and down that the length of the
>coaxial cable to maintain resonance at a given frequency is important
>for reducing the SWR. He feels that it acts in a similar principal to
>the fact that the elements of an antenna must be cut to the correct
>length for the antenna to be resonant at a given frequency.
>
> It seems to me I have also read somewhere that this is a myth. I
>need the true scoop on this. I'm preparing to put up a pretty good
>antenna system on my roof (a homebrew 10 meter antenna cut to exactly
>the middle of the band), and don't want to purchase an extra 6 ft of
>Belden 9913 coax only to have it looped up and losing signal, when in
>reality I could of used 20 feet instead of 26 feet of cable.

Ok, this can get complex because there are several interrelated
things happening here. Lets take them one at a time.

The only thing that determines SWR on a transmission line is
the ratio of the characteristic impedance of the line to the
impedance presented by *the load*. Nothing you can do at the
generator end can affect SWR, and changing the length of the
cable won't change SWR either (but see below).

However, changing the length of the line will change the impedance
presented to the generator. That's because a transmission line with
any SWR other than 1:1 acts as a transmission line transformer. By
changing the length of the line, you get an effect similar to, but
not quite the same as, changing the turns ratio of a transformer.
The SWR doesn't change, but the impedance presented to the generator
does. This can be useful, and is employed frequently for impedance
matching purposes. The most common such is the quarter wave matching
section.

In general, the impedance transformation will be complex, IE it will
be in the form of R+jX, where X can be capacitive or inductive depending
on cable length. The Smith Chart can be used to determine the transformation
effect by following the constant SWR circle around the chart for different
cable lengths (measured in wavelengths at the frequency of interest) and
reading out the R and X values. Note that the SWR is constant, but the
impedance presented to the generator changes with varying cable length.

Now something else can happen too, and this is where some of the
myths have arisen. If you feed a balanced antenna, such as a dipole,
with an unbalanced transmission line, such as coax, the *outside* of
the outer conductor of the transmission line can become part of one

arm of the dipole, and antenna currents can flow down the outside
of the transmission line.

Picture the dipole as a 1/4-wave section connected to the coax inner
and an L shaped element consisting of the other arm of the dipole and
the *outside* of the coax outer conductor. This can change the *load
impedance* presented to the transmission line because the antenna geometry
has been altered from a physically balanced dipole configuration, and
thus can change the SWR. Changing the coax length changes the effective
length of one leg of the dipole, and that changes the impedance presented
at the load end of the coax, and that changes SWR in the coax.

Coax transmission line currents flow on the outside of the inner
conductor and the inside of the outer conductor. This is because
of skin effect. The physics of coax forces the currents to be
equal in magnitude and opposite in direction. The opposite currents
cancel any radiation fields, and the coax doesn't radiate. But that
doesn't affect currents flowing on the outside of the outer conductor.
Those currents are independent of what's happening inside the coax.
Their radiation fields aren't canceled, and the coax becomes a radiating
part of the antenna.

Generally, it is undesirable to have antenna currents flowing on
the outside of the coax because it will alter the radiation pattern
of the antenna, alter its feedpoint impedance, and because it can
cause "hot shack" problems in some cases. The cure is to use a choke
balun at the antenna feedpoint to decouple the outside of the coax
from the antenna element to which the inside of the outer conductor
is connected. (A choke balun can be simply a few turns of the coax
tightly coiled just before connection to the feedpoint. Or it can
consist of a number of ferrite beads slipped over the coax near
the feedpoint. Its purpose is to act as a high impedance to currents
trying to flow down the *outside* of the coax outer conductor.)

When you use such a balun, or if you are feeding an inherently
unbalanced antenna such as a groundplane mounted vertical, then
the coax doesn't become part of the antenna, so it can't change
the load impedance presented to the coax, and thus can't change
SWR. Any length coax can now be used without affecting SWR, or
antenna radiation pattern.

So you can see, there is some truth to the myth that coax length
can alter SWR, but it isn't quite the way many amateurs picture
it. The reason it can happen is because the coax has become an
unintended part of the antenna due to a failure to properly deal
with the unbalanced to balanced connection at the antenna feedpoint
with a balun.

Gary
--
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Lawrenceville, GA 30244 | |

2205. Re: Wanted Radio Receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DzsD99.3A@encore.com>
Source record: 101392

I bought a Ten Tech "any band" direct conversion receiver
kit and built it for 40 meters. It was straight forward to
build and works pretty well for something that cost $30-something.
Drift before warmup is significant and the RF gain has to be
used carefully where strong signals might be present. I put the
biggest knobs I could find on the tuning controls and getting
SSB signals tuned properly is still very very touchy. Overall
I'm very satisfied as it provides a prospective new Ham
with exactly what she needs for CW practice at this stage.

Regards,
Pete
KS4XG

2206. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: borowski@spk.hp.com
Message-ID: <54o682$22v@hpcvsnz.cv.hp.com>
Source record: 101393
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Gary Coffman wrote:

>In article <N.102296.084711.09@treasure-d10.syix.com> bbaka@syix.com writes:
>>Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch diamenter
>>> and ranging from 3cm to 5 cm tall. Mostly found in military surplus
>>> "boatanchor" radios of more recent tube vintage. I could post some
>>> info on various tubes, I have a manual that includes some sub-mini's.
>>
>>Well, in my day, early 60's they were being used as television antenna pre-amps
>>and called Nuvistors. That was almost the last hold out of tubes until those
>>silly-assed 5 functions in one tube compactrons came out. Fortunately those
>>only lasted a few years, since almost every one was proprietary.
>>
>>Bill Baka
>
>Nuvistors are different from the pencil tubes (which are older). The
>Nuvistor had a metal envelope and a form factor like a fat TO-5 transistor.
>The pencil tubes have a glass envelope, and are tall and slender with wire
>leads coming out one end. AFAIK Nuvistors were only offered as triodes,
>with the 6CW4 being the most popular, but the pencil tubes came as tetrodes
>and pentodes too (some with leads coming out both ends, some with contacts
>which snapped into a holder like a fuse). The Nuvistor worked well at VHF,
>but the pencil tubes didn't (too much lead inductance).

There was a tetrode Nuvistor, the 7587. The plate connection comes out
as the top half the the body--there is a ceramic spacer between the
upper and lower half of the body.

The Nuvistor has construction different from other tubes. The active elements
are cantilevered off of the ceramic base. There are concentric rings of
pins in the ceramic base, three pins per ring. A cone-shaped element
support is welded to the group of three pins proper to the element. The
other end of the cone ends up at the necessary diameter for the cathode,
grid, or plate. On the outside of the base, two of the three pins are
then cut off. The stubs are still there, and do make electrical connection.

The heater connections are not located on a ring--there are just two
pins in the center of the rings.

The cantilever construction does make the Nuvistor rather microphonic.

>There were also planar tubes, some of which slightly resembled the pencil
>tubes, except that they had a grid disc in the middle, and those did work
>well at VHF and UHF. Other planar tubes, such as the gold plated WE416B,
>looked more like a Nuvistor on steroids, though it had a grid ring and a

>plate cap. These would work up into the low GHz. Other planar tubes were
>called lighthouse tubes, and also worked up into the GHz. The metal/glass
>2C39 is a popular example, since superceded by the metal/ceramic 3CX100A5
>which is still used as a power amplifier tube at L band.

Donald Borowski WA6OMI Hewlett-Packard, Spokane Division
"Angels are able to fly because they take themselves so lightly."
-G.K. Chesterton

2207. Re: Quadrature modulator/demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct24.161805.3743@ke4zv.atl.ga.us>
Source record: 101394
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.design,sci.electronics.basics

In article <54h4j9$2fu@post.servtech.com> maroof@triton.kaifnet.com (Maroof H. Choudhury) writes:
>Can anyone tell what a 'quadrature modulator' is? Is it used only for FM or
>can it be used for AM and SSB detection too?
>Has anybody used the Maxim MAX2450 quadrature modulator/demodulator?
>Thanks for the help.
>
>Maroof

Ok, quadrature means a 90 degree phase shift, IE signals which are orthogonal to each other. These signals are called I and Q where I in the in-phase signal and Q is the quadrature-phased, or 90 degree shifted, signal.

Now there are various usages of quadrature in modulation and demodulation.

The FM quadrature detector is a special form of frequency discriminator. It splits the received signal into two components. The I signal is fed directly to one input of an exclusive OR gate (also known as a phase detector). The Q signal is first delayed 90 degrees by a LCR circuit and then fed to the other input of the XOR gate. The LCR circuit will only yield a 90 degree delay at the carrier frequency. At a higher or lower frequency, it will deliver a greater or lesser delay.

When receiving an unmodulated carrier, the lowpass filtered output of the XOR gate will be a DC level midway between the + and - supply voltages. If the signal is modulated, as the frequency swings higher, the filtered output of the XOR swings lower, and when the frequency swings lower, the filtered output of the XOR swings higher in proportion to the frequency change. That's because the signals slide in time with respect to each other according to the departure from quadrature of the LCR circuit at the instantaneous frequency. This recovers the audio modulation impressed on the FM carrier at the transmitter.

A different usage of quadrature allows generation or demodulation of amplitude modulated signals such as SSB. In this case, two quadrature delays are used, one at carrier frequency and the other at modulation frequency. Through use of a pair of balanced mixers and a combiner, SSB of either LSB or USB can be generated or detected.

Generically, the amplitude response of a quadrature system is

y = |sqrt(I^2 + Q^2)|

The phase response of a quadrature system is

phi = arctan(Q/I)

By combining the amplitude and phase relations with suitable
circuitry, IE multipliers, summers, etc, any arbitrary signal
form can be generated or detected since any signal modulation
can be described in terms of its instantaneous amplitude and
phase.

Gary
--
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2208. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <326f9582.61057836@news.santafe.edu>
Source record: 101395
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

jpoll@redrose.net (James Pollock) wrote:

>Hi.
>
> I have a friend who swears up and down that the length of the
>coaxial cable to maintain resonance at a given frequency is important
>for reducing the SWR. He feels that it acts in a similar principal to
>the fact that the elements of an antenna must be cut to the correct
>length for the antenna to be resonant at a given frequency.
>
> It seems to me I have also read somewhere that this is a myth. I
>need the true scoop on this. I'm preparing to put up a pretty good
>antenna system on my roof (a homebrew 10 meter antenna cut to exactly
>the middle of the band), and don't want to purchase an extra 6 ft of
>Belden 9913 coax only to have it looped up and losing signal, when in
>reality I could of used 20 feet instead of 26 feet of cable.
>
> Please carbon copy any responses to this post to jpoll@redrose.net
>so I don't miss any good info.
>
> Thanks
>
> Jim
>
The length of coax doesn't change the VSWR, assuming it's all the same impedance. However, the impedance at the transmitter output will be a function of cable length if the VSWR is not 1:1. Ultimately what matters is not the VSWR, but the impedance match to the transmitter. All that is required is a conjugate match so that the transmitter sees a resistive load of the right resistance at the output device.

There is one way that the coax length affects VSWT. If the attenuation is high the VSWR gets better with length. Someone once said a good low power load for 144 MHz is 100 ft of RG-58. It doesn't matter too much what's on the far end.

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

2209. dsp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Guy Gent <024288i@cleveland.ac.uk>
Message-ID: <3270234A.1328@cleveland.ac.uk>
Source record: 101396

Hi, does anyone out there know where i may be able to get some DSP
software for free?

Guy.

2210. DSP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Elizabeth Fleming <020607l@cleveland.ac.uk>
Message-ID: <327022B9.1318@cleveland.ac.uk>
Source record: 101397

Hi,
Does anyone know where i can get some Digital Signal Proccesing
software from for nothing.

I Would be grateful for any assitance.

Guy.

2211. Re: Amateur Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Dave Riley <daveaa1a@pcix.com>
Message-ID: <326FC14C.779D@pcix.com>
Source record: 101398

VINCENT COPPOLA wrote:
>
> In reference to one of the amateur radar messages recently posted, I
> would like to get a copy of the Gunnplexer Cookbook article refering to
> chirp with a Gunnplexer. I have done some experimenting with FM-CW on the
> MACOM 87127 by modulating the varator with a triangle wave with a period
> of 10 hz and amplifying the audio tones from the mixer. Of course the
> higher the frequency the farther the object.
>
> I think i would prefer to use a pulse radar, which is legal on all of the
> amateur microwave bands except for 23 cm and 3cm. Does anybody know why?
> I would like to correspond with anybody sharing a similar interests.
>
> Viny Coppola N1VC
Hi Viny, I'm trying the same thing but only Doppler Speed so far on
10ghz. Ended up on 10ghz ssb/cw and hilltopping but think the radar
aspect could be done with 1mhz or 10mhz square wave or triangle
and measuring phase delay on those modulated sigs right from mixer
out to sampler/detector. 1 mhz would give 150m distance and
10mhz would be good for 15 meters away. Wd make neat low cost
Altimeter for Aircraft on ILS or Helicopter??
Will look for your messages on here.. 73 de Dave Riley AA1A

2212. Re: Modulated CW for FM Transceivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct24.165341.3921@ke4zv.atl.ga.us>
Source record: 101399

In article <19961023.141651.4511.0.markn1wes@juno.com> markn1wes@juno.COM (Mark K Flanagan) writes:
>Hello,
>
>I'm looking for a simple circuit that can be built to generate modulated
>CW tones
>for an FM transceiver and also has a PTT delay feature that would allow
>the use
>of a straight key or keyer/paddle combo to send MCW in semi-break in
>style.

Sounds like a job for a dual 555 timer chip. Run one section astable as your tone generator, and run the other as a retriggerable monostable with a time constant set for the hang time you want. The first section feeds the FM rig's audio input and the second feeds its PTT. Key closure gates the astable tone, and starts the monostable.

>We are attempting to get more new HAMs involved in CW and presently they
>need
>to pass a 5 wpm before they can even practice on the air. If only
>someone made
>cheap VHF QRP CW rigs or kits like everybody and his brother does for HF.

Sounds like a club project. Some of the FM receiver on a chip chips have a RSSI output. The Moto MC13135 does, and it has a frequency response out to 80 kHz. That'll recover the keying waveform of a CW transmitter. Just let it drive a 555 astable to create a regenerated tone to be copied, or feed it to a microprocessor for automatic code reception.

The transmitter can be any keyed RF source. The MC2800 will do, or you can use traditional discrete osc -> multiplier -> PA style construction for the transmitter. A hand key or a microprocessor can generate the keying waveform.

Crystal control is best for simplicity of netting the units.

An alternative is a simple transverter, such as the Hamtronics kit, used in front of any of the 10m QRP rigs. After they pass the 5 WPM, they can use the 10m QRP rig directly too.

Or, you can use the R2 and T2 (kits available from Kanga), and supply a LO yourself. They're good up to 500 MHz depending on the LO you choose. These beauties can also be used on HF after the code test is out of the way, and they'll do SSB, FSK, or PSK too, IE they're I/Q radios and can handle any arbitrary

modulation form you wish.

You've got plenty of choices. You don't have to stick with FM MCW,
though that is simple if you already have FM transceivers, and that'll
let you use repeaters for range extension too.

Gary
--
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2213. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct24.170840.4088@ke4zv.atl.ga.us>
Source record: 101400

In article <DzruKG.11@pe1chl.ampr.org> pe1chl@amsat.org writes:
>In <1996Oct20.072452.14246@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>>There *is* another way, and that's to maintain backward
>>compatiblity. We did that when we went from B&W to color
>>television with NTSC. That was an awful kludge, and saddled
>>us with bad video for nearly 4 decades. We could have gone
>>PAL instead, but that would have obsoleted our product's
>>installed base of B&W receivers.
>
>What do you mean here? Going from NTSC to PAL or directly from B&W to PAL?
>
>Europe has (mostly) gone directly from B&W to PAL and it DOES have
>backward compatability. I have watched colour transmissions on a B&W
>TV for years.
>In fact, there is little difference between an NTSC and PAL signal: the
>alternating phase of the colour carrier between successive lines.

Ah, there's the little matter of different sweep rates. But you're
right, we could have gone directly from B&W to PAL-M, which does
use the standard (to the US) sweep rates. Of course NTSC pre-dates
PAL and SECAM, so those weren't really options at the time. The
choices were NTSC or the CBS sequential color system (it wasn't
compatible either, but made much better pictures).

As a chuckle, here are some definitions for the acronyms.

NTSC Never Twice the Same Color
SECAM System Essentially Contrary to the American Mind
PAL Perfection At Last

Gary
--
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2214. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: dhughes@efn.org
Message-ID: <326fc364.5358598@news.efn.org>
Source record: 101401
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Thu, 24 Oct 1996 14:07:27 GMT, gary@ke4zv.atl.ga.us (Gary Coffman)
wrote:

>In article <54nc7a$s6@lily.redrose.net> jpoll@redrose.net (James Pollock) writes:
>> I have a friend who swears up and down that the length of the
>>coaxial cable to maintain resonance at a given frequency is important
>>for reducing the SWR. He feels that it acts in a similar principal to
>>the fact that the elements of an antenna must be cut to the correct
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>> It seems to me I have also read somewhere that this is a myth. I
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>>Belden 9913 coax only to have it looped up and losing signal, when in
>>reality I could of used 20 feet instead of 26 feet of cable.
>
>Ok, this can get complex because there are several interrelated
>things happening here. Lets take them one at a time.
>
>The only thing that determines SWR on a transmission line is
>the ratio of the characteristic impedance of the line to the
>impedance presented by *the load*. Nothing you can do at the
>generator end can affect SWR, and changing the length of the
>cable won't change SWR either (but see below).

<huge snip>

>Gary

In general, the correct length of coax for an HF antenna is the
distance it takes to get from the transmitter to the antenna. Don't
worry about length.

Dick Hughes - W6CCD

2215. Re: quadrature modulator/demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct24.173641.4359@ke4zv.atl.ga.us>
Source record: 101402
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.basics,sci.electronics.design

In article <54mr99$qak@post.servtech.com> maroof@triton.kaifnet.com (Maroof H. Choudhury) writes:
>
>Is quadrature modulation a modification to the 'phasing mathod' or 'Weaver
>method' of SSB generation or is it actually the same thing?

Quadrature modulation *is* the phasing method, or more precisely, the
phasing method is one subset form of generic quadrature modulation.
The Weaver method is something a bit different.

Gary
--
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Lawrenceville, GA 30244 | |

2216. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Steve Iezzi <SIezzi@Aeronix.Com>
Message-ID: <326FC774.7C67@Aeronix.Com>
Source record: 101403
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jim Potter wrote:
>
> jpoll@redrose.net (James Pollock) wrote:
>
> >Hi.
> >
> > I have a friend who swears up and down that the length of the
> >coaxial cable to maintain resonance at a given frequency is important
> >for reducing the SWR. He feels that it acts in a similar principal to
> >the fact that the elements of an antenna must be cut to the correct
> >length for the antenna to be resonant at a given frequency.
> >
> > It seems to me I have also read somewhere that this is a myth. I
> >need the true scoop on this. I'm preparing to put up a pretty good
> >antenna system on my roof (a homebrew 10 meter antenna cut to exactly
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> >Belden 9913 coax only to have it looped up and losing signal, when in
> >reality I could of used 20 feet instead of 26 feet of cable.
> >
> > Please carbon copy any responses to this post to jpoll@redrose.net
> >so I don't miss any good info.
> >
> > Thanks
> >
> > Jim
> >
> The length of coax doesn't change the VSWR, assuming it's all the same
> impedance. However, the impedance at the transmitter output will be a
> function of cable length if the VSWR is not 1:1. Ultimately what
> matters is not the VSWR, but the impedance match to the transmitter.
> All that is required is a conjugate match so that the transmitter sees
> a resistive load of the right resistance at the output device.
>
> There is one way that the coax length affects VSWT. If the attenuation
> is high the VSWR gets better with length. Someone once said a good low
> power load for 144 MHz is 100 ft of RG-58. It doesn't matter too much
> what's on the far end.
>
> de K9GXC, Jim
>
> James M. Potter, President TEL: (505) 662-5804
> JP Accelerator Works, Inc. FAX: (505) 662-5210
> 2245 47th Street EMAIL: jpotter@jpaw.com

> Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

It's possible to use a cable with an impedance not equal to the characteristic impedance of your antenna and rig. For example, a half wave length of 75 ohm cable will work between a 50 ohm antenna and a 50 ohm transmitter. You can also use 75 ohm cable to match a 100 ohm antenna to a 50 ohm rig by cutting it to the right length. Unfortunately, these tricks generally only work at one frequency.

In this case, the length of the cable is critical to a given frequency.

Steve KT4FY

2217. subscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: jorgenj@uddeholm.SE
Message-ID: <96Oct24.203401gmt+0100.36866@wall.uddeholm.se>
Source record: 101404

```
subscribe
```

2218. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Dave Hockaday <wb4iuy@ipass.net>
Message-ID: <326F9B52.614B@ipass.net>
Source record: 101405
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

James Pollock wrote:
> I have a friend who swears up and down that the length of the
> coaxial cable to maintain resonance at a given frequency is important
> for reducing the SWR. He feels that it acts in a similar principal to
> the fact that the elements of an antenna must be cut to the correct
> length for the antenna to be resonant at a given frequency.

Hi Jim. This is true if the feedline impedance is different than that of the antenna/transmitter. If you use 50 ohm feedline with a 50 ohm antenna/transmitter, any length is acceptable. If you substituted say, 75 ohm feedline, you would need to cut the feedline in 1/2 wl multiples (the impedance is repeated every 1/2 wl).

Dave Hockaday WB4IUY
wb4iuy@ipass.net

http://www.ipass.net/~hockaday/
http://www.ipass.net/~wb4iuy/
http://www.ipass.net/~teara/
http://www.geocities.com/TheTropics/3349/
http://www.RTPnet.org/~fcarc/
http://www.RTPnet.org/~rdrc/

2219. magnetism immune switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: daveb@ihr.mrc.ac.uk
Message-ID: <Dzs8sA.560@cs.nott.ac.uk>
Source record: 101406

Heeelllp I need to create a changeover contact in a extremely magnetic environment. Relays are no good so I am looking for a manufacturer of something like, a bi-metallic switch that can be operated from afar with a built in heating element,ala car indicator flasher. Or maybe a mercury thermometer principle switch that closes a contact as it is internally heated. I know the latter exists but where can I get them.
Thinking caps on chaps all suggestions greatfully accepted.
Thanks Dave.

2220. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <54oqud$2b1@nadine.teleport.com>
Source record: 101407
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <326f9582.61057836@news.santafe.edu>,
jpotter@jpaw.com (Jim Potter) wrote:

>The length of coax doesn't change the VSWR, assuming it's all the same
>impedance. However, the impedance at the transmitter output will be a
>function of cable length if the VSWR is not 1:1. Ultimately what
>matters is not the VSWR, but the impedance match to the transmitter.
>All that is required is a conjugate match so that the transmitter sees
>a resistive load of the right resistance at the output device.
>
>There is one way that the coax length affects VSWT. If the attenuation
>is high the VSWR gets better with length. Someone once said a good low
>power load for 144 MHz is 100 ft of RG-58. It doesn't matter too much
>what's on the far end.

There's one more way that cable length can affect VSWR. If common-mode current is present (that is, current is flowing on the outside of coax, or the currents in twinlead aren't equal and opposite), the feedline becomes part of the antenna. In that situation, changing the length of the feedline changes the antenna itself, which will affect VSWR.

VSWR can seem to change with cable length if the characteristic impedance of the VSWR meter isn't the same as that of the cable. I've measured RG-58 at over 60 ohms Z0, and a couple of cheap SWR meters I've looked at were off also, so I imagine this is a fairly common occurrence. In this case, the SWR doesn't really change with feedline length, but the SWR meter says it does.

Roy Lewallen, W7EL

2221. Need Measurements Corp. Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <326FD8FE.38E7@HVWTech.com>
Source record: 101408

I am looking for a Measurements Corp. Model 58 UHF Field Strength Meter Manual.

I would prefer an original (who wouldn't ?) but would be very happy to have at least a copy.

Will buy original or pay for copies + any postage.

Much appreciated.

73 de VE2HVW

Mark@HVWTech.com

2222. Re: atv

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <54oohclNN13p@sepia.wv.tek.com>
Source record: 101409

In article <mzenierDzqoMI.HGw@netcom.com> mzenier@netcom.com (Mark Zenier) writes:
>in <32670DD7.428@cris.com>, bob wrote:
>: Hi I'm trying to locate an article on how to build a atv transmitter in
>: the 440 rage. (the arrl blew it again.)
>
>Electronics Now magazine, July and August, 1994.
>
>Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>
Also QST November `96 (current issue). Same guys, different magizine.
The October issue has the receiver.
Ed Burress
KC7GFX

2223. Re: quadrature modulator/demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: maroof@triton.kaifnet.com
Message-ID: <54mr99$qak@post.servtech.com>
Source record: 101410
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics,sci.electronics.basics,sci.electronics.design

In article <326CFF73.388E@ena-east.ericsson.se>,
Walter Rawle <walter_rawle@ena-east.ericsson.se> wrote:
>Quadrature modulation, in simple terms, simply refers to the separation
>of the baseband signal into two components, like the Fourier transform
>sine and cosine series; mixing these two components up the RF frequency
>independently, and then re-combining them in a linear combiner (a simple
>summing circuit). The two baseband components are referred to as the I,
>for in-phase, and q, for quadrature phase, components. The LO signals
>that up-convert the baseband components to RF are equal in frequency but
>phase shifted 90 degrees. These circuits can theoretically be used for
>all modulation/demodulation techniques, but are very popular for various
>data communications such as pi/4 DQPSK. For AM and SSB, undergraduate
>communications textbooks will refer to synchronous detection. This is
>essentially a quadrature demodulator in disguise. Hope this helps
>
>walter rawle VE1AWS/W4

Is quadrature modulation a modification to the 'phasing mathod' or 'Weaver
method' of SSB generation or is it actually the same thing?

2224. Re: Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Larry Keith <KQ4BY@IX.NETCOM.COM>
Message-ID: <326F2B06.6CDB@IX.NETCOM.COM>
Source record: 101411

drassew2@aladdin.co.uk wrote:
>
> dgf@netcom.com (David Feldman) wrote:
>
> >I'm trying to find a catalog vendor by the name of "Farnell". Does anyone
> >have their catalog? What is their phone number?
>
>
US number is 800-718-1997...

73,

Larry, KQ4BY

2225. Any mod servers on the web?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: Daniel Lavoie <LavoieD@istar.ca>
Message-ID: <54olmc$d00@news.istar.ca>
Source record: 101412

I was wondering if there is any mod server on the web? I got my TS-50 modified when it first came out, now that I'm on the internet I want to know if there is any other mods available.

Daniel
VE3DCL

2226. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: wilder@clark.net
Message-ID: <54mn05$fee@clarknet.clark.net>
Source record: 101483
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Robert M. Bratcher Jr. (bratcher@worldnet.att.net) wrote:
: Which recieving tubes can be used for transmitting also?
: I've done it with a 6L6WGB, a 1U4 & a 3A5.
: Which tubes make good RF amplifiers? I'm not expecting a lot of power
: maybe 50 watts max. I've heard some sweep tubes can do up to maybe
: 200W in CW or SSB service. I remember seeing a magazine article using
: a pair of 50C5's. Also heard of using 45 tubes but not sure what they
: would put out.

All of the above tubes can be used in a transmitter. Most sweep tube or large audio tubes (such as a 6L6) work fine as a final amplifier at up to the 50 Watt level. 73, Dick Wilder, K3DI

2227. Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: 74003.470@CompuServe.COM
Message-ID: <961024054237_74003.470_BHR34-4@CompuServe.COM>
Source record: 101484

gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>I'm not sure I could concentrate a 60 watt sunlamp down
>that tightly without burning something up, but most of the
>sunlamp's output isn't UV. If I used an 8 watt germicidal
>lamp, it would probably put out more UV but lots less heat,
>so things shouldn't melt too quickly if I concentrated that
>down to a 50 mil spot. I could live with a 30 ips plotting
>speed. Turn on and turn off delays would be a bigger problem.

You might try leaving the lamp on and using some kind of shutter. That would probably save wear and tear on the lamp, too.

I think focusing the spot down to size might be the bigger problem. Ordinary crown or flint glass lenses will pass UV down to about 330 nm or so. But different wavelengths will focus at slightly different distances. Even with monochromatic UV it may take some trial and error to get the focus right, if you can't see it.

And 50 mil is a fairly big spot. For my purposes I would prefer 12 mil, if possible.

Maybe you could focus down as tight as possible, then shine that through a small (10-50 mil) apperture close to the resist. Hmmmm....

Paul

2228. Is equipment building and repair a lost art? Your comments, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-24 00:00:00 UTC
From: 74003.470@CompuServe.COM
Message-ID: <961024054232_74003.470_BHR34-3@CompuServe.COM>
Source record: 101485

tomb@lsid.hp.com (Tom Bruhns) writes:
>It may be that an inkjet printer can put down dense enough ink on a
>transparency to be used for board exposure, but I've not played with
>that. But I do know that it's darn hard to get good enough density
>on a laser-printed transparency. The tracing paper thing works much
>better for me. You can get the laser printer to handle the thin paper
>by folding a leading edge over a thicker piece of paper (e.g., 20 pound
>stock).

I've used a 300 dpi laser printer on transparency film. Never tried tracing paper. I tried toner transfer, but it's lousy for spacing smaller than 25 mil.

Yes, the transparency density is marginal, especially on large copper areas.

But my wife recently bought a color inkjet printer for her business, and I'm in heaven. It's a 720 dpi Canon BJC-620 and it works *much* better than the laser printer. The ink density on transparency is substantially better than the laser printer's toner. And the 720 dpi resolution is real sweet.

I haven't tried any other inkjet printers, but I'm very happy with this one.

But you must be sure to use the special transparency material made for inkjet printers. I tried a sheet of laser printer transparency film in the inkjet printer and the ink clumped up in many places and ran in other places.

Paul

2229. Re: 10GHZ 10 watt amp help needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <3271A25F.1062@worldnet.att.net>
Source record: 101336

Hi... Can't help directly, but try Hughes rather than Hughs.. Woody

James R. Chastain wrote:
>
> Hi all,
>
> I have a TWT 10Ghz Amp made by Hughs that I need to
> find a schematic for. I can't seem to find any info for
> Hughs on the web, so does anyone have any suggestions?
>
> Thanks, Rod (KD0XX)

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2230. Uniden 8500XLT mod.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: sba3020@InfoNET.st-johns.nf.ca
Message-ID: <54rf9u$j3l@coranto.ucs.mun.ca>
Source record: 101337

I don't have the cellular mod for the BC8500XLT but I have recently found an old newsgroup message from someone name Jon who claims to have a mod to enter out of band frequencies on the 8500 between 25 to 1300 MHz including the blocked out 800 MHz parts. He claims to have already modified two BC8500XLT scanners. The message only talks about the mod but does not include it.

I don't have this person's e-mail address but he goes on to say that he will be contacting Popular Communications to see if they will mention it in an up comming issue.

What I would like to see if someone has all the Popular Communications between 1993 to 1996 and check in several places that it might be, like the scanner column or letters area. Assuming that he contacted them and they published it.

If someone does find it, knows of a similar mod or knows of this person please E-mail me.

2231. Re: antenna tuner design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Dan Metzger <dmetzger@monroe.lib.mi.us>
Message-ID: <32710F15.4D07@monroe.lib.mi.us>
Source record: 101338

> antenna tuner to build

I've got an MFJ tuner that works very well. It's basically a T
network with about 220 pF in each arm of the T, and a big air-wound
coil with a lot of taps from the center of the T to ground.
Dan, K8JWR

2232. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com>
Message-ID: <32715628.5221@ccm.ch.intel.com>
Source record: 101339
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Joel Gamble wrote:
> The ONLY time coax length makes a difference is when it is radiating
> rf,thus it becomes an active part of the antenna,instead of the passive
> conduit it is designed to be.

Hi Joel, got to nitpick a tad.

1. 100ft of RG-58 on 440MHz with an SWR of 1:1 and *no feedline radiation*
does make a difference.

2. 100ft of RG-58 on 28MHz with an SWR of 20:1 and *no feedline radiation*
does make a difference.

73, Cecil, W6RCA, OOTC (not speaking for my employer)

2233. Re: Looking for smallest possible xtal osc. homebrew transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Dan Metzger <dmetzger@monroe.lib.mi.us>
Message-ID: <327110E8.309@monroe.lib.mi.us>
Source record: 101340

The ARRL handbook for 1994 has a "cubic incher" for 80, 40, & 30 meters on page 30-17, 18.It references earlier cubic inchers in QST, Jul 82, pp 34-36, and QST Sept 1990. -Dan, K8JWR

2234. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Dan Metzger <dmetzger@monroe.lib.mi.us>
Message-ID: <327111EA.3F66@monroe.lib.mi.us>
Source record: 101341
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

The Heath DX-20 (my first rig) used a single 6DQ6 TV sweep tube at 50 Watts (500 V x 100 mA). Other rigs have used two or more in parallel. I tried using a 50C5 as an rf output tube once, and could't get the darned thing to load, although I had used many other audio output tubes in a similar fashion.
-Dan, K8JWR

2235. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: tsw@3do.com
Message-ID: <tsw-2510961805380001@cypher.3do.com>
Source record: 101342
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

In article <326e81ae.76945952@NETNEWS.WORLDNET.ATT.NET>,
bratcher@worldnet.att.net wrote:

> Which recieving tubes can be used for transmitting also?
> I've done it with a 6L6WGB, a 1U4 & a 3A5.
> Which tubes make good RF amplifiers? I'm not expecting a lot of power
> maybe 50 watts max. I've heard some sweep tubes can do up to maybe
> 200W in CW or SSB service. I remember seeing a magazine article using
> a pair of 50C5's. Also heard of using 45 tubes but not sure what they
> would put out.

It all depends upon the upper frequency limit of the tube (inter element distances, etc...)

Sweep tubes have an upper range higher than audio tubes because of the need to handle the sharp waveform of the horizontal sweep. IIRC the Drake TR-4 (I'll look in my garage) uses sweep tubes and is good up to 30 MHz.

I suspect that audio tubes (6L6 and friends) peter out at a bit lower frequency. On the other hand, RF tubes make VERY good audio tubes. I know of one person who used 807's in an audio setup for his "high quality" amplifier. Later (this was about 20 years ago) he went down to Radio Shack and got one of their "off the shelf" receivers and it was better (or equal to) his older setup. It also dissapated MUCH less power.

As always, YMMV.

--
Tom Watson
tsw@3do.com (Home: tsw@johana.com)

2236. Re: magnetism immune switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <32716120.7C5@monmouth.com>
Source record: 101343

Dave Bullock G6UWO wrote:
>
> Heeelllp I need to create a changeover contact in a extremely magnetic
> environment. Relays are no good so I am looking for a manufacturer of
> something like, a bi-metallic switch that can be operated from afar with
> a built in heating element,ala car indicator flasher. Or maybe a mercury
> thermometer principle switch that closes a contact as it is internally
> heated. I know the latter exists but where can I get them.
> Thinking caps on chaps all suggestions greatfully accepted.
> Thanks Dave.

I have one in my hand just plucked from the socket of my amplifier power
supply. Has a 9-pin miniature base glass envelope . Made by Amperite
and
and has marking 6NO45T , meaning 6 volt heater, normally open contact
and 45 second time delay. They were , maybe still are made in all
sorts of combinations. Another piece of equipment I have has a 117NO30T
one in it. I got them many years ago, so you'll have to do some
research. Can't find them in my Allied catalog , but the solid state
substitutes are 51 bux!
--
****
Bob Bissett rbissett@monmouth.com
****

2237. Re: Linear Amp. WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2510962117410001@port46.vcnet.com>
Source record: 101344

In article <54gdq6$g8g@solaris.cc.vt.edu>, jimo@vt.edu (Jim Overfelt) wrote:

> Anyone have a 3cx3000 amp or a 4cx5000 amp for sale?

How about a 4CX3000A in Class AB1 grid-driven? Drives with 150 w. 18.3db gain.

--
--Rich-- ag6k, 805.386.3734

2238. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: macino@ibm.net
Message-ID: <54rghv$1efg$1@news-s01.ny.us.ibm.net>
Source record: 101345
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <326f9582.61057836@news.santafe.edu>, jpotter@jpaw.com (Jim Potter) writes:
>jpoll@redrose.net (James Pollock) wrote:
>
>>Hi.
>>
>> I have a friend who swears up and down that the length of the
>>coaxial cable to maintain resonance at a given frequency is important
>>for reducing the SWR. He feels that it acts in a similar principal to
>>the fact that the elements of an antenna must be cut to the correct
>>length for the antenna to be resonant at a given frequency.
>>
>> It seems to me I have also read somewhere that this is a myth. I
>>need the true scoop on this. I'm preparing to put up a pretty good
>>antenna system on my roof (a homebrew 10 meter antenna cut to exactly
>>the middle of the band), and don't want to purchase an extra 6 ft of
>>Belden 9913 coax only to have it looped up and losing signal, when in
>>reality I could of used 20 feet instead of 26 feet of cable.
>>
>> Please carbon copy any responses to this post to jpoll@redrose.net
>>so I don't miss any good info.
>>
>> Thanks
>>
>> Jim
>>
>The length of coax doesn't change the VSWR, assuming it's all the same
>impedance. However, the impedance at the transmitter output will be a
>function of cable length if the VSWR is not 1:1. Ultimately what
>matters is not the VSWR, but the impedance match to the transmitter.
>All that is required is a conjugate match so that the transmitter sees
>a resistive load of the right resistance at the output device.
>
>There is one way that the coax length affects VSWT. If the attenuation
>is high the VSWR gets better with length. Someone once said a good low
>power load for 144 MHz is 100 ft of RG-58. It doesn't matter too much
>what's on the far end.
>
>de K9GXC, Jim
>
>
>James M. Potter, President TEL: (505) 662-5804
>JP Accelerator Works, Inc. FAX: (505) 662-5210
>2245 47th Street EMAIL: jpotter@jpaw.com

>Los Alamos, NM 87544-1604 URL: http://www.jpaw.com
>

Well,
Let's if I can do this reply. Yes, It's a myth! The only thing that's changing is the APPARENT XL-XC that the METER is seeing. We all know that the Electrical wavelength recurrs at a different distance than the phusical wavelength. The old velocity factor trick affects that (cheaper coax = lower VF). So, the loss is cumulative to the length, the SWR associated with the coax = myth.

If you want to play with the numbers of length, coax type, swr, ant gain, and effective power. Download TEEREV.ZIP from the ARRL BBS, or it's on the latest level of the QRZ CD-ROM.

Jim WD9AHF

P.S. I agree with the guy who said the correct length is what reaches! Just make sure that you look at what it costs. I wrote that TEEREV program to see what the tradeoff was between good coax vs an amplifier. You will be surprised at what the cost of 'cheap' coax is.

2239. Re: Wanted Radio Receiver kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Madjid VE2GMI <mboukri@CAM.ORG>
Message-ID: <3270EB35.3C93@CAM.ORG>
Source record: 101346

Kent Farnsworth wrote:
>
> Because the folks here don't want you to know WHERE Ten Tech is:
> Here is a toll free phone number for you:
>
> 1-800-833-7373

Sorry, I forgot to post the WWW address for Ten Tec.
They are well hidden but they are on the Web at:

http://www.mvangel.com/ten-tec/

Madjid VE2GMI

2240. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <54rg26$sjv@opera.iinet.net.au>
Source record: 101347
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

jpoll@redrose.net (James Pollock) wrote:

>Hi.

> I have a friend who swears up and down that the length of the
>coaxial cable to maintain resonance at a given frequency is important
>for reducing the SWR. He feels that it acts in a similar principal to
>the fact that the elements of an antenna must be cut to the correct
>length for the antenna to be resonant at a given frequency.

> It seems to me I have also read somewhere that this is a myth. I
>need the true scoop on this. I'm preparing to put up a pretty good
>antenna system on my roof (a homebrew 10 meter antenna cut to exactly
>the middle of the band), and don't want to purchase an extra 6 ft of
>Belden 9913 coax only to have it looped up and losing signal, when in
>reality I could of used 20 feet instead of 26 feet of cable.

Jim
If the coax is matched (ie the load presents a resistive, 50 Ohm
impedance) then the length of the coax is unimportant, except that it
has loss depending on how good it is and the operating frequency. If
the load is not matched properly then there will be different
impedances at different points aliong the coax and you will get a
different SWR with a 50 ohm source, depending on where you feed the
coax. So your friend is correct if the load is not m,atched
accurately.

Richard Hosking

VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

2241. Mods wanted for Standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: darryl.linkow@grinder.com
Message-ID: <8CAF547.01A7001424.uuout@grinder.com>
Source record: 101348

Anyone have any mods for the Standard C5900DA tri-bander? If so,
please post here or Email me. 73, Darryl KE6IHA

---
* OLX 2.2 * Darryl Linkow (818)346-5278 9 am - 5 pm PDT

2242. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com>
Message-ID: <3270F92A.181D@ccm.ch.intel.com>
Source record: 101349
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Steve Bramham wrote:
> I know what works and it works in 99% of the cases involved.....

Hey Steve, be fair - tell us about that other 1%.

73, Cecil, W6RCA, OOTC (not speaking for my employer)

2243. Re: Operating Contest for HomeBrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <327098C1.6E1A@hagagymnasiet.norrkoping.se>
Source record: 101350

Dan Metzger wrote:
>
> I've been QRT for 27 years, so please forgive me if this is a dumb
> question. Is there an operating contest for home-brewers? I'm
> building a HB transceiver, and have dreams of calling CQ HB and
> landing at the bottom of a pileup, just like rare dx. - Dan, K8JWR

Aren't there enough contests already? Besides, you would get a lot of
replies from Switzerland. HI. But I support the idea of a meeting place,
a worldwide recognized frequeny on each band for homebrewers with their
equipment (all HB of course, kits won't count) on the air.
73 de Lennart SM5DFF

2244. Wanted Disc Seal Triode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: appld@sk.sympatico.ca
Message-ID: <54oev4$s1q@mongol.sasknet.sk.ca>
Source record: 101413

I am in need of a replacement oscillater tube for my Marconi TF1066B signal generator. The tube is listed as a Mullard TD 03-10, or British Service equivalent CV273, and a US equivalent 5861. Can anyone help me??

Thanks
Doug Appleton VE5DA
1715 Boyd Street
Regina, Sask.,
Canada. S4V 1S5

email: appld@sk.sympatico.ca

2245. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: mscasey@HiWAAY.NET
Message-ID: <3270031F.553A@HiWAAY.net>
Source record: 101414

add ham-hombrew

2246. Re: antenna tuner design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: dledoux@laci.net
Message-ID: <54p6mc$kbc@news1-alterdial.uu.net>
Source record: 101415

Paul Butler <pbutler@cyberramp.net> wrote:

>I am looking for some schematics on antenna tuners that can be built. If
>anyone knows of any please let me know.
>Paul Butler-- de AB5TD
>73's

Paul--
Look in the ARRL handbook. You will see tuners which are a pi network
or a T network. I have build both from junque-box components
purchased at a hamfest. Within certain limits, component values are
not critical. I have built using brass nails as solder points on a
pine board, and they work just fine. Be careful when running 100
watts adn up for RF voltages, but get after it...experiment. Your
chances of success are good....

Dale
KD5QI

2247. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: dledoux@laci.net
Message-ID: <54p6fb$kbc@news1-alterdial.uu.net>
Source record: 101416
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

wilder@clark.net (richard l wilder k3di) wrote:

>Robert M. Bratcher Jr. (bratcher@worldnet.att.net) wrote:
>: Which recieving tubes can be used for transmitting also?
>: I've done it with a 6L6WGB, a 1U4 & a 3A5.
>: Which tubes make good RF amplifiers? I'm not expecting a lot of power
>: maybe 50 watts max. I've heard some sweep tubes can do up to maybe
>: 200W in CW or SSB service. I remember seeing a magazine article using
>: a pair of 50C5's. Also heard of using 45 tubes but not sure what they
>: would put out.

>All of the above tubes can be used in a transmitter. Most sweep tube or
>large audio tubes (such as a 6L6) work fine as a final amplifier at up to
>the 50 Watt level. 73, Dick Wilder, K3DI

Used to be a lot of equipment put together with TV sweep tubes as
power amps. My old Swan 350 had 2 6HF5's in push-pull and put our 350
watts PEP. There was a commercial linear amp using four sweep tubes
for a KW input, if I remember correctly. they do require a bit of
care in tuning as they do not brook much mismatch.

Basically, just about any amplifier tube can be used to do SOMETHING
as a transmitter at RF. It's just that some make better sense than
others.

Dale
KD5QI

2248. Re: Any mod servers on the web?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: centrex@radix.net
Message-ID: <32702314.2162781@news1.radix.net>
Source record: 101417

On 24 Oct 1996 21:05:16 GMT Daniel Lavoie wrote in
rec.radio.amateur.homebrew:

>I was wondering if there is any mod server on the web? I got my TS-50
>modified when it first came out, now that I'm on the internet I want to
>know if there is any other mods available.

I believe QRZ has a mod server, but I forget the URL. Their hom page
is http://www.qrz.com/.

73, de Chuck Spafford
n3lai@radix.net

2249. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Loek d'Hont <ldhont@ti.com>
Message-ID: <01bbc22d$2fcb7380$59c1759c@A0927429.itg.ti.com>
Source record: 101418
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

I would like to thank all people who responded to this, either by email or newsgroup.

Got lots of reactions, some of them very worthy.

Thanks again.

Loek d'Hont LDHONT@ti.com

2250. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32701a16.95003026@news.santafe.edu>
Source record: 101419
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>So you can see, there is some truth to the myth that coax length
>can alter SWR, but it isn't quite the way many amateurs picture
>it. The reason it can happen is because the coax has become an
>unintended part of the antenna due to a failure to properly deal
>with the unbalanced to balanced connection at the antenna feedpoint
>with a balun.
>
>Gary

Good point, Gary. I hadn't thought of that, but it makes a lot of
sense. Most of the systems I deal with have a resonant cavity load fed
with rigid coax where there is no chance of any rf currents on the
outside. (A good thing too, at 250 kW peak and 425 MHz.)

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

2251. Re: Catalog by Farnell - do you have phone#?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: bartelar@telkom04.telkom.co.za
Message-ID: <54poqt$c9n@news1.saix.net>
Source record: 101420

Larry Keith <KQ4BY@IX.NETCOM.COM> wrote:

>drassew2@aladdin.co.uk wrote:
>>
>> dgf@netcom.com (David Feldman) wrote:
>>
>> >I'm trying to find a catalog vendor by the name of "Farnell". Does anyone
>> >have their catalog? What is their phone number?

also see,
http://www.farnell.co.uk/

for their web pages.

Cheers
Adrian

"It does not do to leave a live dragon
out of your calculations." -- Tolkien

2252. Re: (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <327058CF.6E3D@monmouth.com>
Source record: 101421

Alex Szopko wrote:
>
> Hi everybody!
>
> Please help if you can.
>
> I am looking for a QST article in 1992 called "Low Cost Digital
>
> Signal Proccessing for the Radio Amateur" by Dave Hershberger.
>
> I need to know the month it was published so that I can try to
>
> get a copy through the Library.
>
> 73's Alex VK7CS

The December issues of QST have a whole year index of articles.

--
****
Bob Bissett rbissett@monmouth.com
****

2253. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: orion@capital.net
Message-ID: <32704b78.52206771@news.capital.net>
Source record: 101422
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>(partly deleted)
>When you use such a balun, or if you are feeding an inherently
>unbalanced antenna such as a groundplane mounted vertical, then
>the coax doesn't become part of the antenna, so it can't change
>the load impedance presented to the coax, and thus can't change
>SWR. Any length coax can now be used without affecting SWR, or
>antenna radiation pattern.
>
>So you can see, there is some truth to the myth that coax length
>can alter SWR, but it isn't quite the way many amateurs picture
>it. The reason it can happen is because the coax has become an
>unintended part of the antenna due to a failure to properly deal
>with the unbalanced to balanced connection at the antenna feedpoint
>with a balun.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

Thanks for this explanation, Gary. I have always been confused on this
coax length thing. Your explanation is quite easily understood.
73,
Butch N2YMJ

2254. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Ian Edwards <Ian@redsquir.demon.co.uk>
Message-ID: <$PYuBCAryHcyEwnT@redsquir.demon.co.uk>
Source record: 101423

In article <1996Oct24.170840.4088@ke4zv.atl.ga.us>, Gary Coffman
<gary@ke4zv.atl.ga.us> writes
>Ah, there's the little matter of different sweep rates. But you're
>right, we could have gone directly from B&W to PAL-M, which does
>use the standard (to the US) sweep rates. Of course NTSC pre-dates
>PAL and SECAM, so those weren't really options at the time. The
>choices were NTSC or the CBS sequential color system (it wasn't
>compatible either, but made much better pictures).
>
>As a chuckle, here are some definitions for the acronyms.
>
>NTSC Never Twice the Same Color
>SECAM System Essentially Contrary to the American Mind
>PAL Perfection At Last
>
>Gary

I've heard slightly different acronyms here in the UK.

NTSC Never The Same Colour
SECAM Seven Extra Colours A Minute
PAL Pictures At Last

73
--
Ian Edwards
(G7OLT)

2255. wanted : socket for TL264

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: carl de ryck <carl.deryck@glo.be>
Message-ID: <3270A16B.2EF1@glo.be>
Source record: 101424

Hello,

i Need sockets for mounting a TL264 From EIMAC for building
a PA for Deca !!!!

if you have them,,, let my now pls.

I Have 35 Valves, but noting for mouting them.

Greetings

ON1ABH
Belgium

2256. Re: DSP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Kovacs Karoly <karoly@ws2320.gud.siemens.co.at>
Message-ID: <32707053.4BC5@ws2320.gud.siemens.co.at>
Source record: 101425

Dear Liz,

The following URLs are nice:

http://www.eg3.com/dsp.htm
http://www.nitehawk.com/rasmit/dsp50.html
http://www.ncc.com/misc/dsp_sites.html

http://www.tapr.org/tapr
http://www.mot.com/SPS/DSP/home/prd/ovr/DSP56002.html
http://www.brad.ac.uk/~rabooth/dsp.htm

73: Karoly (HA2EOF)

2257. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <3270bca7.4478353@news.frazmtn.com>
Source record: 101426

On 20 Oct 1996 22:11:47 -0400, w8jitom@aol.com (W8JI Tom) wrote:

>In article <326f3903.2636643@eskinews.eskimo.com>, wrt@eskimo.com (Bill
>Turner) writes:
>
>>
>>If you're new at homebrewing amplifiers, you might want to check out
>AG6K's
>>web site for a lot of good information:
>>
>>http://www.vcnet.com/measures/
>>
>>There is some personal stuff in there, since the author feels he was
>treated
>>rather poorly by a well-known ham organization (I'm staying out of that),
>but
>>the technical advice appears to be first-rate.
>>
>>73, Bill W7LZP
>
>Hi Bill,
>
>First, all of Measures stuff was sent out by QST to several independent
>engineers for review.
>
>Unfavorable comments were received from a list that read like who's who in
>RF engineering. It included engineers at Harris, Collins, Eimac, NASA and
>many other places. Out of dozens of replys, not one was favorable.
>Measures uses his web page to lay blame on Dick Ehrhorn, QST, and even me.
>
>The only thing QST handled poorly was printing Measures flawed theories
>without proper review.
>
>I offered, and still offer, to debate Mr. Measures or his representative
>in an open forum on Internet or in any publication. The only restriction I
>require is we discuss one point at a time, and that both of us refrain
>from wild personal accusations about manufacturers, other people, or each
>other. In short, the only restriction is the debate be kept to technical
>issues, and not be full of personal attacks or wild conspiracy theories.
>
>I would advise anyone looking for "good" amplifier tips to read Eimac's
>"Care and Feeding of Power Grid Tubes, or many of the excellent articles
>from QST or the Handbook back when proper technical editing was in vogue
>and people understood tubes, like in the 70's and earlier.

>
>While many of Measures' suggestions are harmless, some are not. Some
>suggestions will put the user in harm's way, or cause equipment damage.
>I'd hate to see someone ruin a $500 tube, or worse yet hurt themselves,
>following poor advice.
>
>73, Tom

Tom, have you visited Measures web site? Are you saying all his ideas
are wrong? If not, would you be more specific? The only rf engineer I
know who is perfect is the self proclamed expert, "Kurt"! I now
wonder if he wasn't the expert who designed and sold to Hams the
AL-80 with it's "state of the art "QSK" circuit?
73, Jesse, W6KKT

2258. 10GHZ 10 watt amp help needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: "James R. Chastain" <chastain@compunet.net>
Message-ID: <01bbc276$cdd46980$b8479fcf@ns.compunet.net>
Source record: 101427

Hi all,

I have a TWT 10Ghz Amp made by Hughs that I need to
find a schematic for. I can't seem to find any info for
Hughs on the web, so does anyone have any suggestions?

Thanks, Rod (KD0XX)

2259. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Maude Schyffert <maude.schyffert@mailbox.swipnet.se>
Message-ID: <3270E706.6ED6@mailbox.swipnet.se>
Source record: 101428
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> In general, the correct length of coax for an HF antenna is the
> distance it takes to get from the transmitter to the antenna. Don't
> worry about length.
>
> Dick Hughes - W6CCD

That is a damn good answer and works in 99.99%, the rest is fiction.

42 years of hamming SM0BKZ

2260. Re: DSP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <54qlel$16el@newsgate.sps.mot.com>
Source record: 101429

Check out the comp.dsp newsgroup.

Also, the Motorola DSP home page has some ftp-able software for its
DSP chips.

http://www.mot.com/SPS/DSP/
http://www.motorola-dsp.com

http://www.mot.com/pub/SPS/DSP/LIBRARY/

The other DSP manufacturers may have similar resources.

2261. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Joel Gamble <ko4qc@concentric.net>
Message-ID: <32710B86.20BC@concentric.net>
Source record: 101430
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

James Pollock wrote:
>
> Hi.
>
> I have a friend who swears up and down that the length of the
> coaxial cable to maintain resonance at a given frequency is important
> for reducing the SWR. He feels that it acts in a similar principal to
> the fact that the elements of an antenna must be cut to the correct
> length for the antenna to be resonant at a given frequency.
>
> It seems to me I have also read somewhere that this is a myth. I
> need the true scoop on this. I'm preparing to put up a pretty good
> antenna system on my roof (a homebrew 10 meter antenna cut to exactly
> the middle of the band), and don't want to purchase an extra 6 ft of
> Belden 9913 coax only to have it looped up and losing signal, when in
> reality I could of used 20 feet instead of 26 feet of cable.
>
> Please carbon copy any responses to this post to jpoll@redrose.net
> so I don't miss any good info.
>
> Thanks
>
> Jim Your 'friend' needs to stick with CB,as he dosnt know what he is
talking about!
The ONLY time coax length makes a difference is when it is radiating
rf,thus it becomes an active part of the antenna,instead of the passive
conduit it is designed to be.
Ko4qC

2262. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Steve Bramham <steve.bramham@turner.com>
Message-ID: <3270EC78.2029@turner.com>
Source record: 101431
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Maude Schyffert wrote:
>
> > In general, the correct length of coax for an HF antenna is the
> > distance it takes to get from the transmitter to the antenna. Don't
> > worry about length.
> >
> > Dick Hughes - W6CCD

Sometimes we spend way too much time performing analysis on a problem rather than using common sense. I've been a licensed amateur radio operator for over 30 years and have worked in commercial broadcasting and two-way radio for almost as long. The correct length of coax cable IS "the distance it takes to get from the transmitter to the antenna."

While others will argue the technical merits or matching this an that, in the "real-world" it makes very little difference.

Oh well, sit back and wait for all the techno-wizards to dispute this discussion but I know what works and it works in 99% of the cases involved.....

2263. Need FT-470 Manual Urgently

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Steve Simpson <Steve@chubs.demon.co.uk>
Message-ID: <RLkPbSADuOcyEwz3@chubs.demon.co.uk>
Source record: 101432
Cross-posted to: uk.radio.amateur,rec.radio.amateur.homebrew

I still need this manual.

Just the CCT would do. Can anyone help at all?

Please,

Pretty Please!!!

--
Steve "Chubby" Simpson
HTML Programmer/Night Club D.J.
Steve@chubs.demon.co.uk
G7NAY@GB7MSW.#33.GBR.EU
HTTP://www.chubs.demon.co.uk

2264. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <3270FA09.619E@lanl.gov>
Source record: 101433
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,

James Pollock wrote:
<snippety>
> It seems to me I have also read somewhere that this is a myth. I
> need the true scoop on this. I'm preparing to put up a pretty good
> antenna system on my roof (a homebrew 10 meter antenna cut to exactly
> the middle of the band), and don't want to purchase an extra 6 ft of
> Belden 9913 coax only to have it looped up and losing signal, when in
> reality I could of used 20 feet instead of 26 feet of cable.
> <again snippety>

Jim, in addition to the responses you've already received I want to add the certainty that even with RG-58 the "26 feet of cable" would result in essentially NO extra noticeable loss than "20 feet of cable". And with Belden 9913 the additional loss would be even more miniscule. According to my charts, the losses of these cables are: (per 100 feet @ 30 MHZ)
RG-58 2.5 dB
Belden 9913 0.75 dB (!)
RG-8 1.0 dB

So, even if you were using the dreaded RG58 the loss would be less than a fraction of a dB for the additional 6 feet or so of coax. Even with a high SWR (where the reflections cause more than one trip "up and down the coax" and thus increase the effective loss) 26 feet is not a big deal at all. 3 dB is generally regarded as a barely discernable difference on the receiving end without accurate test equipment to "help" notice the difference.
As your previous respondees have noted, if the SWR is high you CAN "fool" the transmitter into "seeing" a lower SWR by messing with coax length but far more will be gained by trying to lower the SWR up at the antenna FEEDPOINT which will not only make your transmitter happier but increase apparent antenna effectiveness too, both transmit and receive. "SWR" is SO overhyped as important anyway. I fondly recall in the '70's working all kinds of DX on 10 meters with a homebrew 2 (TWO!) meter J pole since I was a poor college student and didn't have the nerve to sneak HF wires onto the roof of my college housing.....
I suppose it worked so well because I didn't own an SWR meter, just heard the band was open and tried the J pole since that was all I had on the roof and had a blast with it, who knows what the SWR was, but I'd have had to QRT had I had a meter to scare myself with.....
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |

```
|My views rarely (if ever) reflect those of my employers|
|http://nis-www.lanl.gov/~jdport/ |
|--------------------------------------------------------|
```

2265. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <54r81d$k77@newsbf02.news.aol.com>
Source record: 101434

In article <3270bca7.4478353@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

>
>Tom, have you visited Measures web site? Are you saying all his ideas
>are wrong? If not, would you be more specific? The only rf engineer I
>know who is perfect is the self proclamed expert, "Kurt"! I now
>wonder if he wasn't the expert who designed and sold to Hams the
>AL-80 with it's "state of the art "QSK" circuit?
>73, Jesse, W6KKT
>
>

Actually no, the responsible party was Denny Had of Dentron fame. While Denny is a very nice guy, RF was not his area of expertise. The QSK in the original AL-80 was a copy of Heathkits TR circuit in a two meter amp that used 1/4 wl lines and a conventional diode. He saw the circuit, never understood the theory, and stuck it in a HF amp.

Prime Instruments partially financed Denny to a new start (via parts and tooling purchases) after Dentron went bust. I was hired to help Prime produce amplifiers when the deal started to unravel. I ordered all the original AL-80's recalled and rebuilt at Primes expense, the owner of Prime, W8IOB, agreed. W8IOB is a wonderful guy, and very honest.

The AL-80 parts were run out until the AL80A was designed and produced, I sold the kit rights to Heathkit, whom I also did consulting RF engineering for. Heathkit changed the inrush, transformer and switch (leaving a corona ring off) against my wishes.

So, that grouchy 70-some year young Kurt (who really isn't so bad when you get to know him, even if he is "always right") had nothing to do with that PA. It was a much more pleasant guy, Denny, with good intentions but who unfortunately was not a "real" engineer.

In line with that thought, I'm not saying ALL the ideas on the Web page you mentioned are wrong, but some are *very* bad from an engineering concept. Many of the well intentioned suggestions will actually cause more problems than they will correct. I'm sure the intentions are good, even if the suggestions are not.

If I were you to point you to one reliable source, it would be Eimac's Care and Feeding of Power Grid Tubes or other commercial engineering texts. In commercial books, you have the benefit of people working in a team, double checking each other. You are less likely to hear rumor or folklore.

I'd be happy to discuss anything on the Web page one point at a time. You'll find I can give good reason for anything I say (that can be verified), rather than blaming disagreements on "coverups or conspiracies".

73 Tom

2266. Re: atv

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-25 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961025140414.9733A-100000@spork.callamer.com>
Source record: 101435

Don't forget to check QST for November. There is a complete construction
article there. In this case the ARRL did NOT blow it! Cliff K7RR

On Tue, 22 Oct 1996, Mark Zenier wrote:

> in <32670DD7.428@cris.com>, bob wrote:
> : Hi I'm trying to locate an article on how to build a atv transmitter in
> : the 440 rage. (the arrl blew it again.)
>
> Electronics Now magazine, July and August, 1994.
>
> Mark Zenier mzenier@eskimo.com mzenier@netcom.com
>
>
>

2267. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: Shane Eric Taylour <taylour@minyos.its.rmit.EDU.AU>
Message-ID: <Pine.OSF.3.95.961026171612.13274G-100000@minyos.its.rmit.EDU.AU>
Source record: 101351
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

On 26 Oct 1996, lbliao wrote:

> The above question is asked in academic vain. I am interested in finding out
> various viewpoints.
>
> Thanks a lot!
> lbliao

Lbliao,

1. It depends upon what you define as a 'transistor'. There are darlington transistors (two transistors in cascade) within a standard TO-220, TO-126 or even a TO-92 package which have current gains (Beta) of 1500-5000+. Most conventional BJT's have a Beta below 800.

2. It depends upon the application of the transistor. What are you defining as 'gain'? I assume you mean Beta. A given transistor has a different AC current gain to its DC current gain. For example, a transistor with a DC Beta of 100, will not have this gain when used as an (AC) amplifier.

These are just my opinions.

Regards,

Shane E. Taylour,
(taylour@minyos.its.rmit.edu.au)

Shane Eric Taylour, Stud.I.E.Aust (taylour@minyos.its.rmit.edu.au)
Royal Melbourne Institute of Technology (Melbourne, Australia)

"He who is afraid to ask is ashamed of learning." - Danish Proverb

"Two roads diverged in a broken wood. I took the one less traveled by."
- Robert Frost

2268. Re: Aluminum surface treatment info wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: holtzman@shazam.ecs.csus.edu
Message-ID: <54rn24$kno@csusac.ecs.csus.edu>
Source record: 101352
Cross-posted to: rec.antiques.radio+phono,rec.aviation.military,rec.ham-radio,rec.radio.amateur.homebrew,rec.radio.swap

I missed the beginning of this thread, so I hope I'm on track. If you are trying to repair a surface that was black anodized, on alulminum, of course, I purhase a little bottle from gun stores, made for blacking aluminum, called "aluminum black". You degrease the surface, and apply sequencial amounts, with a cotton swap, etc. After a few minutes, the surface turns to a dull black. Not as good as anodizing, but at least you can do it at home.

I think the manufacturer is "Birchwood Casey". You might also try some sporting goods supplys.

jrh

--
James Holtzman kc6ncg Team OS/2 (holtzman@shazam.ecs.csus.edu) (916) 278-7374
Manager Computer Tech Support, Engineering & Computer Science, CSU, Sacto, CA
"What this country needs is less people telling us what this country needs"

2269. Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: tumino@acsu.buffalo.edu
Message-ID: <54shd8$cln@prometheus.acsu.buffalo.edu>
Source record: 101353

Could someone be kind enough to tell me where I can buy a soldering iron with a small tip (suitable for soldering pins that are extremely close together on connectors) or tell me how I can solder wires to pins that are extremely close together but must not short?

I have destroyed several connectors trying to solder small wires to the pins on these connectors...these connectors are driving me to insanity! Please e-mail or post any suggestions you have asap before I tear out all of my hair and run out of connectors..

Thanks!

Thomas N2YTF

2270. Want parabola calculate program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: sebastien <easycom@infomaniak.ch>
Message-ID: <3271D295.79FD@infomaniak.ch>
Source record: 101354

Hello, thanks to read my. I'm HB9ICC in Geneva.

I'm looking for a program to calculate a parabola antenna.

If you have information or if you have this programm, please send me a

copy into my E-Mail.

Thanks in advance and very best 73's.

HB9ICC, Sebastien.

E-Mail : easycom@infomaniak.ch

2271. Seeking Ham radio info (antennas)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: jpoll@redrose.net
Message-ID: <54t4is$drv@lily.redrose.net>
Source record: 101355
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.antenna

I'm looking for some information on some ideas for a 2 meter
antenna. My call is N3XZX. I basically recieved a homebrewed antenna from a
gentleman in Atlantic City. I liked the idea and tend to build a few
myself. It's just a plain old ground plain antenna, The one i recieved was
a quarter wave and i was wondering if there was any ideas and info for
making the same type but creating a 5/8 wave.
I heard for a 5/8 you need to have a top hat, is this true? Also any
info on whether this 5/8 is a good antenna comparing it to the quarter wave.
Any info would be greatly appreciated!
Thanks,
N3XZX
(Chris)

Please carbon copy responses to x32-viper_ck@juno.com so I don't miss
any good info

2272. Re: Ham-Homebrew Digest V96 #459

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: root@apg.kiev.ua
Message-ID: <AAnbYSoip5@apg.kiev.ua>
Source record: 101356

jyfluf;yu

2273. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <54t7jp$cuc@newsbf02.news.aol.com>
Source record: 101357

In article <32718586.1261408@news.santafe.edu>, jpotter@jpaw.com (Jim Potter) writes:

>
>I didn't wade through all the material, but I don't see anything
>fundamentally wrong with de-Qing the tank circuit VHF resonances.
>After all that's what the parasitic choke is doing. As long as the
>tank circuit fundamental resonance unloaded Q is high compared to the
>loaded Q, the tank losses are of little consequence. On the other hand
>it may be redundant to use resistive leads and inductors and a shunt
>resistor.

More than redundant, it's poor engineering. Here's why.

In a proper design the VHF path is primarily through the resistor, not the suppressor's inductor. The inductor completes the HF signal path, not the resistor. The best design would place the entire VHF path through the dissipating resistor, and NONE of the desired HF energy through lossy resistances.

This is especially a problem on ten and fifteen meters, where the output capacitance of the tube is the majority of the input capacitance of the tank. Using a lossy coil and leads now places unnecessary resistance in the HF tank, de-Qing the tank at the operating frequency. This reduces harmonic suppression as well as efficiency, and for no good cause at all if the goal is suppression of VHF signals.

The correct approach is to design the circuit correctly in the first place, rather than shotgun it with unnecessary losses that hurt desired performance while not doing a thing for the undesired traits.

Why de-Q the HF path that doesn't affect VHF stability, when the primary VHF path can very easily be made lossy with affecting the HF path?

> I also remember seeing something about film resistors. I
>guess I would prefer carbon composition or Carborundum resistors
>myself.

Myself also. If you cut open the film resistors that come with the nichrome suppression kit, you will see the resistor element is wound in a spiral around a ceramic form. This is the last thing you want in a non-resonant VHF suppressor, because it adds series non-dissipative inductance in the resistor path and forces the resistor OUT of the circuit at higher frequencies, right where it is needed most. What a PA really needs are the types of resistors you mentioned, carbon compositions or Carborundum type non-inductive resistors.

Why go through the bother of changing parts just to stick the wrong type components in? I don't call that an improvement or good advice.

73 Tom

2274. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: tmoreau@direct.ca
Message-ID: <54tanj$8te@orb.direct.ca>
Source record: 101358
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

For AC signals a single transistor of any type can be configured to have infinite gain...an oscillator is a good example.

Ahhh...that's the power of positive feedback!

In practice, a gain of more than 20, from DC to 100Mhz, and having superb operating point stability, all in a single stage, is a satisfactory accomplishment.

2275. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: tcs@cmcorp.com
Message-ID: <54tbgg$73v@newsie.dmc.com>
Source record: 101359
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com> wrote:

>Joel Gamble wrote:
>> The ONLY time coax length makes a difference is when it is radiating
>> rf,thus it becomes an active part of the antenna,instead of the passive
>> conduit it is designed to be.

>Hi Joel, got to nitpick a tad.

>1. 100ft of RG-58 on 440MHz with an SWR of 1:1 and *no feedline radiation*
>does make a difference.

Your right, I'd much rather have 75 ohm 1" hardline WITH VSWR than 50
ohm RG-58 at 450 Mhz.

>2. 100ft of RG-58 on 28MHz with an SWR of 20:1 and *no feedline radiation*
>does make a difference.

Again I'd rather have 75 ohm cable TV hardline .5" than RG-58.
Cecil is right, the general rule is get what you can for the lowest
loss. Hgh VSWR adds a LOT of loss to an already losssy cable.

>73, Cecil, W6RCA, OOTC (not speaking for my employer)

Tom
WA1RHP
Net Elmer
I am my own employer!

2276. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: g4ynm@aol.com
Message-ID: <54tema$fck@newsbf02.news.aol.com>
Source record: 101360

In article <54shd8$cln@prometheus.acsu.buffalo.edu>,
tumino@acsu.buffalo.edu (Thomas N Tumino) writes:

> how I can solder wires to pins that are
>extremely close together but must not short?

1. Carefully lay non plastic tape (say masking tape) over adjacent pins
before sodlering the middle one.

2. Remove tape.

3. repeat one for the next pin to be soldered.

or
Alternatively apply solder to the PCB pins first, place device over pins,
melt solder with a hot air gun.

Ben G4YNM

2277. Swan 500C docs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: "Robert R. Koblish" <n3hat@erols.com>
Message-ID: <32725AE9.7BB0@erols.com>
Source record: 101361

Hi,

Can anyone supply, or tell me where to find, operation and service
manuals for a Swan 500C HF transceiver?

Will pay reasonable copying costs, or I can get them scanned and return
original + electronic version.

tnx,

Bob Koblish, N3HAT
Baltimore, MD
n3hat@erols.com

2278. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32718586.1261408@news.santafe.edu>
Source record: 101362

w8jitom@aol.com (W8JI Tom) wrote:

>>In line with that thought, I'm not saying ALL the ideas on the Web page
>you mentioned are wrong, but some are *very* bad from an engineering
>concept. Many of the well intentioned suggestions will actually cause more
>problems than they will correct. I'm sure the intentions are good, even if
>the suggestions are not.
>
>If I were you to point you to one reliable source, it would be Eimac's
>Care and Feeding of Power Grid Tubes or other commercial engineering
>texts. In commercial books, you have the benefit of people working in a
>team, double checking each other. You are less likely to hear rumor or
>folklore.
>
>I'd be happy to discuss anything on the Web page one point at a time.
>You'll find I can give good reason for anything I say (that can be
>verified), rather than blaming disagreements on "coverups or
>conspiracies".
>
>73 Tom

I didn't wade through all the material, but I don't see anything
fundamentally wrong with de-Qing the tank circuit VHF resonances.
After all that's what the parasitic choke is doing. As long as the
tank circuit fundamental resonance unloaded Q is high compared to the
loaded Q, the tank losses are of little consequence. On the other hand
it may be redundant to use resistive leads and inductors and a shunt
resistor. I also remember seeing something about film resistors. I
guess I would prefer carbon composition or Carborundum resistors
myself.

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

2279. Re: 120VAC scanner from 12VDC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbc36b$006d4a20$4f132399@peter-s>
Source record: 101363

Rob Janssen <rob@pe1chl.ampr.org> wrote in article
<DzKnLu.AEn@pe1chl.ampr.org>...
> In <5496rm$ltr1@ha2.rdc1.sfba.home.com> paul@moe.cyclades.com (Paul C)
writes:
>
> >William J. Skellenger (wjskelle@mtu.edu) wrote:
>
> >: I took this unit apart (Realistic PRO-2024) and measured the DC
voltage
> >: off of the rectifier on the board. It was 13.5VDC, for all practical
> >: purposes automotive 12V. I installed a small coaxial power plug and
> >: soldered it directly to either side of the rectifier on the board.
> >: After plugging it in, I found that everything worked properly except
for
> >: that it *DIDN'T RECEIVE*.
>

I have seen some devices (VCRs, for example) that also use the 60 Hz as a
reference clock for some circuits. When I adapted a JVC VCR to 12 volt
operation I had to use a CMOS chip that used a color burst crystal to
generate
a 60 Hz square wave.

Check for other voltages, as mentioned, also.

Try disconnecting temporarily the 12 volt power supply and run the 12 volt
circuits
from a battery, while the unit is still plugged in. This will verify that
the 12 volt
input is within range for the circuits, and also would prove that there is
either a
clock or power path from the power supply that you missed...

PS, fuse and zener protect the input!

2280. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: scederas@intercenter.net
Message-ID: <32726c6f.462630@news.intercenter.net>
Source record: 101364
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

I used to have a lot of fun changing the bias on transistors
in school until they smoked. I do not remember what gain figures we
attained as it has been a long time. I hope that you are able to mess
around with different bias settings and find out for yoursel!!!
It sure is a lot of fun. You bring back some pleasant
memories! I guess we reached the point of saturation way before we
smoked the transistors....but it was sure neat to find where the point
of saturation was for typical audio tansistors.
-take care.
Sam Cederas AD4PY
scederas@intercenter.net
Cary, N.C.

On 26 Oct 1996 02:09:47 GMT, lbliao@alumnae.caltech.edu (lbliao)
wrote:

>The above question is asked in academic vain. I am interested in finding out
>various viewpoints.
>
>Thanks a lot!
>lbliao
>
>

2281. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: "Merv Stump"
Message-ID: <54u44m$1k8@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 101365
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

ARRL currently has a program under development which analyzes transmission line. I'm fortunate to have been asked to play with an early copy. Running some quick examples shows the following:

At 28 MHz an antenna with a purely resistive load of 50 ohms fed with 100 feet of RG213 has a loss of 1.181 dB. There is no additional loss due to SWR.

The same antenna fed with 100 feed of 1/2 inch 75 ohm hard line has a loss of .420 dB due to the cable and an additional .032 dB due to the SWR for a total loss of .452 dB.

An antenna with a purely resistive load of 500 ohms (10/1 SWR) fed with RG213 has a loss of 1.181 due to the cable and an additional 2.702 dB due to the SWR for a total loss of 3.883 dB.

The same antenna fed with 1/2 inch 75 ohm hard line has a loss of .420 DB due to the cable and an additional .032 dB due to SWR for a total loss of 452 dB.

Incidentally, I chose purely resistive loads just to simplify things. The program works with complex loads as well. If anyone would like a specific calculation you can eMail me. All that is needed is the type cable, the length of the cable, the frequency and the load, (resistive and inductive).

Regards, Merv

2282. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct26.211600.12374@ke4zv.atl.ga.us>
Source record: 101366
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <54rrtb$apj@gap.cco.caltech.edu> lbliao@alumnae.caltech.edu (lbliao) writes:
>The above question is asked in academic vain. I am interested in finding out
>various viewpoints.
>
>Thanks a lot!
>lbliao

The power gain of a Class A common emitter MOSFET is infinite in
theory. In practice there may be some leakage current in the gate
which makes the power gain less than infinite. For AC signals, the
gate capacitance charge/discharge characteristic means some finite
amount of driving power is required, so power gain is not infinite.
Still, it is possible to achieve very large power gains with small
signal Class A amplifiers.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2283. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961026171057.21688A-100000@spork.callamer.com>
Source record: 101367

Tom, almost all of us are insane to put up with soldering these very small connectors. Unless you can find a tip that is small enough to fit an existing soldering iron, the next best solution is simply to wrap copper wire of small diameter around your existing iron. The last turn is extended forward far enough to solder but not block your view. A chisel tip can be formed by simply your cutters and clipping off the end of the extended wire. Normally you need less heat for small connectors, so the heat loss in the wire wrap is not an issue. Cliff Buttschardt K7RR

On 26 Oct 1996, Thomas N Tumino wrote:

> Could someone be kind enough to tell me where I can buy a soldering iron
> with a small tip (suitable for soldering pins that are extremely close
> together on connectors) or tell me how I can solder wires to pins that are
> extremely close together but must not short?
>
> I have destroyed several connectors trying to solder small wires to the
> pins on these connectors...these connectors are driving me to insanity!
> Please e-mail or post any suggestions you have asap before I tear out all
> of my hair and run out of connectors..
>
> Thanks!
>
> Thomas N2YTF
>
>

2284. Re: antenna tuner design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: timtj@aol.com
Message-ID: <54ug29$qss@newsbf02.news.aol.com>
Source record: 101368

What type of tuner are you interested in building? There are many different circuits available depending upon your needs. Do you intend to use open wire feedline, coax, or just a random length of wire? If you want to be able to switch between different types of feedline, then the switching circuitry will probably become the most complicated part of the desing. I suggest checking out any edition of the ARRL Handbook or Antenna Book for options.

2285. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3272888d.2037027@news.santafe.edu>
Source record: 101369
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

w7el@teleport.com (Roy Lewallen) wrote:

>There's one more way that cable length can affect VSWR. If common-mode
>current is present (that is, current is flowing on the outside of coax, or
>the currents in twinlead aren't equal and opposite), the feedline becomes
>part of the antenna. In that situation, changing the length of the feedline
>changes the antenna itself, which will affect VSWR.
>
>VSWR can seem to change with cable length if the characteristic impedance
>of the VSWR meter isn't the same as that of the cable. I've measured RG-58
>at over 60 ohms Z0, and a couple of cheap SWR meters I've looked at were
>off also, so I imagine this is a fairly common occurrence. In this case,
>the SWR doesn't really change with feedline length, but the SWR meter says
>it does.
>
>Roy Lewallen, W7EL

I agree with your comment on common mode currents. Also, with your
comment about the directional coupler. What it really amounts to is
that if the coupler has poor directivity (equivalent to not being
balanced for the impedance of the cable being used), some of the
forward wave is coupled into the reflected port. The resultant
apparent reflected signal depends on the relative phases of the
forward and reflected power and thus on the position of the coupler in
the standing wave. This phenomenon can also make the VSWR look better
than it really is if the two waves tend to cancel.

This discussion is a good example of the Internet at work. It's nice
to see that the ham radio newsgroup generally seems to be populated by
considerate people and not the nutcakes that wase bandwidth on a
couple of other newsgroups I follow.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

2286. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3272D60A.7F19@worldnet.att.net>
Source record: 101370
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

James Pollock wrote:
>
> Hi.
>
> I have a friend who swears up and down that the length of the
> coaxial cable to maintain resonance at a given frequency is important
> for reducing the SWR. He feels that it acts in a similar principal to
> the fact that the elements of an antenna must be cut to the correct
> length for the antenna to be resonant at a given frequency.
>
> It seems to me I have also read somewhere that this is a myth. I
> need the true scoop on this. I'm preparing to put up a pretty good
> antenna system on my roof (a homebrew 10 meter antenna cut to exactly
> the middle of the band), and don't want to purchase an extra 6 ft of
> Belden 9913 coax only to have it looped up and losing signal, when in
> reality I could of used 20 feet instead of 26 feet of cable. Jim

altavoz: 9913 !!! on 30 MHZ NOT !! RG8FOAM
You'll see a .7 db/100' to .9db/100' increase in attenuation
going to RG8foam . WOW , BIG LOSS (NOT)
Stick to radiation pattern adjustments , not splitting hairs
over coax.
Read "amatuer radio vert' antenna handbook" By CAPT Paul H.Lee
deceased (N6PL) . Its the greatest.

_____End of text from altavoz__________

2287. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct26.200250.12037@ke4zv.atl.ga.us>
Source record: 101371
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <54rg26$sjv@opera.iinet.net.au> richardh@iinet.net.au writes:
>Jim
>If the coax is matched (ie the load presents a resistive, 50 Ohm
>impedance) then the length of the coax is unimportant, except that it
>has loss depending on how good it is and the operating frequency. If
>the load is not matched properly then there will be different
>impedances at different points aliong the coax and you will get a
>different SWR with a 50 ohm source, depending on where you feed the
>coax. So your friend is correct if the load is not m,atched
>accurately.

No, the SWR is constant, and is a function of the mismatch at the load end only. That constant SWR is what causes the presented impedance variation along the line (due to transmission line transformer action). If you insert the SWR meter anywhere along the line, it will read the same SWR (discounting line loss). A SWR meter reads SWR, not impedance.

Internally, a SWR meter is a 50 ohm line section, so it merely acts as a short extension to the cable being measured. (If you try to measure 75 ohm line with a 50 ohm SWR meter, however, you'll be in for some surprises.)

Conversely, if you have an operating impedance bridge, you can measure the impedance at any point along the line, and given that, the cable length from the load to that point, and a Smith Chart, you can determine the SWR on the line (discounting line loss).

Now if the line has loss, and all real lines do, then you have to add a fourth variable, and the system becomes more complex. Instead of a constant SWR circle on the Smith Chart, now you have to follow a SWR spiral which approaches 1:1 as cable length tends toward infinity. The approach is asymptotic, and if cable loss is high, will quickly approach 1:1, but never quite reaches 1:1. If loss is low, the approach will be very gradual, and for moderate line lengths can be assumed to be a constant SWR circle.

(Incidently, this is a convienent way to measure line loss, just place a short or open at the load end of the cable and read the SWR at the source end, the closer to 1:1 it is, the higher the cable loss. There's a formula in the Handbook which will give you the exact loss in db for a given SWR and line length.)

For moderate lengths of good cable at HF (good cable, not RG-58), cable loss can be discounted and the SWR circle can be assumed nearly constant. At VHF+ however, even with good cables loss may become significant when the length exceeds several wavelengths and must be considered when analyzing line behavior.

This means that a low SWR is not necessarily a good thing. It can indicate a lossy system rather than indicating a good match. One way to differentiate is to look at the SWR curve over a band of frequencies. If it is broad and flat, the cable is probably lossy (or you have a dummy load for a termination). Real antennas are typically only close to design impedance over a narrow frequency range (typically less than 5% around the design frequency), so the SWR curve should quickly rise as it moves away from the center frequency of that range. Anyone who says he has a broad flat SWR is probably really telling you he has a pretty good dummy load for an antenna system.

(Note there are exceptions, antennas such as discones and log periodics present a near constant impedance over a large frequency excursion. But in general a low antenna system Q is indicative of low efficiency and high loss, IE the behavior of a dummy load.)

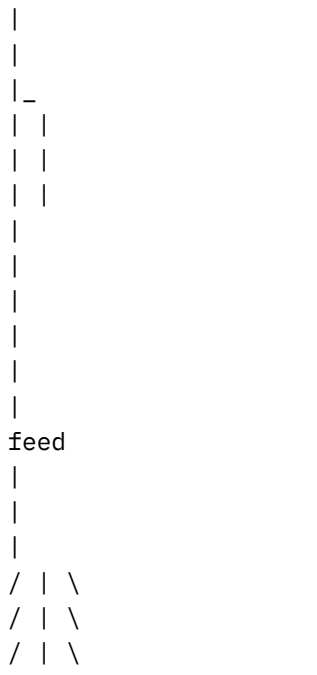
Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2288. Re: Seeking Ham radio info (antennas)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3272EA81.7AB5@worldnet.att.net>
Source record: 101372
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.antenna

me wrote:
>
> I'm looking for some information on some ideas for a 2 meter
> antenna. My call is N3XZX. I basically recieved a homebrewed antenna from a
> gentleman in Atlantic City. I liked the idea and tend to build a few
> myself. It's just a plain old ground plain antenna, The one i recieved was
> a quarter wave and i was wondering if there was any ideas and info for
> making the same type but creating a 5/8 wave.
> I heard for a 5/8 you need to have a top hat, is this true? Also any
> info on whether this 5/8 is a good antenna comparing it to the quarter waveN3XZX Chris

altavoz: No hat required for 5/8 w. A 5/8w is much better for vert'
omni directional than 1/4w . Same coil for 1/4w but tapped a little
different . Radials must be 180 degrees, straight down, with
"wiskers" (going down 1/4w from feed point, some 1/4w radials at
45 degree angle...they form a cone).
A hat on 5/8 w will effect the pattern , try it.
For more gain, put a hairpin (<1/4w shorted stub) on top of 5/8 then
another 5/8w vert on top of that . Or the whole ant' a 5/4w and a
colinear stub pointing down (open end down , at the 5/8 w point)
Coax up thru "tube" Radial system.



2289. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3272DED8.3F8C@worldnet.att.net>
Source record: 101373
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,

Jim Devenport wrote:
>
> James Pollock wrote:
> <snippety>
> > It seems to me I have also read somewhere that this is a myth. I
> > need the true scoop on this. I'm preparing to put up a pretty good
> > antenna system on my roof (a homebrew 10 meter antenna cut to exactly
> > the middle of the band), and don't want to purchase an extra 6 ft of
> > Belden 9913 coax only to have it looped up and losing signal, when in
> > reality I could of used 20 feet instead of 26 feet of cable.
> > <again snippety>
>
> Jim, in addition to the responses you've already received I want to add
> the certainty that even with RG-58 the "26 feet of cable" would result
> in essentially NO extra noticeable loss than "20 feet of cable". And
> with Belden 9913 the additional loss would be even more miniscule.
> According to my charts, the losses of these cables are: (per 100 feet @
> 30 MHZ)
> RG-58 2.5 dB
> Belden 9913 0.75 dB (!)
> RG-8 1.0 dB
>
> So, even if you were using the dreaded RG58 the loss would be less than
> a fraction of a dB for the additional 6 feet or so of coax. Even with a
> high SWR (where the reflections cause more than one trip "up and down
> the coax" and thus increase the effective loss) 26 feet is not a big
> deal at all. 3 dB is generally regarded as a barely discernable
> difference on the receiving end without accurate test equipment to
> "help" notice the difference.
> As your previous respondees have noted, if the SWR is high you CAN
> "fool" the transmitter into "seeing" a lower SWR by messing with coax
> length

altavoz: No, you cant fool the transmitter, the SWR will not change
on changing coax length.

but far more will be gained by trying to lower the SWR up at the
> antenna FEEDPOINT which will not only make your transmitter happier but
> increase apparent antenna effectiveness too, both transmit and receive.
> "SWR" is SO overhyped as important anyway. I fondly recall in the '70's
> working all kinds of DX on 10 meters with a homebrew 2 (TWO!) meter J
> pole since I was a poor college student and didn't have the nerve to
> sneak HF wires onto the roof of my college housing.....
> I suppose it worked so well because I didn't own an SWR meter, just

> heard the band was open and tried the J pole since that was all I had on
> the roof and had a blast with it, who knows what the SWR was, but I'd
> have had to QRT had I had a meter to scare myself with.....Jim Devenport WB5AOX

2290. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3272E163.2385@worldnet.att.net>
Source record: 101374
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> It's possible to use a cable with an impedance not
> equal to the characteristic impedance of your
> antenna and rig. For example, a half wave length
> of 75 ohm cable will work between a 50 ohm antenna
> and a 50 ohm transmitter. You can also use 75 ohm
> cable to match a 100 ohm antenna to a 50 ohm rig
> by cutting it to the right length. Unfortunately,
> these tricks generally only work at one frequency.
>
> In this case, the length of the cable is critical
> to a given frequency.
>
> Steve KT4FY

altavoz: No, a 50 ohm ant' feeding a 75ohm coax will
cause a SWR into coax and towards the radio and an exact
length of coax will not reduce the SWR except as
attenuation factor over that length.

_____End of text from altavoz__________

2291. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.102696.114157.80@treasure-d23.syix.com>
Source record: 101375
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

I suspect that audio tubes (6L6 and friends) peter out at a bit lower
> frequency. On the other hand, RF tubes make VERY good audio tubes. I
> know of one person who used 807's in an audio setup for his "high quality"
> amplifier. Later (this was about 20 years ago) he went down to Radio
> Shack and got one of their "off the shelf" receivers and it was better (or
> equal to) his older setup. It also dissapated MUCH less power.
>
> As always, YMMV.
>
> --
> Tom Watson
> tsw@3do.com (Home: tsw@johana.com)

Well guys, I have to jump in here with my limited knowledge and 2 cents worth. It seems like the beam power pentodes were good up to a pretty high frequency and you would be better off with a large octal just because of plate power dissipation. Sure you could use a 12AT7 dual triode, but why, the little ones have the frequency response but no plate power. I think in general the idea is that the more grids you have the higher the frequency response. Triodes are usually low frequency with only one grid, Heptodes(?) with 2 grids a little more, and Pentodes are the king with 3 grids, 1 for control, 1 for electron bounce suppression, and 1 for capacitance neutralization.

I don't have my tube manuals handy or I could look this up. If you want I can at a later date look up what would be a good all around tube. I have RCA manuals from 1956, 1965, and 1976 (mostly those stupid compactrons), and an old Sylvania book about 1965.

Let me know if I can help.

Bill Baka, vacuum state FET enthusiast. Tube = N channel depletion mode FET.

2292. Re: magnetism immune switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: flanders@groupz.net
Message-ID: <54u3gm$mhc@news1.sunbelt.net>
Source record: 101376

>Dave Bullock G6UWO wrote:
>>
>> Heeelllp I need to create a changeover contact in a extremely magnetic
>> environment. Relays are no good so I am looking for a manufacturer of
>> something like, a bi-metallic switch that can be operated from afar with
>> a built in heating element,ala car indicator flasher. Or maybe a mercury
>> thermometer principle switch that closes a contact as it is internally
>> heated. I know the latter exists but where can I get them.
>> Thinking caps on chaps all suggestions greatfully accepted.
>> Thanks Dave.
==========
SSR (Solid State Relay). They are available in various ratings -
inside the little brick is a light-activated electronic switch, and a
solid-state light source (a LED). You supply activating current (a few
mils at, typically, 3 to 30 volts DC, and this switches "on" the SSR.
You can get them in AC and DC models, with really usable current
ratings. I see them at hamfests often.

I have applied a few, and they are easily activated by TTL levels. I
use some that are rated at 30 Amps 240VAC.

Jerry W4UKU

2293. Re: Need FT-470 Manual Urgently

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: Michael J Wooding <g6iqm@g6iqm.demon.co.uk>
Message-ID: <2I8T45AEdncyEwFX@g6iqm.demon.co.uk>
Source record: 101377
Cross-posted to: uk.radio.amateur,rec.radio.amateur.homebrew

In article <RLkPbSADuOcyEwz3@chubs.demon.co.uk>, Steve Simpson
<Steve@chubs.demon.co.uk> writes
>I still need this manual.
>
>Just the CCT would do. Can anyone help at all?
>
>Please,
>
>Pretty Please!!!

Hi Steve,

Send me an A4 SAE to the address below and I will send you a photocopy
of the complete manual and cct.

Regards ... Mike

--
Michael J Wooding G6IQM email: vhf-comm@g6iqm.demon.co.uk
http://www.eolas.co.uk/ag/vhfcomm.htm & http://www.clearlight.com/~vhfcomm
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
Tel: (0)1788 890365 Fax: (0)1788 891883
VHF Communications Magazine - Especially covering VHF, UHF and Microwaves

2294. Re: Seeking Ham radio info (antennas)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: pschleck@oasis.novia.net
Message-ID: <54tltr$b3n@oasis.novia.net>
Source record: 101378
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.antenna

In <54t4is$drv@lily.redrose.net> jpoll@redrose.net (me) writes:

> I'm looking for some information on some ideas for a 2 meter
>antenna. My call is N3XZX. I basically recieved a homebrewed antenna from a
>gentleman in Atlantic City. I liked the idea and tend to build a few
>myself. It's just a plain old ground plain antenna, The one i recieved was
>a quarter wave and i was wondering if there was any ideas and info for
>making the same type but creating a 5/8 wave.
> I heard for a 5/8 you need to have a top hat, is this true? Also any
>info on whether this 5/8 is a good antenna comparing it to the quarter wave.
> Any info would be greatly appreciated!
> Thanks,
> N3XZX
> (Chris)

In addition to the excellent replies and suggestions that I'm sure
you'll get on this newsgroup, you may also wish to consult my Amateur
Radio Elmers Resource Directory:

http://www.novia.net/~pschleck/elmers/

There are a number of good antenna "Elmers" listed, accessible directly
from:

http://www.novia.net/~pschleck/elmers/antennas.html

--
73, Paul W. Schleck, KD3FU
pschleck@novia.net
http://www.novia.net/~pschleck/
Finger pschleck@novia.net for PGP Public Key

2295. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <54trgp$eh@news03.deltanet.com>
Source record: 101379
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao (lbliao@alumnae.caltech.edu) wrote:
: Besides Radio Shack, I wonder which companies sell capsule microphones and
: provide good application notes etc on them. Some capsules have some kind of
: preamplifier JFET in them, and others do not. I am looking for a good source
: on both of them. Looking through Thomas Catalog, I could not find a good
: source though.

: Thanks a lot!
: lbliao

AFAIK, all the Radio Shack microphones have the FET built-in. That's
because the impedance of the electret mic itself is several hundreds of
megohms and can't drive a signal any distance because of the capacitance.
So the amplifier has to be very close to or inside the mic element.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

2296. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3272DB52.4845@worldnet.att.net>
Source record: 101380
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dave Hockaday wrote:
>
> James Pollock wrote:
> > I have a friend who swears up and down that the length of the
> > coaxial cable to maintain resonance at a given frequency is important
> > for reducing the SWR. He feels that it acts in a similar principal to
> > the fact that the elements of an antenna must be cut to the correct
> > length for the antenna to be resonant at a given frequency.
>
> Hi Jim. This is true if the feedline impedance is different than that of
> the antenna/transmitter. If you use 50 ohm feedline with a 50 ohm
> antenna/transmitter, any length is acceptable. If you substituted say, 75
> ohm feedline, you would need to cut the feedline in 1/2 wl multiples (the
> impedance is repeated every 1/2 wl).
>
> Dave Hockaday WB4IUY

altavoz: You dont need to cut in 1/2 wave multiples
since it wont change the SWR except thru a very small
increase due to decreasing attenuation over length.
H.F. has very low attenuation on RG8

2297. Re: Swan 500C docs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: AC6V <ac6v@popd.ix.netcom.com>
Message-ID: <3272A031.36FE@popd.ix.netcom.com>
Source record: 101381

Robert R. Koblish wrote:
>
> Hi,
>
> Can anyone supply, or tell me where to find, operation and service
> manuals for a Swan 500C HF transceiver?
>
> Will pay reasonable copying costs, or I can get them scanned and return
> original + electronic version.
>
> tnx,
>
> Bob Koblish, N3HAT
> Baltimore, MD
> n3hat@erols.com

Hi Bob, The Swan manuals reside here in Oceanside -- former home of
Swan.

Its too long to copy so if you will -- go to my home page listed below
and click on "HAM RADIO MFGRS AND SALES" scroll down to Swan -- there is
info on manuals and repair. I have no peculinary interest in these -- so
this is FYI only.

I have a Swan 350 -- great ole rigs.

Good Luck
73
Rod in Oceanside, Ca
--
AC6V DX Reference Page at: http://www.netcom.com/~ac6v/index.html

Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

2298. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: Jack Konrath <global@sj-coop.net>
Message-ID: <327303AA.29BE@sj-coop.net>
Source record: 101382
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao wrote:
>
> Besides Radio Shack, I wonder which companies sell capsule microphones and
> provide good application notes etc on them. Some capsules have some kind of
> preamplifier JFET in them, and others do not. I am looking for a good source
> on both of them. Looking through Thomas Catalog, I could not find a good
> source though.
>
> Thanks a lot!
> lbliao

Digi-key @ URL http://www.digikey.com carries Panasonic electret
capsules.

Jack Konrath
--
The race is not always to the swift,
nor the battle to the strong...
But they'd be the ones I'd bet on!

2299. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: Tim Dicus <timothyd@gnt.net>
Message-ID: <3271EBAC.6F4C@gnt.net>
Source record: 101383
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao wrote:
>
> Besides Radio Shack, I wonder which companies sell capsule microphones and
> provide good application notes etc on them.
>snip
> Thanks a lot!
> lbliao

Digi-Key carries the Panasonic line of microphone modules. They are smaller than Radio Shack mics, but must do not have leads. Doesn't sound like a challenge until you see how small they are, and this old man is getting blind anyway!

I've used them and they work great.

That's Digi-Key http://www.digikey.com

--
Tim Dicus
Destin, Florida
e-mail timothyd@gnt.net

2300. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: ctyoung@mtu.edu
Message-ID: <54uemh$g8f@geolabserver.geo>
Source record: 101384
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao (lbliao@alumnae.caltech.edu) wrote:
: Besides Radio Shack, I wonder which companies sell capsule microphones and
: provide good application notes etc on them. Some capsules have some kind of
: preamplifier JFET in them, and others do not. I am looking for a good source
: on both of them. Looking through Thomas Catalog, I could not find a good
: source though.
:
: Thanks a lot!
: lbliao
:
:

Look at the DigiKey catalog. They sell microphone capsuels for 70 cents to $2.00
depending on the frequency response needed etc. The mikes are made by Panasonic.
I noticed that DigiKey has a web site: http://www.digikey.com

have fun

Chuck Young

2301. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-26 00:00:00 UTC
From: clint.bradford@atdbbs.com
Message-ID: <9610251917091757@atdbbs.com>
Source record: 101385

>>I am looking for a QST article in 1992 called "Low Cost Digital
>>Signal Proccessing for the Radio Amateur" by Dave Hershberger.

QST September 1992 page 43.

-Clint Bradford

2302. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: szekeres+@pitt.edu
Message-ID: <54ubsn$caj@usenet.srv.cis.pitt.edu>
Source record: 101286
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <54rs2o$at8@gap.cco.caltech.edu>,
lbliao <lbliao@alumnae.caltech.edu> wrote:
>Besides Radio Shack, I wonder which companies sell capsule microphones
and
>provide good application notes etc on them. Some capsules have some kind
of
>preamplifier JFET in them, and others do not. I am looking for a good
source
>on both of them. Looking through Thomas Catalog, I could not find a good
>source though.
>
>Thanks a lot!
>lbliao

Well, the Panasonic electret capsules are available through Digi-Key.
They started making their "flat" capsule about 12 years
ago. The original capsule has been discontinued and two
other models have taken its place. Most of the other common
capsules in the market don't have near the flatness in response.
I saw this when I saw the Digi-Key catlog and prompted me to
use and write up some applications which appeared in Speaker
Builder magazine around 1985. Alot of the larger less
accurate capsules have peaking around 6-7 Khz. Digi-Key
shows a simple circuit in their catalog. I don't know if
Panasonic offers any better data sheets or applications.
The use of the capsule will determine much of its performance
value. There is also another fellow who made up a version
called the Mighty Mike. That article and kit was in Speaker
Builder magazine and a kit available through the Old Colony
outlet. I don't know if there is an equivalent capsule
manufacturer. Most of the better ones achieve better S/N
ratio but are made by microphone companies. There is a fellow
on alt.sci.physics.acoustics, Johanson, who is
in the microphone business. Perhaps you could try that
group also.

greg

http://www.pitt.edu/~szekeres

2303. Parabola program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <3272DBE4.73A9@tri.net>
Source record: 101287

> Date: Sat, 26 Oct 1996 10:57:57 +0200
> From: sebastien <easycom@infomaniak.ch>
> Subject: Want parabola calculate program
>
> Hello, thanks to read my. I'm HB9ICC in Geneva.
>
> I'm looking for a program to calculate a parabola antenna.

The parabola program part is easy. What isn't obvious is that if you use simple analytical calculus, you can rotate the axis of the parabola from the usual plot, make the origin of the graph at 0,0 for the center of the paraabola and x,0 for the edge of the dish...you will find that for F/D ratios used in ham antennas, you can plot the whole thing on standard 8 1/2 inch width paper. No more laying the thing out by hand.

I wrote this up for the Central States VHF Society some 10 years ago. The whole program was about 10 lines of some version of Forth but I haven't got a clue where it's filed away. The math is not hard.

It is a simple and interesting exercise. Hope this helps.

N0UU

2304. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: macino@ibm.net
Message-ID: <54umqg$a58$1@news-s01.ny.us.ibm.net>
Source record: 101288
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <32715628.5221@ccm.ch.intel.com>, Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com> writes:
>Joel Gamble wrote:
>> The ONLY time coax length makes a difference is when it is radiating
>> rf,thus it becomes an active part of the antenna,instead of the passive
>> conduit it is designed to be.
>
>Hi Joel, got to nitpick a tad.
>
>1. 100ft of RG-58 on 440MHz with an SWR of 1:1 and *no feedline radiation*
>does make a difference.
>
>2. 100ft of RG-58 on 28MHz with an SWR of 20:1 and *no feedline radiation*
>does make a difference.
>
>73, Cecil, W6RCA, OOTC (not speaking for my employer)

Cecil,

Have they just recently started calling 440 Mhz HF? :-))) <- beard

Jim WD9AHF

2305. New Ham Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: "Charles H. Reichert" <kd9jq@imaxx.net>
Message-ID: <3272F6DD.48C@imaxx.net>
Source record: 101289
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

FYI

I've just started up a new WWW site for hams at:

http://www.imaxx.net/~kd9jq

Will be passing along over 30 yr=ears of homebrewing
information, circuits, techniques, software, etc.
I have provided some circuits and will be adding more.
Also I have available at the site free DOS software
useable for design (Preamp, Linear Amps, PLL, Misc).

Comments/Questions welcome at kd9jq@imaxx.net

73 Chuck KD9JQ

2306. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <32730A5F.362B@worldnet.att.net>
Source record: 101290
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao wrote:
>
> The above question is asked in academic vain. I am interested in finding out
> various viewpoints.
>
> Thanks a lot!
> lbliao

altavoz: 35dbv bipolar (in op amps) . MOSFETS/FETS have lower
volt gain .

_____End of text from altavoz__________

2307. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: "Merv Stump"
Message-ID: <54vdfr$dj9@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 101291
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Merv Stump <W2FOE@worldnet.att.net@postoffice.worldnet.att.net> wrote:
>ARRL currently has a program under development which analyzes transmission
>line. I'm fortunate to have been asked to play with an early copy.
>Running some quick examples shows the following:
>
>At 28 MHz an antenna with a purely resistive load of 50 ohms fed with 100
>feet of RG213 has a loss of 1.181 dB. There is no additional loss due to
>SWR.
>
>The same antenna fed with 100 feed of 1/2 inch 75 ohm hard line has a loss
>of .420 dB due to the cable and an additional .032 dB due to the SWR for a
>total loss of .452 dB.
>
>An antenna with a purely resistive load of 500 ohms (10/1 SWR) fed with
>RG213 has a loss of 1.181 due to the cable and an additional 2.702 dB due
>to the SWR for a total loss of 3.883 dB.
>
>The same antenna fed with 1/2 inch 75 ohm hard line has a loss of .420 DB
>due to the cable and an additional .032 dB due to SWR for a total loss of
>452 dB.
>
>Incidentally, I chose purely resistive loads just to simplify things. The
>program works with complex loads as well. If anyone would like a specific
>calculation you can eMail me. All that is needed is the type cable, the
>length of the cable, the frequency and the load, (resistive and
>inductive).
>
>Regards, Merv
>
I've had a couple of requests for examples directly addressing the length
of coax question:

At 28 MHz an antenna with an impedance of 70R +4J fed with 11.597 feet of
RG213(1/2 wave length at 28 MHz) has an impedance at the input of 69.28R
+3.76J. Virtually identical to the load, but even a halfwave of cable
does have some transforming characteristics due to it's loses. TLA
computes the SWR at load as 1.41/1 and at the input as 1.40/1.

The same antenna fed with 5.798 feet of RG213 (1/4 wave length at 28MHz)
has an impedance at the load of 35.77R -2.35J. An obvious transformation
of the impedance, however, the SWR is still 1.41/1.

If you feed the antenna with 1/2 wave of PERFECT COAX,(NO LOSSES) TLA
computes the impedance at input as 70.02R + 3.79J (The difference between

this and 70R and 4J can be attributed to rounding.)

Regards, Merv

2308. Re: Modified AM tube radio using sub-mini tubes, pix in a.b.p.m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: Ron Myers <myersr@infoave.com>
Message-ID: <01bbc3ba$9b0a56a0$4b094ace@ronmyers>
Source record: 101292
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Jeff Johnson <jbj@intr.net> wrote in article <54lgja$krb@news.intr.net>...
> bbaka@syix.com wrote:
> : Sub-mini tubes were small "pencil" sized tubes, about 1/3 inch
diamenter
> : > and ranging from 3cm to 5 cm tall. Mostly found in military surplus
> : > "boatanchor" radios of more recent tube vintage. I could post some
> : > info on various tubes, I have a manual that includes some sub-mini's.

>
> : Well, in my day, early 60's they were being used as television antenna
pre-amps
> : and called Nuvistors. That was almost the last hold out of tubes until
those
> : silly-assed 5 functions in one tube compactrons came out. Fortunately
those
> : only lasted a few years, since almost every one was proprietary.
> *** compactrons were developed by and for the germans where radios were
taxed for the number of glass envelops in a radio, not by how much they
cost ... QED.
> : Bill Baka
>
> The Nuvistors I have seen are metal tubes that were smaller than
> the (glass) pencil tubes. The pencil tubes have leads that were
> either all in a row, or all on the circumference of a circle;
> the nuvistor pins were arranged differently.
>
> --
> Andrew Mitz
> arm@jbj.org
> Bethesda, MD
>

2309. Re: magnetism immune switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: Jeff Hutchinson <w4pbc@digital.net>
Message-ID: <327370A5.6703@digital.net>
Source record: 101293

Re your need for a switch to operate in a highly magnetnetic environment: have you considered pneumatic operation? There are switches available that can be operated by changes in pressure. Some of them are used for detecting water in the bilges of boats, and for actuation of bilge pumps.
Can you remotely activate the swtch by mechanical means? If so, you could use a mercury switch, which is basically two contacts inside a sealed tube which contains mercury. You rotate the tube to make or break the circuit.
73 de Jeff W4PBC

2310. 4-1000 /AB2 intermod???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32738dc0.1371875@news.frazmtn.com>
Source record: 101294

Anyone know what one could expect in IMD using the 4-1000 in AB2/SSB (6kv anode, 500v screen, -70v bias)?? Is it possible to get -36 to -40 db imd (3rd order) in AB2/SSB using a conventional grid driven circuit (not grounded grid) .
73, Jesse, W6KKT

2311. Diagrams from old radio mags

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: nv0y@horizon.hit.net
Message-ID: <5508ke$to@opal.southwind.net>
Source record: 101295

I have some old radio mags from 1941 that have receiver and xmtr circuits if any one is interested. 11 tube rcvrs, 6L6 xmtrs and the like.

2312. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3273CCFB.36D4@worldnet.att.net>
Source record: 101296
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

```
lbliao wrote:
>
> The above question is asked in academic vain. I am interested in finding out
> various viewpoints.
>
> Thanks a lot!
> lbliao

altavoz: About 35 dbv .
--

______End of text from altavoz__________
```

2313. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: no.spamming.allowed@null.com
Message-ID: <550itl$1i0@jerry.loop.net>
Source record: 101297
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <54trgp$eh@news03.deltanet.com>,
jlundgre@delta1.deltanet.com (John Lundgren) wrote:
>lbliao (lbliao@alumnae.caltech.edu) wrote:
>: Besides Radio Shack, I wonder which companies sell capsule microphones and
>: provide good application notes etc on them. Some capsules have some kind of
>: preamplifier JFET in them, and others do not. I am looking for a good
source
>: on both of them. Looking through Thomas Catalog, I could not find a good
>: source though.
>
>: Thanks a lot!
>: lbliao
>
>
>AFAIK, all the Radio Shack microphones have the FET built-in. That's
>because the impedance of the electret mic itself is several hundreds of
>megohms and can't drive a signal any distance because of the capacitance.
>So the amplifier has to be very close to or inside the mic element.

Try Digi-key. They have several. I believe, but can't say with certainty, they
are made by Panasonic. (Catalog's at work where I need it more.)

--
Matt

###
I fix broken computers # Reply to
I can break them as well # ke6alm
#.I.will.not.tolerate.SPAM.#.@loop.com #
###

2314. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3273E2B5.148E@worldnet.att.net>
Source record: 101298
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Cecil Moore wrote:
>
> Joel Gamble wrote:
> > The ONLY time coax length makes a difference is when it is radiating
> > rf,thus it becomes an active part of the antenna,instead of the passive
> > conduit it is designed to be.
>
> Hi Joel, got to nitpick a tad.
>
> 1. 100ft of RG-58 on 440MHz with an SWR of 1:1 and *no feedline radiation*
> does make a difference.

altavoz: I get 271 "1/4 wavelengths" and that makes it an ODD multiple
of 1/4w and therefore it will radiate cause the open end of the coax
will see a short on the outside end of the coax at the radio end.
.66 VF RG58 , assuming a high SWR at load and 1:1 at radio.

> 2. 100ft of RG-58 on 28MHz with an SWR of 20:1 and *no feedline radiation*
> does make a difference.

altavoz: The diff we're talking of is trimming the line and in your
case trimming the line will increase the RF (feedline radiation)
on the outside of the coax By pulling down the Z seen on the outside
by the antenna . Trimming 1/4w will peak the FEEDLINE RADIATION.

> 73, Cecil, W6RCA, OOTC (not speaking for my employer)

--

_____End of text from altavoz__________

2315. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <846443140snz@lfheller.demon.co.uk>
Source record: 101299
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <54rs2o$at8@gap.cco.caltech.edu>
lbliao@alumnae.caltech.edu "lbliao" writes:

> Besides Radio Shack, I wonder which companies sell capsule microphones and
> provide good application notes etc on them. Some capsules have some kind of
> preamplifier JFET in them, and others do not. I am looking for a good source
> on both of them. Looking through Thomas Catalog, I could not find a good
> source though.

A co. called Knowles makes quite good quality electret mic inserts. They
don't seem to have application notes, but they do have proper spec.
sheets. I don't have their details handy, unfortunately.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)118 9471424 | many years ago in Oxford.

2316. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002710961614530001@news.west.net>
Source record: 101300

In article <54r81d$k77@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

snip...
>
> If I were you to point you to one reliable source, it would be Eimac's
> Care and Feeding of Power Grid Tubes or other commercial engineering
> texts. In commercial books, you have the benefit of people working in a
> team, double checking each other. You are less likely to hear rumor or
> folklore.
>
Has Tom actually read the book he recommends? Is this another case of do
as I say, not do as I do? ..... *Care and Feeding of Power Grid Tubes*
does Not discuss designing parasitic-oscillation suppressor devices.

When I was talking to an Eimac engineer in February, 1986, about
suppressing unwanted oscillations, he said that even though they (Eimac)
discovered that the reason for gold-sputtering damage in 8877s was an
oscillation condition, there were no Eimac Engineering Bulletins on the
subject. He said that the job of designing devices to suppress such
oscillations was the responsibility of amplifier engineers, not electron
tube engineers . He said: "that's your job".

.....so I got out my dipmeter and started investigating. Two years and
many experiments later, I wrote an article for QST, which was published in
October, 1988. A followup article was published in the September and
October, 1990 QST.

Are lower Q VHF suppressors needed? Take a look at:
http://www.vcnet.com/measures/bandswitch%2C%20parasitic-arced
After receiving a new bandswitch and lower Q parasitic suppressors, this
(3) 8874 ETO amplifier was successfully returned to service.

Another photo of a parasitic-arced bandswitch can be seen on page 33 of
"Parasitics Revisited" in the October 1990 issue of QST. The bandswitch
was removed from a TL-922A. After this article was published, Tom
telephoned me at the suggestion of QST's Paul Pagel. Tom said that such
bandswitch arcing could be caused by "cheap coax".

--
--Rich--
ag6k, 805.386.3734

2317. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct27.042533.13500@ke4zv.atl.ga.us>
Source record: 101301

In article <54shd8$cln@prometheus.acsu.buffalo.edu> tumino@acsu.buffalo.edu (Thomas N Tumino) writes:
>Could someone be kind enough to tell me where I can buy a soldering iron
>with a small tip (suitable for soldering pins that are extremely close
>together on connectors) or tell me how I can solder wires to pins that are
>extremely close together but must not short?
>
>I have destroyed several connectors trying to solder small wires to the
>pins on these connectors...these connectors are driving me to insanity!
>Please e-mail or post any suggestions you have asap before I tear out all
>of my hair and run out of connectors..

You don't say how small these connectors are, Thomas. For pins on 100 mil centers, I like to use a Weller soldering station with a 50 mil chisel tip. This transfers heat well while being small enough not to cause solder bridge problems. Weller also has tips with a long fine conical point that you can use for even smaller spacings, but that doesn't transfer heat efficiently. If the pins are sized for wires no larger than #30, then the fine conical tip will do, but for larger pins the heatsinking will be such that the smaller tip actually encourages solder bridging.

You need enough heat transfer to get a good rapid bond. This is critical. Make sure the tip you choose offers good contact and good thermal transfer. Of course keep it clean and well tinned too. A temperature controlled soldering station with short thermal lag is almost mandatory to get good results. The old Weller WTCPN is adequate, but Metcal and others make suitable units too. I stick with Weller because they are widely available and have a huge assortment of tips available for various size work. Most any industrial electronics supplier will stock Weller equipment. (And I notice that HRO just starting stocking Weller soldering stations and the Pyropen SMD rework hot air sources.)

Of course you should be using a suitable gauge of eutectic solder, err on the side of finer rather than larger, and I'd suggest some extra rosin flux. Joints have to be clean to give a quick secure bond. Don't be afraid to use a bit of extra flux to achieve that.

If you are working at a smaller spacing than 100 mils, I recomend you look at other options. If the pins are cup style, you might try tinning the pins and wires then sweating them together with a static hot air source. If the pin carrier is a thermoplastic, you might want to look at IDC technique instead of soldering. (Dip headers can be a particular bitch. Always install them in

a socket before attempting to solder or the pins will wander
in the softened plastic.)

Here's a tip which will prevent solder bridges and yield a neater
connection too if the pin spacing is no closer than 100 mils. Use
individual short pieces of heatshrink tubing on each lead. Once
you've soldered on the wire, slip the tubing down over the pin
and shrink it. Then go to the next wire. The heatshrink will
prevent a solder bridge, or a mechanical short, from occurring
to the pins you've already completed. (If you're using a static
hot air source, the heatshrink will also protect adjacent pins
from being desoldered while you're soldering the next one in line.)

If you're mass terminating a cable with a connector, make a fixture
to hold the work. This will make things lots easier. I often make
expedient fixtures out of wood. Take a piece of board and attach
a couple of scraps to it loosely with wood screws, spaced so that
they'll hold the connector and cable in the proper relationship.

Slip the connector under one of the scraps and tighten down the
wood screws (if the connector is round, drill and split the scrap
first so it will be a good fit). Now slip the cable under the other
scrap and tighten that down. Make sure you've stripped back enough
of the jacket to give you wire ends long enough to easily work with,
and start soldering.

Think about the order in which you're going to solder the pins so
that you'll still have good access to the last ones (you may want
to plan on rotating and reclamping the work halfway through). If
you're going to use heatshrink, be sure to slip that in place first,
of course. For the neatest work, I use short individual pieces of
shrink on each wire, and a larger piece on the complete cable.

Make sure you have a strong light illuminating the work so you
can see what you're doing, and use a magnifier or a jeweler's loupe
too if your eyes are somewhat old and tired like mine. I keep a 12 V
boxer fan on the bench to act as a fume extractor to keep fumes out
of my eyes (locate it to *suck* from the work rather than blow across
it, otherwise it may chill the work and make soldering harder). Arrange
your workspace so that you can rest your forearms on the bench, or on
a couple of sandbags on the bench. This will make you remarkably steadier,
and much less fatiqued. Take your time, this isn't a race. If you start
to get frustrated, back off, take a breather and then come back to the
work. You can do remarkably fine work if you'll just be patient and think
the project through first.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2318. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct27.050108.13746@ke4zv.atl.ga.us>
Source record: 101302

In article <Pine.GSO.3.95.961026171057.21688A-100000@spork.callamer.com> Clifford Buttschardt <cbuttsch@slonet.org> writes:
>Tom, almost all of us are insane to put up with soldering these very small
>connectors. Unless you can find a tip that is small enough to fit an
>existing soldering iron, the next best solution is simply to wrap copper
>wire of small diameter around your existing iron. The last turn is
>extended forward far enough to solder but not block your view. A chisel
>tip can be formed by simply your cutters and clipping off the end
>of the extended wire. Normally you need less heat for small connectors,
>so the heat loss in the wire wrap is not an issue. Cliff Buttschardt K7RR

That's a crude field expedient technique at best. The heat loss is a problem because the expedient tip has low thermal mass, and cools quickly when brought in contact with the work. If you can't quickly supply enough heat to make up that loss, you'll have trouble getting a good joint. If you just try to brute force it by wrapping it on a high wattage iron, the expedient tip will oxidize so quickly before being brought to the work that good heat transfer won't occur. If you must use copper as an expedient tip, keep it well fluxed and tinned at all times, and keep the thermal path as short as possible.

Here's an expedient tip that'll work better. Take a piece of 1 inch diameter CRS and chuck it in the lathe. Turn the end down to 50 mils for as short a distance as possible while still letting you approach the work. Radius back the shoulder for extra clearance. Part off at about a two inch length, center drill and tap the other end to fit on a 250 mil shaft threaded 1/4-20. Use a long 1/4-20 bolt for the shaft, and fit a wooden handle. File a chisel point on the 50 mil end.

Now you can heat the iron over a gas stove and use it to solder your connections. Return it to the stove between joints and keep it well tinned. The thermal mass of the large section coupled with the short thermal path to the tip will allow you to do good work. (BTW, that's why they're called soldering *irons*, you may need to keep several in the fire at the same time if you're doing production work, but be wary of having too many irons in the fire at once, you won't be able to tend to all of them properly.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2319. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct27.072006.14444@ke4zv.atl.ga.us>
Source record: 101303
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <3272E163.2385@worldnet.att.net> altavoz <altavoz@worldnet.att.net> writes:
>> It's possible to use a cable with an impedance not
>> equal to the characteristic impedance of your
>> antenna and rig. For example, a half wave length
>> of 75 ohm cable will work between a 50 ohm antenna
>> and a 50 ohm transmitter. You can also use 75 ohm
>> cable to match a 100 ohm antenna to a 50 ohm rig
>> by cutting it to the right length. Unfortunately,
>> these tricks generally only work at one frequency.
>>
>> In this case, the length of the cable is critical
>> to a given frequency.
>>
>> Steve KT4FY
>
>altavoz: No, a 50 ohm ant' feeding a 75ohm coax will
>cause a SWR into coax and towards the radio and an exact
>length of coax will not reduce the SWR except as
>attenuation factor over that length.

You two are talking about different things. Sure, the SWR on
the cable will not be unity, but if you cut the cable to an
electrical halfwave (or multiple), you *don't care* because
the impedance seen by the source is a repetition of the
impedance presented by the load. The source doesn't care
about SWR on the cable, it only cares that it sees the
correct impedance presented to it.

In the case of a 100 ohm load and a 50 ohm source, an electrical
1/4-wave of 75 ohm cable will transform the load impedance to
50 ohms at the source end of the cable. The source will be happy,
the load will be happy, and we'll be real happy there is SWR on
the cable, because it is this SWR which makes the transformation
happen. A "high" SWR isn't always bad, in fact it can be downright
useful at times.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2320. Re: magnetism immune switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-27 00:00:00 UTC
From: jleikhim@nettally.com
Message-ID: <550q0o$gn1@server.cntfl.com>
Source record: 101304

Robert Bissett <rbissett@monmouth.com> wrote:

>Dave Bullock G6UWO wrote:
>>
>> Heeelllp I need to create a changeover contact in a extremely magnetic
>> environment. Relays are no good

Why not try a solid state relay or similar optocoupler??

2321. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: dschmidt@rain.org
Message-ID: <3274003f.3765987@netnews.worldnet.att.net>
Source record: 101305
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

Capsule microphones? Do you mean Electret microphones? If so,
Digikey carries them by Panasonic. You can get spec sheets from
Digi-Key also for $1.00. Don't know if it will have apps notes in it
though.
Dave
DSchmidt Technologies

On 26 Oct 1996 02:12:40 GMT, lbliao@alumnae.caltech.edu (lbliao)
wrote:

>Besides Radio Shack, I wonder which companies sell capsule microphones and
>provide good application notes etc on them. Some capsules have some kind of
>preamplifier JFET in them, and others do not. I am looking for a good source
>on both of them. Looking through Thomas Catalog, I could not find a good
>source though.
>
>Thanks a lot!
>lbliao
>
>

2322. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <327469DC.4EAE@wenzel.com>
Source record: 101306
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

A really crude but often effective estimate of a bipolar transistor's voltage gain is simply 38 times the voltage across the collector resistor. The beta of the transistor mainly affects the input impedance and, consequently, the power gain (assuming that the designer has eliminated the various negative feedback paths). I tried a 2N4401 with about 35 volts across the collector resistor and got a gain near 1000 which is a bit shy of 1330 but pretty impressive anyway! I could use higher current to swamp the collector shunt losses but then the input impedance would become hopelessly low. I wonder how well my small-signal 300 volt transistors would do!

2323. CASH FOR RADIO SUPPLIES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: "Conrad R. Dery, Jr." <conradjr@bright.net>
Message-ID: <01bbc483$d2664c20$8c74d4cd@default>
Source record: 101307
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.b

Take a few minutes and read this. It could change your life!!!!

This is your chance to earn BIG BUCKS

This is for real....no gimmicks!!!

I read this article from a news group telling me I could make $50,000.00 in
as little as a month from an investment of only $5.
It sounds like a scam but it is legitimate. If you doubt it check out
Title 18 section 1302 of the U.S. Postal service and regulations.
It is --NOT--ILLEGAL--IT IS NOT A --CHAIN LETTER--IT IS TOTALLY
LEGITIMATE!!!!!!!!!
I decided that an investment of only $5.00, 5 envelopes and 5 first class
stamps was not going to break me even if I didn't receive any money back.
I can't guarantee that you will make money, who can, but the chances that
you won't are extremely small.

So here it is.....The procedure is simple

First.

Write your name and address on five separate sheets of paper.
Next write "Please add me to your mailing list" on each piece of paper.
Fold a ONE DOLLAR BILL in each piece of paper and mail one to each of the 5
following addresses:

---

1. ERIC FINCH, P.O. BOX 245 LUFKIN, TX 75901

2. KIP GRIFFIN, 349 W. WEBSTER, MUSKEGON, MI 49440

3. PETER SIMMONS, 668 CLAY #118, SAN FRANCISCO, CA 94111

4. JOE D'BELLA, 4611 TWISTED OAKS DRIVE #1916, RALEIGH, NC 27612

5. CONRAD DERY, 817 N. WASHINGTON ST., VAN WERT, OH 45891

Second

Remove the first name on the list and move the other four people up. For
example (5 becomes 4, 4 becomes 3,) etc....
Put your name and address as number 5
You can do this by re-typing this article or edit it and re-post it.

Third

Post your amended article to at least 200 news groups. This may seem like
a lot but it is easy to post to more than one at a time and there are over
17,000 different news groups so there is no shortage of space to post. The
more news groups the better your chances of being seen.

CONGRATULATIONS!!!!!!!!!!

You are now in the mail order investment business.
You will start to see results within 7 to 14 days
Remember, the more news groups you post to, the bigger your return will be.
You may want to get a post office box to handle all of your mail.
If you wish to remain anonymous you can use a pseudonym such as "The
Manager" or "The Investor", but be sure your address is correct!!!

How and Why the system works.

Out of every 200 postings you make you receive an average of 5 replies,
each with a dollar bill enclosed. Yes only 5, as an average.
It looks small at first but when you analyze it you see the beauty of your
investment.
With 200 postings you make $5.00 with your name at number 5
Each person who sent you $1.00 now makes at least 200 postings with your
name at number 4.
You have made $50.00
Your 50 new agents make 200 postings each with your name at number 3.
Now there have been a total of 10,000 postings. The average return is 500
at $1.00 each is $500.00
They make 200 postings each with your name at number 2.
Now there are 100,000 postings with your name on them.
Now expect 5,000 returns at $1.00 each...WOW $5,000.00
Finally 5,000 people make 200 postings with your name at number 1
You get a --$50,000-- return before your name drops off the list.
AND THATS IF EVERYONE ON THE LIST MAKES ONLY 200 POSTINGS!!!
Total possible income in one cycle = $55,555.00

From time to time, when your name drops off the list, you take the latest
posting that appears in a newsgroup and simply add your name and another $5
and your back in.

Remember 200 postings is only a guideline
The more you post, the more you receive

REVIEW

The cost to you--$5.00 + 5 stamps + 5 envelopes

There are millions of internet users and hundreds of thousands of new
customers every month which gives you millions of prospective agents.

17,000 + newsgroups to post your article to.

Read the instructions carefully and act fairly
That is the only way the system will work properly
Keep a list of everyone that sends you money and monitor the newsgroups to make sure everyone is being fair
Print this out and refer back to it in the future.

Get ready to make the easiest money you have ever earned!!!!

2324. RCA PARTS: MOST PRICED NOW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <32747281.5966612@fvnews.com>
Source record: 101308

o.k., you want prices..so i'll assign price's to most items, others
are still your offer.
all are plus shipping.

I HAVE :☐

elctro eng. works Modulation Reactor type e12497 21henry 1.5adc
3,000vrms 34 ohm dcr

$250
electro eng. works reactor High Voltage DC filter choke type 11654-a
3henry 360 cps
6.7 dcr ind rms 375 pk 7,500 v $150
ADC class reactor type 900304-2 10 hen. 1.0 amp dc, 350 ohm dc
res 4.0kv ins
choke 10HY @ .2ADC $150
UTC AR-409
RCA A.C. VOLTAGE PICK-UP MI-27516 $20
GE model 9t51y6171, pri. v. 120/240 sec. v. 12/24 kva .250 80
C rise $50
magnetic control # 34321-U coil v. 115, (have 2) $20 ea.
STANDARD ELECT. adjust-o-volt type 520BU, input 230 output 0-270
max kva .81 3a $75
Filiment transformer 12.6v @ 29a $50
EFJ air variable 500 uuf 3500V .080 gap $50
Jennings: 500pf vaccumm variable sale pending
Jennings: 1000 pf fixed $75
Jennings: 75 pf vaccumm variable $75
3x3000T1 tube rebuilt by Econco (condition unknown) $100
MICA's: sangamo type G3B .0002 @ 20,000 pkv 5.6amp @ 1,000kcs $25
sangamo type G3B .002 @ 15,000 pkv 20 amp @ 1,000
kcs $25
sangamo type G3B .00033 @ 20,000 pkv 7.5 amp @ 1,000 kcs
$25
sangamo type G3B .003 @ 12,000 pkv 24 amp @ 1,000kcs $25
aerovox type 1970S .001 @ 20,000 pkv 15a @ 3,000kcs 13a @
1,000kcs

7.5a @ 300kcs $25
CDE .00012 MFD @ 6,000 PWV 2.2 A-1 mhz (2024-CM76) $10
Condenser Products KMOC 25M005ES .05 MFD @ 25,000 VDC (NEW)
NON-PCB $20
blower 1.5 hp 3ph cabable of 2.2 @ 120 cfm $150
ceramic's standoff's, feedthru's, all sizes and
shapes

also have all the tunning coils, all below come with standoff's,
strips/taps used with each
sorry no extra tap connectors availible
****only have 1 of each coil****

2> EFJ $50 EDGEWOUND 55 TURNS 5" DIA COIL LENGTH 10 3/8"
WITH INTERNAL DRUM

3> EFJ $50 EDGEWOUND 24 TURNS 7 7/8" DIA COIL LENGTH 7 5/16"
INTERNAL DRUM ELECTRIC
OPERATED

4> EFJ $50 EDGEWOUND 34 TURNS 8 " DIA. COIL LENGTH 8 3/8"
NO DRUM INSIDE

5> EFJ $50 EDGEWOUND 15 TURNS 5 3/8 DIA. COIL LENGTH 3
1/8"
NO DRUM INSIDE

6> MULTRONICS $50 TUBULAR COIL 3/8"DIA STOCK 4 TURNS 8" DIA
COIL LENGTH 2 7/16"

Magnetic breakers 2 - rated at 70 Amp's each $70 ea
Allen-Hart contactor up to 50A $30
EFJ # 145-101-13 HV contactor (rca # 1K703) $75
6A, 10A, & 30A relays $5, $5, $10
Tubes: Filiments tested good...condition unknown:
3) 4-65A 19) 4-125A/4D21/6155 2) 4-250A (condition
unknown)
RCA Part #'s: 3) 218346 n.o.s. 4) 218347 n.o.s. $5 ea.
have 120 more of above, used, mounted 20 per board, have 6
boards $50 ea board
Resistors - these have the metal end caps with ceramic in between
$3.00 ea Large 1.25" dia. x 11 7/16 L`
4) 500 WL 1) 250 ohm 1) 1600 ohm 1) 8000 ohm
1) 1400 ohm 1) 3100 ohm
Medium size: 1.25" x 7.5"
2) 80,000 ohm 1) 40,000 ohm 3) 31,500 ohm
3/4" x 5 3/16"
2) 5,000 ohm
3/4" x 4.5" 1) 8,000 ohm

1/2" x 3" 1) 6,300 ohm 1) 8,000 ohm
********** *********
****
GLOBAR type A 15,000 ohms
IRC type HOA 25,000 ohm 200W
OHMITE MULHI 250 ohms
IRC type HAA 25,000 ohm
35,000 ohm
5,000 ohm
IRC type 4 1/2 EA 2,500 ohm 65W (2)
IRC type EP 1,000 ohm 50W

and many more parts yet to be listed from here and the RCA BTA 5T
5kw transmitter....
if you don't see what your looking for, write and ask me....

all items are 'make reasonable offer' * i'm not hard to deal
with....we all like to get something at
'our price' don't we? take a chance, the worst i will do is make a
counter offer....plus shipping
(although, pickup on heavy items would be nice, but not a must)
location address & phone number, are in my sig.

TRADES:
I am in need of 2 - 32mb 72 pin simms 60 or 70 ns (both the same)
non-edo strips
flatbed color hi res scanner (1200 x 1200 or better)
2 meter allmode base
6 meter allmode base
Capacitance checker digital *must* be able to check air variables
range pf thru mmfd
other trade items considered...email what you have & what you want to
trade for...

* i do it this way because i don't know what the 'fair market' value
is, you people are the 'market'
so who better to go to for a price...besides, you know what you'd like
to pay... 8-)

P.S. if you call, and the phone is busy, it means i'm on the computer
(internet) send email
and let me know your trying to call.....(gotta get another line 8-)

==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
Boatanchors: the list: listproc@theporch.com......subscribe boatanchors <your name>
the news group: rec.radio.amateur.boatanchors
news group: ham-am@Listserv@ucsd.edu....Body: add ham-am

2325. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: bwilson@newshost
Message-ID: <5535pn$cnm@viking.mpr.ca>
Source record: 101309
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao (lbliao@alumnae.caltech.edu) wrote:
: The above question is asked in academic vain. I am interested in finding out
: various viewpoints.

You talking current gain, or voltage gain, or power gain??

Bob.

2326. Low dropout regulator info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: faunt@netcom17.netcom.com
Message-ID: <FAUNT.96Oct28093542@netcom17.netcom.com>
Source record: 101310

I need to provide 10.6v at 1.6A from a 12V lead-acid battery.
Any hints on low-dropout regulators for this application?
Regulation doesn't have to be great.

73, doug

2327. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: hill@rowland.org
Message-ID: <5526q8$8bt@fridge-nf0.shore.net>
Source record: 101311
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

Charles Wenzel, <wenzel@wenzel.com> said...
>
> A really crude but often effective estimate of a bipolar transistor's voltage
> gain is simply 38 times the voltage across the collector resistor. The beta
> of the transistor mainly affects the input impedance ....
> I tried a 2N4401 with about 35 volts across the collector resistor and got a
> gain near 1000 which is a bit shy of 1330 but pretty impressive anyway! I
> could use higher current to swamp the collector shunt losses but then the
> input impedance would become hopelessly low. I wonder how well my
> small-signal 300 volt transistors would do!

Good for Charles. After watching the off-base answers on this thread for a while, I wondered if anybody was going to come up with the straight-forward answer!

In fact it's not crude at all, and is theoretically exactly 39.5 V at "standard" room temp (20C, 68F) and 39.2 at the temperature I like, (22C, 72F).

The gain of a single stage is g_m * R, where R is the load. We know one of the most predictable things about a transistor is its transconductance, which can be derived from the physics of the transistor with the Ebers-Moll equation (see AoE pg 80 - take the derivative). The transconductance is dependent upon the collector current and is g_m = 1/r_e = I / V_T where V_T is kT/q = 25.3mV at room temp (20 deg C). Since k, T and q are all physical quantities having nothing at all to do with the transistor's design and construction, this is a very dependable parameter.

As Charles said, the voltage drop across the collector resistor is the key. This is because of ohms law, I = V / R so that g_m = I / V_T = V / (R * V_T) and the gain G = R * g_m = R * V / (R * V_T) and R cancels out leaving G = V / V_T. Neat huh!

So if Charles takes a 300V supply and biases his 300V transistor at 10V, so there's 290V across the load resistor, he'll get a small signal gain of over 11,000. !! Of course, this ignores the Early effect (pg 75), which does depend upon device design and will reduces this number.

In any amplifier it's always nice to have a low-impedance output, as can be had with a transistor emitter follower. Even tho a follower stage has a gain of only 1, there's a simple trick which allows very high gain for the two-transistor pair, without using HV transistors or 300V supplies. I leave this as an exercise for the reader!
--
Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
The Rowland Institute for Science _/ _/ _/_/ _/

Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

2328. Newbie needs info!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: au127@freenet.toronto.on.ca
Message-ID: <E00BAG.7L0.0.queen@torfree.net>
Source record: 101312

Could some one send me/point me towards some FAQ's re:radio?
My main interest is reception at the moment, with transmission
to come later.

any help would be appreciated.
au127@freenet.toronto.on.ca
--
Jeremy Craigs au127@freenet.toronto.on.ca
Ask me no questions, I'll tell you no lies.

And now, for something completely different...

2329. Smallest TV Transmitter??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Steve Simpson <Steve@chubs.demon.co.uk>
Message-ID: <6PWF6eAPGKdyEw$2@chubs.demon.co.uk>
Source record: 101313

I have a really small Video camera (about an inch squared) and would like to make it portable in the house. I wouldn't mind making it fit in my hand. I basicly need the circuit for an exciter using only a couple of components and milliwatts output on whatever frequency is easy. The RX size isn't too important as it will be near the Video.

Anyone help at all?
--
Steve "Chubby" Simpson
HTML Programmer/Night Club D.J.
Steve@chubs.demon.co.uk
G7NAY@GB7MSW.#33.GBR.EU
HTTP://www.chubs.demon.co.uk

2330. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Roy Morgan <morgan@speckle.ncsl.nist.gov>
Message-ID: <3274D455.3263@speckle.ncsl.nist.gov>
Source record: 101314
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

bbaka@syix.com (Bill Baka) wrote:

...I have RCA
> manuals from 1956, 1965, and 1976 (mostly those stupid compactrons), and an old
> Sylvania book about 1965.

Bill,

Compactrons CAN be very useful: they are fairly cheap, are the final stage in the development of vacuum tubes,
and can do a LOT in one envelope. Sockets are available from AES and other places.

Try em, you'll like em.

And whatever you do: Keep em glowing!

-- Roy Morgan/Building 820, Room 562/Gaithersburg MD 20899
(National Institute of Standards and Technology, formerly NBS)
301-975-3254 Fax: 301-948-6213 morgan@speckle.ncsl.nist.gov --

2331. DSSB from QRP Notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <552gs7$8il@izzy4.izzy.net>
Source record: 101315

I built the DSSB generator from the QRP Notebook, works great but I can't seem to null the carrier at all. For testing purposes I tapped off the oscilator in my newly finished DC reciever and used that as the LO to feed the DSSB circuit I took the output of the DSSC and fed it directly to the input of an old DX-150 reciever tuned to the correct freq.

While tuning the oscilator of the DC Reciever I could hear it in the DX-150 very strong of course. I turned up the mic gain in the DSSB circuit and voila Im making double sideband, I tuned the balance pot back and fourth but the carrier didn't change one iota. The diodes in the balanced modulator were measured for the same resistance but even if they were off I would think the 250 ohm trimmer would make SOME difference.

Any thoughts?

Has anyone else built this circuit and put it on the air?

Regards and thanks,

Tim, ka8ddz

2332. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com>
Message-ID: <3274DECC.4587@ccm.ch.intel.com>
Source record: 101316
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

altavoz wrote:
> ... therefore it will radiate cause the open end of the coax
> will see a short on the outside end of the coax at the radio end.
> ...Trimming 1/4w will peak the FEEDLINE RADIATION.

How is the RF current going to get past the choke?

73, Cecil, W6RCA, OOTC (not speaking for my employer)

2333. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com>
Message-ID: <3274F5DE.3B18@ccm.ch.intel.com>
Source record: 101317
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,

altavoz wrote:
> No, you can't fool the transmitter...

and later altavoz wrote:

> The 1/4w 70 ohm coax converts the 100 (ohm) antenna to
> 50 ohms to please the radio.

So Altavoz, please tell us the difference between "fooling
the transmitter" and "pleasing the radio"?

73, Cecil, W6RCA, OOTC (not speaking for my employer)

2334. Re: Microphone Capsules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <5530ee$22h@hpcvsnz.cv.hp.com>
Source record: 101318
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

lbliao (lbliao@alumnae.caltech.edu) wrote:
: Besides Radio Shack, I wonder which companies sell capsule microphones and
: provide good application notes etc on them. Some capsules have some kind of
: preamplifier JFET in them, and others do not. I am looking for a good source
: on both of them. Looking through Thomas Catalog, I could not find a good
: source though.

On the off chance you are interested in things besides just the
electret mics (which others have answered about), you can find
dynamic mic elements at places like Mouser, I believe; at least
you could in the past.

--
Cheers,
Tom
tomb@lsid.hp.com

2335. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Cecil Moore <Cecil_A_Moore@ccm.ch.intel.com>
Message-ID: <3274F8C4.6F79@ccm.ch.intel.com>
Source record: 101319
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,

Cecil Moore wrote:
> So Altavoz, please tell us the difference between "fooling
> the transmitter" and "pleasing the radio"?

My apologies, I posted this before I received the following:

>altavoz: My mistake . YOU ARE RIGHT . The Z from a 50 ohm
>load will go up as you move towards the transmiter on coax
>thats higher than 50ohm and will go lower on coax thats less
>then 50ohms.

Please ignore the previous posting. I'll be glad when netnews
is real-time.

73, Cecil, W6RCA, OOTC (not speaking for my employer)

2336. Re: Front end for DC RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <553gpm$lh0@ordeal.cts.com>
Source record: 101320

Tim Hynde (mlc@izzy.net) wrote:

: The tuned circuit I have for the front end calls for a cap across the coil
: with a trimmer to bring it in. I found that using a 100pf trimmer brings it
: into tune at both 10 o'clock and 2 o'clock. I assume then that it is within
: the correct range.

The clock positions are dependant on how you locate the knob.
As the variable cap is turned through 360 degrees, it will vary from
a minimum C value, to a max C 180 degrees later, back to a min. You
get two peaks because you pass through the same capacitance twice.
If you had only one peak, with the cap plates fully meshed or completly
open, it would mean you were not reaching resonance, and needed either
more or less inductance in the paralleled coil.

: Since the author called out to use a smaller trimmer (50 pf) and a fixed
: value across the coil I assume he was trying to make the tuning easier by
: not having such sharp peaks with a higher value trimmer. Am I on track with
: this? Does it matter as long as the trimmer peaks at two points.

Correct. Doesn't matter except with the cap passing through resonance
faster, harder to get the exact peak, and you might loose just a touch
of performance.

73 John KK6IL

2337. Looking for mods, gen info on the Alinco (DJ-180) VHF Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Chris Rose <chrisr@newcomb.com>
Message-ID: <327533C7.4597@newcomb.com>
Source record: 101321

Does anyone have any information regarding this radio.

I just got it from a friend.

Looking for mods, power adjustments, general information.

2338. Yaesu 726r question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: aa784@seorf.ohiou.edu
Message-ID: <Dzzqvn.6wx@boss.cs.ohiou.edu>
Source record: 101322

I have a 726r which the meter bulb (led) has burnt out...I've tried to
locate a replacement through a few dealers/ and they all don't supply the
replacement bulb (they all said i'd have to get it through Yaesu). I've
e-mail Yaesu requesting the steps on getting a replacement bulb but
haven't heard from them yet.
Does anyone know what its rated at (ma)? Or a part # that I could use to
find one at RadioShack?

Thanks Pat,

--
****
Pat Quinn 19790 Winner Ln. Stewart, Ohio 45778 (614)662-3001
e-mail: aa784@seorf.ohiou.edu ARS: KD8MN pkt.145.01 voice 145.15-
****

2339. Re: Linear Amp. WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <846541860@infoway.com>
Source record: 101323

Me> Subject: Re: Linear Amp. WANTED
> Anyone have a 3cx3000 amp or a 4cx5000 amp for sale?

I have a pair of 4-1000's in parrallel.
Continuous coverage tuning
with very large roller inductor, two vacuum variables,
also huge power transformer etc.
Set up in 5' relay rack to wheel to your operating position.

Don, N6MCE
Near San Francisco,CA.

... Don.Phelps@Infoway.com 1:125/104 POBox 9739 San Rafael,CA 94912
___ Blue Wave/386 v2.30 [NR]

2340. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: Dave Hand <dhand@microdes.com>
Message-ID: <32752732.13C7@microdes.com>
Source record: 101324
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

altavoz wrote:
>
> > It's possible to use a cable with an impedance not
> > equal to the characteristic impedance of your
> > antenna and rig. For example, a half wave length
> > of 75 ohm cable will work between a 50 ohm antenna
> > and a 50 ohm transmitter. You can also use 75 ohm
> > cable to match a 100 ohm antenna to a 50 ohm rig
> > by cutting it to the right length. Unfortunately,
> > these tricks generally only work at one frequency.
> >
> > In this case, the length of the cable is critical
> > to a given frequency.
> >
> > Steve KT4FY
>
> altavoz: No, a 50 ohm ant' feeding a 75ohm coax will
> cause a SWR into coax and towards the radio and an exact
> length of coax will not reduce the SWR except as
> attenuation factor over that length.
>
>
> ______End of text from altavoz__________

Wrong O buddy boy.

An electrical 1/2 of coax is a tried and true method of mesuring
the SWR at the antenna feed point remotely for exactly that reason.
Its totally invisible to the remote test gear. If you doubt it try it!

Dave Hand WB4HYP

2341. Front end for DC RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: mlc@izzy.net
Message-ID: <552g81$8il@izzy4.izzy.net>
Source record: 101325

Now that I've got a couple DC recievers under my belt. I'd like to know:

How can I improve the sensitivity of one built for 80m? Does putting a pre-amp in front get you anything on the lower bands?

The tuned circuit I have for the front end calls for a cap across the coil with a trimmer to bring it in. I found that using a 100pf trimmer brings it into tune at both 10 o'clock and 2 o'clock. I assume then that it is within the correct range.

Since the author called out to use a smaller trimmer (50 pf) and a fixed value across the coil I assume he was trying to make the tuning easier by not having such sharp peaks with a higher value trimmer. Am I on track with this? Does it matter as long as the trimmer peaks at two points.

73, Tim
ka8ddz Rochester Hills, MI

2342. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3274F6B7.11C6@worldnet.att.net>
Source record: 101326
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Cecil Moore wrote:
>
> altavoz wrote:
> > ... therefore it will radiate cause the open end of the coax
> > will see a short on the outside end of the coax at the radio end.
> > ...Trimming 1/4w will peak the FEEDLINE RADIATION.
>
> How is the RF current going to get past the choke?
>
> 73, Cecil, W6RCA, OOTC (not speaking for my employer)

altavoz: You're assuming a choke . The thread makes more sense
if you dont assume a choke (i went all the way back to JOEL
GAMBLEs post)

I think he's saying a 440 signal into RG58 is a 1:1 NO MATTER
WHAT cause it's 100 feet long and that means it could be an
open circuit . I think he tried to get one past us by making
us assume that there was a termination .
Anyway the way to kill it is BALUN,steel wool, ferrite,
cut coax to a particular length (narrow BW), or offset feed
the antenna (bal ant has an unbal' point where you can hook
coax, and pattern does not suffer).
What i find amasing is so many novices worry about the
match , but not the radiation pattern . You can match
anything, even a 1/2w by stretching it a little to bring
down the R and that 2nd lobe is too small to hurt .
Radiation pattern on a J pole is bad but has a nice
stub to match it....so build a 5/8w using that stub to match
it. Problem is the standard way ("L")is just as simple.
Thanks for correcting my sloppy thinking, 73's

_____End of text from altavoz__________

2343. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-28 00:00:00 UTC
From: J M Woodgate <jmwa@thenet.co.uk>
Message-ID: <ant282245c72fSH%@jmwa.thenet.co.uk>
Source record: 101327
Cross-posted to: sci.electronics.design,sci.electronics.misc,,rec.radio.swap,rec.radio.amateur.homebrew

In article <32726c6f.462630@news.intercenter.net>, Sam Cederas
<URL:mailto:scederas@intercenter.net> wrote:
>
> I used to have a lot of fun changing the bias on transistors
> in school until they smoked. I do not remember what gain figures we
> attained as it has been a long time. I hope that you are able to mess
> around with different bias settings and find out for yoursel!!!
> It sure is a lot of fun. You bring back some pleasant
> memories! I guess we reached the point of saturation way before we
> smoked the transistors....but it was sure neat to find where the point
> of saturation was for typical audio tansistors.
> -take care.
> Sam Cederas AD4PY
> scederas@intercenter.net
> Cary, N.C.
>
>
>
> On 26 Oct 1996 02:09:47 GMT, lbliao@alumnae.caltech.edu (lbliao)
> wrote:
>
> >The above question is asked in academic vain. I am interested in finding out
> >various viewpoints.
> >
> >Thanks a lot!
> >lbliao
> >
> >
>

The maximum gain you can get depends on what circuit configurations you
allow. If you allow positive feedback, the answer is 'infinite'. Then again,
how many 'non-ideal' properties will you take into account? Finite output
resistance is easily allowed for, then comes internal c-b feedback
resistance, then capacitances. I think you need to define the problem more
closely in order to get useful responses.

--
Regards, John Woodgate Tel. +44 (0)1268 747839
Fax +44 (0)1268 777124 OOO (Own Opinions Only)

2344. Re: CB to 10 conversions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <555rgs$97r@sf18.dseg.ti.com>
Source record: 101236

In article <315987506@dental3.ab.umd.edu>, JFM001@DENTAL3.AB.UMD.EDU says...
>
>Dean, KC5NG-
> Dean, since the type exceptance done by the FCC on CB's a few
>years ago, what is the:
> 1. Best rig to convert? (i.e. gives the most features such as
>memory, etc.)
> 2. The cheapest to convert? (just change a cheap PLL crystal or a
>chip)
> 3. The easiest? (all parts identifiable and visable)
>
>I have been thinking about a CB to 10 for the coming sunspot activity
>and would appreciate any input to answer these questions, any
>suggestions?
>
>73 - 72 (feelow QRPer)
>John <N3REY>
>Always QRP!

You didn't specify what you want, so I'll assume you mean a SSB radio
(as opposed to a-m or FM).

The PLL-synthesized SSB rigs made in the late 1970s and early 1980s are
going to be the easiest to convert... change one crystal and re-tune, and
you're on the air. I couldn't begin to name them all.

I've converted Cobra 148GTLs, Sears RoadTalker 40s, Penneys 6246s (I have
one of these right now), and many others.

Avoid the older 23-channel crystal-mixed rigs (too costly to convert).

I'm not familiar with any CBs that have scanning or memories (been out of
the CB market for about 20 years, since I became a ham).

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

2345. Re: CMOS Super Keyer technical info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: markem@primenet.com
Message-ID: <5560sh$6ai@nnrp1.news.primenet.com>
Source record: 101237

There was something in QST a couple months ago about mods to the CMOS keyer to handle toob-type rigs...think it was in Hints & Kinks. Also, the Handbook has some circuits to do it in the section with the keyer projects...both solid-state & using a relay.

Hope this helps...

73... Mark AA7TA

2346. Re: DSSB from QRP Notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct29.194502.25572@ke4zv.atl.ga.us>
Source record: 101238

In article <552gs7$8il@izzy4.izzy.net> mlc@izzy.net (Tim Hynde) writes:
>
>I built the DSSB generator from the QRP Notebook, works great but I can't
>seem to null the carrier at all. For testing purposes I tapped off the
>oscilator in my newly finished DC reciever and used that as the LO to feed
>the DSSB circuit I took the output of the DSSC and fed it directly to the
>input of an old DX-150 reciever tuned to the correct freq.
>
>While tuning the oscilator of the DC Reciever I could hear it in the DX-150
>very strong of course. I turned up the mic gain in the DSSB circuit and
>voila Im making double sideband, I tuned the balance pot back and fourth but
>the carrier didn't change one iota. The diodes in the balanced modulator
>were measured for the same resistance but even if they were off I would
>think the 250 ohm trimmer would make SOME difference.
>
>Any thoughts?

Sure, you're still hearing the DC receiver's LO *directly*, so of
course you can't hear the carrier null of the DSB unit. Indicate
the null with an RF probe directly on the DSB unit output.

Gary

--
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Lawrenceville, GA 30244 | |

2347. Re: Front end for DC RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct29.210251.25897@ke4zv.atl.ga.us>
Source record: 101239

In article <552g81$8il@izzy4.izzy.net> mlc@izzy.net (Tim Hynde) writes:
>
>Now that I've got a couple DC recievers under my belt. I'd like to know:
>
>How can I improve the sensitivity of one built for 80m? Does putting a
>pre-amp in front get you anything on the lower bands?

If you're using a proper low noise first stage in the audio circuit,
an RF preamp won't help sensitivity (though it can reduce backwave
from the receiver LO, and that may be worthwhile). Generally, the
problem at lower HF is not too little sensitivity, it is too much,
IE the receiver overloads from strong nearby signals, or even rectifies
them in the mixer (a problem with AM broadcast signals). A good preselector
filter in front of the receiver can help a lot. It *may* be worthwhile
to have a high intercept RF preamp in the middle of the preselector
to overcome insertion loss, and to suppress the LO backwave as mentioned
previously. I'd suggest a 3 section ganged preselector (top coupled)
with the preamp between sections 2 and 3, IE closer to the mixer than
the antenna. The preamp shouldn't have high gain, 6 to 12 db would be
about right, and should be biased for a high standing current to improve
its intercept. A CATV line amp transistor works well here.

>The tuned circuit I have for the front end calls for a cap across the coil
>with a trimmer to bring it in. I found that using a 100pf trimmer brings it
>into tune at both 10 o'clock and 2 o'clock. I assume then that it is within
>the correct range.
>
>Since the author called out to use a smaller trimmer (50 pf) and a fixed
>value across the coil I assume he was trying to make the tuning easier by
>not having such sharp peaks with a higher value trimmer. Am I on track with
>this? Does it matter as long as the trimmer peaks at two points.

You get two peaks because the capacitor is at partial mesh near both
ends of its range, and gives you the same capacitance value at each of
those points. Ideally, the capacitor will be at the correct value when
exactly half meshed, thus the two peaks would be exactly 180 degrees of
shaft rotation apart. You're getting resonance closer together than that,
which is telling you that resonance is occurring at greater, or lesser,
than half mesh, IE the capacitor is a bit too large or too small to give
you the greatest bandspread (depending on whether it resonates at lesser
than half mesh or greater than half mesh in the middle of the frequency
range you want to tune, look and see).

Depending on whether the capacitor is too small or too big, you can
parallel or series fixed capacitance with it to get it to resonate

at exactly half mesh in the center of your tuning range. Having it too small is best, and will give best bandspread and smoothest tuning provided you still have enough range to resonate at both ends of the desired tuning range (check that, you'd like the lowest end of the frequency range to occur at near full mesh of the capacitor, and the upper end of the range near the least mesh of the capacitor). It can require a bit of juggling to get it right. You can remove plates from a capacitor which is too big to get it in the right range, but it can be hard to put them back, so be careful to test as you go.

The *shape* of the capacitor plates can matter too. There are two styles available. One varies capacitance non-linearly with shaft rotation while the other varies capacitance linearly with shaft rotation. The former is preferred for broad tuning spans. The latter tends to bunch up the tuning near one end of the range if the tuning span is large. This is a nuisance when you want a linear tuning dial. Unfortunately, the latter style is the one more commonly encountered today in the smaller values. For narrow tuning ranges, the linear type is satisfactory. You can tell them apart by looking at the symmetry of the plate about the shaft. The linear type is symmetric, the "straigt line tuning" type is not. This is the same principle as linear and log taper (audio taper) pots.

Gary
--
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2348. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct29.212245.26041@ke4zv.atl.ga.us>
Source record: 101240

In article <32763f3c.31207011@news.lin.foa.se> larsm@lin.foa.se (Lars Moell) writes:
>Have anyone found a transparent plastic sheet that can easily be
>obtanined and be used in either a laser printer and/or a copier to
>give fair results?
>
>73 Lasse SM5GLC

I use the Avery brand laser transparencies. These are different
from the transparencies sold for copiers and seem to work better.
I'm told copiers are hotter, and require a different transparency
material. If you use copier transparencies in a laser printer,
you don't get as good a fusion of toner to the transparency.

I friend of mine just showed me a transparency he did on an Epson
Stylus inkjet printer. Looked really good. This may be a better
way to go. Note, inkjets need a special transparency material
or the ink will smear like crazy. The side the ink goes on has
a slightly rough feel.

I hope this doesn't need to be said, but of course you need to
print the transparency with a mirror image of the layout and
expose with the ink side toward the board. Otherwise you'll
get undercutting of the resist.

Gary
--
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2349. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct29.222006.26424@ke4zv.atl.ga.us>
Source record: 101241

In article <54em53$rjl@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>While many of Measures' suggestions are harmless, some are not. Some
>suggestions will put the user in harm's way, or cause equipment damage.
>I'd hate to see someone ruin a $500 tube, or worse yet hurt themselves,
>following poor advice.

Well, don't leave us in the dark. Which suggestions are dangerous?

Gary
--
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Lawrenceville, GA 30244 | |

2350. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct29.221651.26335@ke4zv.atl.ga.us>
Source record: 101242

In article <555qnt$hd6@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>Early Dentrons had NO grid overload protection, as a matter of fact most
>had NO grid meter! They had high filament voltage, and poor cooling. They
>drove too easy, and had heater windings common to the high voltage
>transformer (making them prone to heater inrush damage). After seeing
>problems Heath had with an 8875-style (but conduction cooled) tube in the
>SB-230, it's a wonder any of these PA's survived amateur use. Not having a
>grid trip circuit or arc suppression in the anode was poor engineering.

Hmmm. I have a MLA2500. It hasn't blown up yet, and the tubes still
seem to have plenty of life in them. With replacement tube prices
being what they are, I'd like to keep it that way. I'm open to
suggestions as to life extending improvements.

Gary
--
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2351. john's ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: john fleenor <jlfleenor@why.net>
Message-ID: <3276D73A.675E@why.net>
Source record: 101243

http://www.cyberramp.net/~johnf

2352. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: Bill Terrier <billdh@concentric.net>
Message-ID: <3276E71D.631D@concentric.net>
Source record: 101244
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

Do you suppose that he's talking about Darlington?

2353. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32760A8D.3AF4@arrl.org>
Source record: 101245

W8JI Tom wrote:

> Myself also. If you cut open the film resistors that come with the
> nichrome suppression kit, you will see the resistor element is wound in a
> spiral around a ceramic form. This is the last thing you want in a
> non-resonant VHF suppressor, because it adds series non-dissipative
> inductance in the resistor path and forces the resistor OUT of the circuit
> at higher frequencies, right where it is needed most. What a PA really
> needs are the types of resistors you mentioned, carbon compositions or
> Carborundum type non-inductive resistors.

How about using ferrite beads over wires instead of resistors?
I've heard reports that they are almost purely resistive at VHF. Shouldn't
the HF bypass choke keep the beads out of saturation if the system is
properly designed?

Or, stepping a little further back, how about a distributed
design solution, perhaps with an integrated transmission line to reduce
the unwanted parasitic elements? After all, you do have to shield the
amplifier anyway--why not integrate the shielding with the circuitry,
instead of trying to make it invisible?

Zack KH6CP/1 zlau@arrl.org

2354. Ray Jefferson trcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: tobbe@bahnhof.SE
Message-ID: <2.2.32.19961029141331.00696ff0@sunny.bahnhof.se>
Source record: 101246

Looking for diagrams, schema for a VHF station
Ray Jeffersson 7878M. Probably a marine station.
Delivered with a yacht imported from US.
73 de SM5NPV/Tobbe

2355. UHF/SHF -kits from Australia??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: tobbe@bahnhof.SE
Message-ID: <2.2.32.19961029141329.006765f0@sunny.bahnhof.se>
Source record: 101247

I have heard about someone selling transverter-kits, to resonable prices in Australia. Anyone know about that, adress, mail-adress etz.
73 de SM5NPV/Tobbe

2356. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <555o5h$9dv@hpscit.sc.hp.com>
Source record: 101248

In article <555c5b$boo@newsbf02.news.aol.com>,
W8JI Tom <w8jitom@aol.com> wrote:
>
>In article <32760A8D.3AF4@arrl.org>, Zack Lau <zlau@arrl.org> writes:
>
>> How about using ferrite beads over wires instead of resistors?
>>I've heard reports that they are almost purely resistive at VHF.
>Shouldn't
>>the HF bypass choke keep the beads out of saturation if the system is
>>properly designed?
>
>The problem with ferrites is the transition from inductive to resistive
>behavior (loss of Q) is generally very slow as frequency is raised. What
>we want is an abrupt change, where loss is very low at desired operating
>frequencies (allowing good efficiency) and suddenly the loss is very high
>at the undesired frequency.
>
>73 Tom
>

Another problem with ferrite beads is that they start to
saturate at a few hundred mA.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2357. Re: Best CB's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <555619$el3@villa.fc.net>
Source record: 101249

In Article <326C6EF5.5AED@pi.net>, through puissant locution, Adriaan <adpe1khp@pi.net> soliloquized:
>krimson@micron.net wrote:
>> Can anybody suggest a good quality brand and model handheld CB? My
>> main criteria is sound and quality.
>
> The Best CB-set is that one without a Vol, speaker and a antenna.

Greetings. "ha ha".. right. While that may be amusing to you, I am looking into getting a few CBs (portable jobs) for use during multi-car trips. This last trip was the end of my patience. It's either a CB in every car or I'm not going on another one of those.

You would, instead, suggest that everyone get a HAM license and a $400 transceiver... right? Dream on. The fact is that you use the right tool for the job. Most [snob] mechanics scoff at Chinese tools... and forget that I can weld those six $0.99 "vice-grips" into a custom tool that they can't even imagine.

[sigh]

WANTED:

Anyone want to unload some cheap hand-held CBs? I just need about 1 mile range... often less. 12V cord is a plus. Doesn't need 40 channels. Identical units a plus too. Budget, $35-45/unit. Any recommendations?

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2358. Variable cap needed for Hallicrafters DD-1 Skyrider (w/DD1CAP2.JPG) - dd1cap2.jpg (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: bartle@spectra.net
Message-ID: <55541p$khk@ns2.spectra.net>
Source record: 101250
Cross-posted to:
rec.antiques.radio+phono,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.shortwave

A friend of mine needs a new 4-gang tuning capacitor for a
1930's-vintage Hallicrafters DD-1 Skyrider. A JPEG of the part needed
is attached. If you can help us find this component please contact me
by e-mail. Thank you.

2359. Variable cap needed for Hallicrafters DD-1 Skyrider (w/DD1CAP2.JPG) - dd1cap2.jpg (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: bartle@spectra.net
Message-ID: <55542g$khk@ns2.spectra.net>
Source record: 101251
Cross-posted to:
rec.antiques.radio+phono,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.shortwave
Body handling: Inline uuencoded payload not displayed: dd1cap2.jpg

```
[Inline uuencoded payload not displayed: dd1cap2.jpg]
```

2360. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002910960641380001@news.west.net>
Source record: 101252

In article <5549of$269@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> Hi Rick,
>
> In article <measures-ya023180002710961614530001@news.west.net>,
> measures@mail.vcnet.com (R.L. (Rich) Measures) writes:
snip...

> As I understand it, you were talking to Willis Foote. He was a
> "specifications engineer" working in the customer return department, not a
> design engineer.

Foote's job envolved talking to Eimac's power grid engineers. He told me
what they told him.

> If you call Eimac, you'll find gold sputting is a problem due to a variety
> of causes, most of which are physical.

>The "parasitics thing" delt only
> with heating in a very high power UHF TV transmitter tube, NOT the 8877.
> That's why there was never a bulletin on the 8877 (or any other small
> tube).

This is NOT what Foote reported to me.
The unique thing about gold-sputtering is that the grid itself shows no
sign of heating. The only thing that displays any sign of high
temperature exposure is the gold plating on the grid. // Gold boils and
evaporates at over 2000 deg. F in a vacuum.

> >.....so I got out my dipmeter and started investigating.
snip...
>
> Why does a dip meter have to do with parasitics?

It is like a compass to a mariner--i.e., it points the way..

>Did you use the dip meter as a wave meter?

No. .... Every parasitic oscillation must be supported by a resonant
L/C circuit. A (lowly) dipmeter is ideal for helping to find the resonant
circuit that supports the parasitic.
If a dipmeter was placed near the anode-resonant circuit during an
intermittent vhf parasitc oscillation. it would undoubtedly be destroyed.
Thus, resonance tests are performed with the amplifier disconnected from
the electric-mains, with the dipmeter in osc. mode.
A (more elegant) full-power test for the frequency of parasitic

oscillation can be performed with a spectrum analyzer. Even when there is no parasitic oscillation taking place, with a pulsed drive signal applied, small damped-wave bursts of vhf energy can be seen on the analyzer at the transistion points when the drive signal is pulsed on and off. .(note: the spectrum analyzer is coupled to the anode-resonant circuit with a small wire probe, placed several inches away from the anode(s). The spectrum analyzer will sustain damage if it is connected directly to the anode circuit.)
>
snip......
---
e-mail copy to Mr. Rauch

--
--Rich--
ag6k, 805.386.3734

2361. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2910961739260001@term2-19.vta.west.net>
Source record: 101253

In article <555qnt$hd6@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

Hello, Tom
snip...
RE: Mr. Foote:
> That might explain it. He might have misunderstood the engineering people.
> That's the danger of hearsay.

Everything Foote told me was subsequently confirmed by inspection of kaput
tubes with a microscope. Color photos were published in *QST*.

> The high power tube (that Foote misled you about) fell victim to heating
> because of multiple causes.
Sounds to me like a Klystron. Foote worked in the Power Grid Division.
Klystrons are not power grid tubes, Tom. // You speak as though you
heard the conversation between yours truly and W. Foote. Are you psychic?

Mr. Foote said that during the testing phase of the development of the
8877, sudden failure took place. High leakage was observed in tubes that
were known to have had good vacuums shortly before testing began. He said
that when kaput 8877s were dissected, it was found that the high leakage
was due to condensed particles of gold that had evaporated from the grid.
When seen under a 50x microscope, these particles appear to be perfect
spheres. Foote said that the 8877 engineers determined that the
phenomenon was caused by an oscillation, most likely in the UHF range.
----
e-mail copy to Mr. Rauch

--
--Rich--
ag6k, 805.386.3734

2362. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <555qnt$hd6@newsbf02.news.aol.com>
Source record: 101254

Hi Rich,
In article <measures-ya023180002910960641380001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:
>
>Foote's job envolved talking to Eimac's power grid engineers. He told
me
>what they told him.

That might explain it. He might have misunderstood the engineering people.
That's the danger of hearsay.

>>The "parasitics thing" delt only
>> with heating in a very high power UHF TV transmitter tube, NOT the
8877.
>> That's why there was never a bulletin on the 8877 (or any other small
>> tube).
>
>This is NOT what Foote reported to me.
> The unique thing about gold-sputtering is that the grid itself shows no
>sign of heating. The only thing that displays any sign of high
>temperature exposure is the gold plating on the grid. // Gold boils and
>evaporates at over 2000 deg. F in a vacuum.

No, gold flaking or sputtering is a common (so far as problems go)
problem. It is a difficult metallurgy process, and many things can go
wrong.

The high power tube (that Foote misled you about) fell victim to heating
because of multiple causes. The tube was very large allowing it to support
an extremely high frequency internal oscillation. The grid was not part of
oscillators current path, and the anode and cathode current was so high
the oscillation was never noticed on the meters. The grid would sit there
and cook in a small area (from RF heating) for days and days at high
temperatures, without any external indication of a problem, until the gold
boiled off and ruined the tube.

That was the danger of that particular esoteric failure, the oscillation
was confined to the INSIDE of the tube.

A small tube will not support that mode of oscillation, plus the currents
are generally low enough that the user would see some indication of
failure. The tank circuits and tubes would never support the cavity mode
oscillations that damaged the tube Foote was thinking of.

By and large, the largest source of failures in tubes similar to the 8877
and 8875 are excessive drive or grid current or simple tube manufacturing

problems. Like any temperature related failure, grid damage relates to the amount of overdissipation and the duration of the overdissipation.

Early Dentrons had NO grid overload protection, as a matter of fact most had NO grid meter! They had high filament voltage, and poor cooling. They drove too easy, and had heater windings common to the high voltage transformer (making them prone to heater inrush damage). After seeing problems Heath had with an 8875-style (but conduction cooled) tube in the SB-230, it's a wonder any of these PA's survived amateur use. Not having a grid trip circuit or arc suppression in the anode was poor engineering.

As a matter of fact, adding a grid trip circuit and anode energy absorbing resistor to the SB-230 reduced tube failures almost 80 percent in field tests!

>> Why does a dip meter have to do with parasitics?
>
>It is like a compass to a mariner--i.e., it points the way..
>
>>Did you use the dip meter as a wave meter?
>
>No. .... Every parasitic oscillation must be supported by a
resonant
>L/C circuit. A (lowly) dipmeter is ideal for helping to find the
resonant
>circuit that supports the parasitic.
> If a dipmeter was placed near the anode-resonant circuit during an
>intermittent vhf parasitc oscillation. it would undoubtedly be destroyed.

>Thus, resonance tests are performed with the amplifier disconnected from
>the electric-mains, with the dipmeter in osc. mode.

I see how you reached that conclusion, but I'd like to ask you to consider a few points.

The dip meter only tells you a system is resonant, what we really need to know is the impedance presented to the tube. For example, I have used resonant parasitic suppressors in applications where the operating frequency is very close to the self-neutralizing frequency of the tube. In that case a series resonant high Q L/C circuit (to ground through a damping resistor) or a damping resistor across a parallel L/C circuit will place the resistance effectively in circuit for the undesired frequency, while divorcing it from the circuit at other frequencies.

Placing the dip meter near the tank may tell us something is resonant, but it tells us nothing about the loss or impedance of the anode to chassis path. The correct device is a network analyzer, a grid dip meter is a little too crude.

In any event, resonance in the anode does not guarantee oscillation. The grid must also be resonant at or near the same frequency, and the feedback path loss must be less than the overall gain of the system at the frequency of oscillation.

> A (more elegant) full-power test for the frequency of parasitic
>oscillation can be performed with a spectrum analyzer. Even when there
is
>no parasitic oscillation taking place, with a pulsed drive signal
applied,
>small damped-wave bursts of vhf energy can be seen on the analyzer at the
>transistion points when the drive signal is pulsed on and off. .(note:
>the spectrum analyzer is coupled to the anode-resonant circuit with a
small
>wire probe, placed several inches away from the anode(s). The spectrum
>analyzer will sustain damage if it is connected directly to the anode
>circuit.)

I've looked at PA's in a similar way, and never seen a oscillation that starts and stops with drive. Of course I'm not saying it can't happen, only that I've never seen it while looking at literally hundreds of different PA's over the last twenty years or more. Part of normal FCC type acceptance is testing PA's for spurious emissions, and good design dictates testing for spurious case radiation of VHF or UHF energy. I would be suprised if such oscillations (if even remotely common) never showed up in tests looking at signals radiated from the PA enclosure.

I'd like to make one important point, a wire probe creates a VERY non-linear frequency vs amplitude response in the analyzer. The correct probe is a capacitive divider with the low Z analyzer swamped out by a large capacitance at the bottom, and a small C coupled directly to the tank. This "evens up" the frequency response.

If the 50 ohm analyzer input is left as the dominating impedance of the capacitive divider's bottom leg, and a long wire probe is used, the response can be highly peaked at higher frequencies. The slope of the frequency response can be much larger than expected from a simple C/R voltage divider. You very well might have seen the sudden waveform change overloading the input amplifier of the analyzer, or some other momentary anomaly over-exaggerated by a non-linear probe response.

But even if that wasn't the case, when the gain of an oscillator exceeds the feedback loss (including less than perfect phase) it oscillates, when gain is less than feedback loss, it stops oscillating. Since the gain of a tube decreases as anode or grid current is increased, the natural effect is the oscillator finds a point of equilibrium where output stabilizes. If a class AB tube oscillates at full drive, it will continue to oscillate when drive is removed. As a matter of fact, it would be difficult to intentionally design a system that work in the opposite manner!

Every VFO works this way, often using the "natural" level limiting that occurs in an oscillator. The oscillation is not absent, only to suddenly ring up to a large uncontrolled value causing something to explode. Oscillators don't work that way.

73, Tom

2363. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: jmccarty@sun1307.spd.dsccc.com
Message-ID: <553lqh$j1n@sun001.spd.dsccc.com>
Source record: 101255
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <32726c6f.462630@news.intercenter.net>,
Sam Cederas <scederas@intercenter.net> wrote:
) I used to have a lot of fun changing the bias on transistors
)in school until they smoked. I do not remember what gain figures we
)attained as it has been a long time. I hope that you are able to mess
)around with different bias settings and find out for yoursel!!!
) It sure is a lot of fun. You bring back some pleasant
)memories! I guess we reached the point of saturation way before we
)smoked the transistors....but it was sure neat to find where the point
)of saturation was for typical audio tansistors.
) -take care.
) Sam Cederas AD4PY
) scederas@intercenter.net
) Cary, N.C.
)
)
)
)On 26 Oct 1996 02:09:47 GMT, lbliao@alumnae.caltech.edu (lbliao)
)wrote:
)
)>The above question is asked in academic vain. I am interested in finding out
)>various viewpoints.
)>
)>Thanks a lot!
)>lbliao
)>
)>

When using constant current sources as the collector loads, IC designers
routinely get gains over 1000 from a single transistor.

Mike

--
----
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

I don't speak for DSC. <- They make me say that.

2364. Yaesu FT-530 giveaway (practically)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: asplund@alcor.usc.edu
Message-ID: <556gif$lcb@alcor.usc.edu>
Source record: 101256
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.amateur.misc,rec.radio.amateur.equiptment,rec.radio.shortwave,rec.radio.amateur.homebrew

Hello all,

Awhile back, I posted the following for a friend, at the time he sold all the radios he was willing to give up. Now he wants to sell the rest, AND has DROPPED the price $150!!

A friend of mine has a "bunch" of Yaesu Dual Band Radios which he would like to sell at a great price. He purchased them for the emergency response group which he is envolved in and has decided to sell them and get radios which do not have as many functions and features. His policy appears to be "the simpler the better" for emergencies.

Yaesu FT-530 Dual Band HT
Yaseu Standard 2 Watt Battery
Yaesu Hi-Power 5 Watt Battery
Yaesu Rapid Charger (for both of the above batteries)
Yaesu Standard Battery Charger
Yaesu External Speaker/Mic
Yaesu Standard "Rubber Duck" Antenna
Antenna Specialist's Dual Band "Rubber Duck" Antenna

Each of them have had the out-of-band modification done by a local Southern California Dealer at time of purchase. They will be sold on a first come first serve basis.

He is asking $320.00 for each radio. They may be placed on a credit card for no additional fee, and there is a $5 shipping charge to anywhere in the US via UPS insured ground.

If you are interested, please call Steve at 818-502-0000.

(I am posting this for a friend who does not have access to the newsgroups, please do not write me back.)
--Daryl Asplund

2365. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <555c5b$boo@newsbf02.news.aol.com>
Source record: 101257

Hi Zak,

Parasitics occur for various reasons in various circuits, it is pretty difficult to speak of solutions in Carte Blanche terms.

In article <32760A8D.3AF4@arrl.org>, Zack Lau <zlau@arrl.org> writes:

> How about using ferrite beads over wires instead of resistors?
>I've heard reports that they are almost purely resistive at VHF.
Shouldn't
>the HF bypass choke keep the beads out of saturation if the system is
>properly designed?

First we have to understand why the oscillation occurs. In typical HF (and lower) circuits using small power grid tubes (below 50 kW) , the problem centers around the grid connections. At some frequency, the grid is no longer a good shield. The grid, even though grounded, "looks like" it floats for RF. Like any resonant circuit, the impedance generally peaks at one frequency.

If the anode circuit happens to be resonant at the same frequency, the tube can oscillate. The usual effect is much like a TPTG oscillator. The suppression must be in the primary VHF signal path through the plate tuning capaciator, not in series with the RF plate choke.

What we need to do is add some loading to one of the resonant circuits, so the loss exceeds the gain. Once that is done, the stage becomes stable.

Since this is almost always (with a proper layout) a single frequency area problem, we want to add as much damping as we can over the undesired frequency range.

The problem with ferrites is the transition from inductive to resistive behavior (loss of Q) is generally very slow as frequency is raised. What we want is an abrupt change, where loss is very low at desired operating frequencies (allowing good efficiency) and suddenly the loss is very high at the undesired frequency.

We also need a resistance in the suppressor that properly terminates the anode. The ideal resistance depends on the impedance of the anode to chassis path through the plate tuning capacitor. The higher the impedance of that path, the larger the loading resistance needs to be. The impedance transformation due to the anodes shunt capaciatnce and series inductance also affects the ideal value of this load resistance.

In general terms, we want the anode to chassis path to be as short as possible, since we want the lowest possible distributed resistance and

reactance at the operating freqiuency and above. This allows us to use a small resistance value in the suppressor.

In the ideal case we would have the most rapid "insertion" of damping resistance possible as frequency is increased, short wide grid leads and short wide anode connections. All resitance should be concentrated at one area so it can be adjusted to the correct value for maximum damping.

Different tubes tend to oscillate at different frequencies, tubes with long grid structures and long internal leads tend to oscillate at 100 MHz or lower, while other tubes like the 3CX1200Z7 and 8877 almost never oscillate because system gain falls off well before the self-neutralizing frequency is reached.

With a tube using long internal leads suppression is more difficult, since the tendency to oscillate is often close to the operating frequency. For example 572B's and 811A's try to oscillate below 50 MHz, often as low as 25 MHz in a poor layout. So if we wanted a stable amp we would have to use a very large reactance in the suppressor.

Ferrites might work if the tube self-neutralizing frequency is far above the operating frequency, but likely will not be the best choice in amateur HF applications using tubes with grid resonances in the low to mid- VHF range.

73 Tom

>
> Or, stepping a little further back, how about a distributed
>design solution, perhaps with an integrated transmission line to reduce
>the unwanted parasitic elements? After all, you do have to shield the
>amplifier anyway--why not integrate the shielding with the circuitry,
>instead of trying to make it invisible?
>
>

2366. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct29.224128.26623@ke4zv.atl.ga.us>
Source record: 101258
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <5526q8$8bt@fridge-nf0.shore.net> hill@rowland.org (Winfield Hill) writes:
>Charles Wenzel, <wenzel@wenzel.com> said...
>>
>> A really crude but often effective estimate of a bipolar transistor's voltage
>> gain is simply 38 times the voltage across the collector resistor. The beta
>> of the transistor mainly affects the input impedance ....
>
>Good for Charles. After watching the off-base answers on this thread for a
>while, I wondered if anybody was going to come up with the straight-forward
>answer!

Always nice to hear from the master, however is this really the straight
forward answer we're looking for? A transformer can offer voltage "gain".
What separates an active device like a transistor from a passive device
like a transformer is the possibility of *power gain*. Given a power
gain, we can easily make practically any voltage we like with a step up
transformer in the drain circuit.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2367. PC Based Digital 'Scope?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: "David W. Foster" <fosterd@konnections.com>
Message-ID: <NEWTNews.846654199.32626.fosterd@fosterd.konnections.com>
Source record: 101259

I've been unsuccessful in trying to purchase a PC based Digital Oscilloscope board. Don't need much bandwidth (maybe 1 Mhz), two channels, and trigger inputs. Any suggestions??

Tnx,

Dave
KE6MOM

2368. CMOS Super Keyer technical info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: Monty Wilson <nospam@see.signature.part>
Message-ID: <E023p7.I6r@twisto.eng.hou.compaq.com>
Source record: 101260

Hey gang I just looked through archive articles for some
information on the Super Keyer from Idiom Press. I found
lots of people who were pleased with the product in its
various forms, but not a word about modifying the keyer
for use with a grid-block transmitter, or for relay output
so it can be used for both grid-block and direct transmitters.

I got mine second-hand and it did not come with any technical
information at all; the tutorial and user manual are mostly
concerned with the command set, etc. For all
I know it can be configured at assembly time for either
keying method, but that information would only be covered in
the construction article which I don't have. In any event, I
would like to modify the keyer to give it a relay output so I
can switch easily from one rig to another without worrying
about whether it's grid-block or direct, the relay to be
powered from an external source so the battery does not run
down. For this I need to know the current handling ability
of the keyer's output transistor so I don't fry it.

Does anyone here have this information?

Please reply,

--
.........Monty.
mwilson @ flex.net (with spaces deleted)

2369. Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <32763f3c.31207011@news.lin.foa.se>
Source record: 101261

Hi
I am etching some PCB's with various results, and the major problem seems to be the plastic film that I use in my copier. To get the "least bad" result here is how I do it:

1 Print a papercopy on my laser
2 copy to plastic film on a copier, this tends to give better contrast rather than use the plastic film in the laser directly
3 Exspose a P20 PCB
4 Develope the P20
5 Etch

The problem seems to be in the plastic film that is not enough transparent, and the black areas not enough black giving poor contrast and the areas that I want to be removed often have some P20 left on the copper despite the time I try to develope the traces.

Have anyone found a transparent plastic sheet that can easily be obtanined and be used in either a laser printer and/or a copier to give fair results?

73 Lasse SM5GLC

2370. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <5549of$269@newsbf02.news.aol.com>
Source record: 101328

Hi Rick,

In article <measures-ya023180002710961614530001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

>When I was talking to an Eimac engineer in February, 1986, about
>suppressing unwanted oscillations, he said that even though they (Eimac)
>discovered that the reason for gold-sputtering damage in 8877s was an
>oscillation condition, there were no Eimac Engineering Bulletins on the
>subject. He said that the job of designing devices to suppress such
>oscillations was the responsibility of amplifier engineers, not electron
>tube engineers . He said: "that's your job".

As I understand it, you were talking to Willis Foote. He was a
"specifications engineer" working in the customer return department, not a
design engineer.

If you call Eimac, you'll find gold sputting is a problem due to a variety
of causes, most of which are physical. The "parasitics thing" delt only
with heating in a very high power UHF TV transmitter tube, NOT the 8877.
That's why there was never a bulletin on the 8877 (or any other small
tube).

>.....so I got out my dipmeter and started investigating. Two years and
>many experiments later, I wrote an article for QST, which was published
in
>October, 1988. A followup article was published in the September and
>October, 1990 QST.

Why does a dip meter have to do with parasitics? Did you use the dip meter
as a wave meter?

> Another photo of a parasitic-arced bandswitch can be seen on page 33 of
>"Parasitics Revisited" in the October 1990 issue of QST. The bandswitch
>was removed from a TL-922A. After this article was published, Tom
>telephoned me at the suggestion of QST's Paul Pagel. Tom said that such
>bandswitch arcing could be caused by "cheap coax".

The damaged switch could have been caused by a multitude of operating
problems, not just bad coax. Anything that unloads the tank circuit can
cause an arcing problem, as can selection of a component that simply is
inadequate for the job.

Voltage at the anode end of the tank can exceed the dc supply voltage by
many times if the tank becomes unloaded or improperly loaded. The ideal
condition for creating this effect is excessive loading capacitance and/or
a low Z termination of the tank output (with a pi-network).

This condition shortens the anode conduction angle to less than 180 degrees (if the original class is AB or lower angles) and allows the tank to store energy, ringing the vltage up much like in a switching regulator. Eventually, if equilbrium isn't acheived first in dissipative losses, something gives.

The SB-220, when improperly loaded, can produce over 4 kV peak on the input end of the tank. The tube peak anode voltage is over 7 kV. Until something "gives" or the energy falls back in equilbrium, the voltage builds. Unfortunately it is often the tuning capacitor or bandswitch that arcs.

This effect can be measured and documented, it is not a matter guessing the cause. The TL-922 is the same.

On the other hand, you would have everyone believe the VHF energy can build up to a very high voltage across the very low VHF impedance of the plate tuning capacitor, high enough to arc the switch over. The real effect of the capacitor and residual inductances is actually to step VHF voltages DOWN, not up. After all, that's why the tank adds VHF harmonic suppression.

Wouldn't a tank that fits your theories (allowing high VHF voltages, ie high VHF bypass impedances) have very little VHF harmonic suppression? And if so, how did it pass FCC tests with such marginal case shielding?

73, Tom

2371. Re: Longwave Amateur Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: Mark Pettigrew <m.w.pettigrew@shu.ac.uk>
Message-ID: <32767572.4044@shu.ac.uk>
Source record: 101329

Gary Coffman wrote:

> One watt ERP! Man, wish we could do high power stuff like that!
> We're limited to one watt *input*, and given the limits on antennas,
> the ERP is better expressed in microwatts, or at best as a few
> milliwatts. An extra 30 db of signal would make things lots
> easier.
>

I wonder if someone should offer a prize for the first person to
actually achieve 1W erp on 73?

Mark
G0WLR

2372. Re: Plate Modulation with the 3-500Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002910960651000001@news.west.net>
Source record: 101330

In article <54leeh$g7s@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:
snip

> And hence my point about some of the wild claims about parasitics and
> such.

Sound interesting? ......see the Good source for amplifier tips thread.

--
--Rich--
ag6k, 805.386.3734

2373. Re: Ham-Homebrew Digest V96 #453

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <5556a5$etl@villa.fc.net>
Source record: 101331

In Article <199610221400.KAA09862@Eden.mindport.net>, through puissant locution,
w1gak@mindport.NET soliloquized:
>Does anyone know where I can get schematics for VGA monitors? The company I
>consult for uses them on small boats and they get lots of pounding and
>vibration. I put 2 in the trash yesterday. I could repair them and give them
>away or save a few bucks. Also SMPS used in PC's (250 to 500 watts). Should be
>good for something in the shack! I have disposed of at least a dozen monitors
>in the past year. $250 $300 a pop adds up quick.

Greetings. Schematics aren't always necessary. Please check the
sci.electronics.repair FAQ at URL:

http://www.paranoia.com/~filipg/REPAIR/

especially the MONITOR:

http://www.paranoia.com/~filipg/HTML/REPAIR/F_mon_repair.html

and SMPS:

http://www.paranoia.com/~filipg/HTML/REPAIR/F_smps.html

Repair guides. They are also available via FTP and e-mail (from Sam).
Please see the sci.electronics.repair group for "FAQI" for more
information or just e-mail me and I'll send you the readme file.

http://www.paranoia.com/~filipg/HTML/REPAIR/F_ReadMe.html

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2374. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: g4ynm@aol.com
Message-ID: <555nr2$g67@newsbf02.news.aol.com>
Source record: 101332

In article <32763f3c.31207011@news.lin.foa.se>, larsm@lin.foa.se (Lars Moell) writes:

>I am etching some PCB's with various results, and the major problem
>seems to be the plastic film that I use in my copier. To get the
>"least bad" result here is how I do it:
>
>1 Print a papercopy on my laser
>2 copy to plastic film on a copier, this tends to give better contrast
>rather than use the plastic film in the laser directly

You'll get distortion and a non linear copy, eventually you'll find that devices and CB holes don't line up if you photocopy stuff.

>3 Exspose a P20 PCB
>4 Develope the P20
>5 Etch
>
>The problem seems to be in the plastic film that is not enough
>transparent, and the black areas not enough black giving poor contrast
>and the areas that I want to be removed often have some P20 left on
>the copper despite the time I try to develope the traces.

Yep I had this problem. I use acetate sheet that is opaque and diffuses the ultra violet light. I also experimented with lots of small off cuts of PCB until I found the correct time duration for the brand of PCB and brand of acetate sheet.

I actually print the PCB layout direct through my laser onto the actetate sheet with the laser printer toner control set to maximum. Even so large copper areas don't come out too well. Thin (25 thou) tracks do. The laser non-linearity is taken account of by an XY compensation in the CAD package.
>
>Have anyone found a transparent plastic sheet that can easily be
>obtanined and be used in either a laser printer and/or a copier to
>give fair results?
>
>73 Lasse SM5GLC

2375. Re: Front end for DC RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <32766549.7F1D@vcd.hp.com>
Source record: 101333

Tim Hynde wrote:
>
> Now that I've got a couple DC recievers under my belt. I'd like to know:
>
> How can I improve the sensitivity of one built for 80m? Does putting a
> pre-amp in front get you anything on the lower bands?
>
> The tuned circuit I have for the front end calls for a cap across the coil
> with a trimmer to bring it in. I found that using a 100pf trimmer brings it
> into tune at both 10 o'clock and 2 o'clock. I assume then that it is within
> the correct range.
>
> Since the author called out to use a smaller trimmer (50 pf) and a fixed
> value across the coil I assume he was trying to make the tuning easier by
> not having such sharp peaks with a higher value trimmer. Am I on track with
> this? Does it matter as long as the trimmer peaks at two points.
>
> 73, Tim
> ka8ddz Rochester Hills, MI

Hi Tim OM,

A preamp will increase the sensitivity of the receiver. Normally,
the atmospheric noise is high enough on the lower bands like 80M so
that it easily overrides the internal noise in the receiver. A DC
receiver
with ring diode mixer front end will have a noise figure somewhere
in the 10-15 dB range. IF the band is unusually quiet, this receiver
internal noise can be heard, and under those conditions, a preamp
can be helpful. In other words, it does no good to amplify both
the signals and the atmospheric noise together; you just end up where
you started. BUT, if the receiver's internal noise is dominant, then
adding additional gain in the front end with a low-noise preamp will
help the received sig/noise ratio, by reducing the receiver's noise
figure. The price paid for increased sensitivity is reduced dynamic
range, making the receiver somewhat more susceptible to overload by
strong local signals.

Hope this helps; all this is in various ARRL and other books on
receiver design and construction.

73,
Don, W6JL

2376. Re: 4-1000 /AB2 intermod???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <554cdp$3vr@newsbf02.news.aol.com>
Source record: 101334

In article <32738dc0.1371875@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

>Anyone know what one could expect in IMD using the 4-1000 in AB2/SSB
>(6kv anode, 500v screen, -70v bias)?? Is it possible to get -36 to
>-40 db imd (3rd order) in AB2/SSB using a conventional grid driven
>circuit (not grounded grid) .
>73, Jesse, W6KKT

Jesse, I used 4-1000's years ago, and did IMD tests on them.

They were cleaner in cathode driven AB1 than in conventional grid driven AB1, but not "state of the art" in either configuration. I measured IMD suppression of less than -30 dB 3rd order for a conventional IMD test (below a single tone) at 1000 watts PEP input.

It varied a bit with the particular tube tested. I take it your figures are for IMD against PEP (a non-standard method)? If so, you might come close to -36 if the cathode is driven or a unbypassed resistor is included in the cathode to add negative RF feedback. Without proper RF feedback you likely would not get that figure.

Be sure to properly select the grid resistance to keep the exciter operating at optimum output power, and regulate the voltages good.

73 Tom

2377. Re: DSSB from QRP Notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-29 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.961029123210.5230A-100000@ban.libertel.montreal.qc.ca>
Source record: 101335

What circuit are you talking about? Is it the Phasing SSB rig on page
164, or something else in the book?

The problem that you might be having is that your test setup is unable
to notice the null. A sensitive receiver near the actual transmitter
might be picking up the carrier oscillator directly, so no matter how
much you try to null the carrier, it sounds like nothing is happening.

I recall this happening to me years and years ago. I used a similar
setup, and nulling the carrier was a problem.

Try using an rf voltmeter of some kind (a scope, a real RF voltmeter,
a VOM with a diode detector, or even a sensitive panel meter
fed from a diode detector), on the output of the balanced modulator.
I think this will show a null.

If it doesn't, then you have to go back and look at what might
be imbalanced in the balanced modulator. Such as the coil winding,
components feeding the circuit, etc. The carrier balance control(s)
are there to overcome slight imbalance in these things, but if for
some reason something else is grossly incorrect, then it may not
have enough range to overcome the imbalance.

Also, layout can affect balance. It shouldn't make the difference
between no balance and some balance, but once you get some balance,it
will effect the extent of the null that you can get.

Michael VE2BVW

On 28 Oct 1996, Tim Hynde wrote:

>
> I built the DSSB generator from the QRP Notebook, works great but I can't
> seem to null the carrier at all. For testing purposes I tapped off the
> oscilator in my newly finished DC reciever and used that as the LO to feed
> the DSSB circuit I took the output of the DSSC and fed it directly to the
> input of an old DX-150 reciever tuned to the correct freq.
>
> While tuning the oscilator of the DC Reciever I could hear it in the DX-150
> very strong of course. I turned up the mic gain in the DSSB circuit and
> voila Im making double sideband, I tuned the balance pot back and fourth but
> the carrier didn't change one iota. The diodes in the balanced modulator
> were measured for the same resistance but even if they were off I would
> think the 250 ohm trimmer would make SOME difference.
>
> Any thoughts?
>

> Has anyone else built this circuit and put it on the air?
>
> Regards and thanks,
>
> Tim, ka8ddz
>
>
>

2378. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <scrWuDApN1dyEwte@ifwtech.demon.co.uk>
Source record: 101186

W8JI Tom wrote:

>when the gain of an oscillator exceeds
>the feedback loss (including less than perfect phase) it oscillates, when
>gain is less than feedback loss, it stops oscillating. Since the gain of a
>tube decreases as anode or grid current is increased, the natural effect
>is the oscillator finds a point of equilibrium where output stabilizes. If
>a class AB tube oscillates at full drive, it will continue to oscillate
>when drive is removed.

That's what has always puzzled me - why do these "parasitic
oscillations" happen so intermittently?

When the amplifier goes bang after sitting quietly under essentially the
same operating conditions for several hours, the real question is: why
didn't it happen hours ago? Are the conditions for oscillation soooo
very special?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

2379. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: DAN <AD4HW@citrus.infi.net>
Message-ID: <327827B4.1ABC@citrus.infi.net>
Source record: 101187

Gary Coffman wrote:
>
> In article <54em53$rjl@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
> >While many of Measures' suggestions are harmless, some are not. Some
> >suggestions will put the user in harm's way, or cause equipment damage.
> >I'd hate to see someone ruin a $500 tube, or worse yet hurt themselves,
> >following poor advice.
>
> Well, don't leave us in the dark. Which suggestions are dangerous?
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

I've been reading Mr. Measures' articles for years (along with the responses from some of the ARRL people and the manufacturing engineers).

After careful study, I've developed a profound respect for Mr. Measures' technical knowledge and his objectivity in reasoning. While some of his "critics" are knowledgeable in certain areas, they usually get off-track, get lost in their own arguments, or end up throwing smoke. Some of their responses have been so obviously biased or technically inept, they must surely be embarassed when they see their comments in print.

One example of "smoke" was the safety issue. One of Mr. Measures' suggestions for keying an amplfier would have resulted in 110 volts on the "keying" line to the amplifier (a circuit that I use, by the way). Anyone who can't handle the safety issues involved in a low-current 120 volt line shouldn't be fooling with linear amplifiers. The gist of Mr. Measures' article that contained the keying suggestion was a simple, cheap way to achieve QSK. Lacking a better idea (they had idea's, but not simple or cheap or better), they felt compelled to "take a shot" with this lame safety argument.

If my ARRL membership depended on the "cheap shot response" that appeared as a result of his (Mr. Measures') provacative article in QST, I would no longer be an ARRL member.

Dan - AD4HW

2380. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Stephen Dobak <sdobak@ptd.net>
Message-ID: <3277FCA7.4C4F9312@ptd.net>
Source record: 101188

add ham-hombrew

2381. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <32775b17.44546872@eskinews.eskimo.com>
Source record: 101189
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.amateur.homebrew

Nobody seems to want to answer the poor guy's question.

For current gain, many transistors have gains of 100-200 and I've seen some up to around 400 or so. I'm sure some specially-made units can be had with even higher gains. There are Darlington-type units with much higher current gains, but they are really two (or more) transistors in a single package, so they don't really qualify as "a" transistor.

For voltage gain, the answer depends more on the load in the collector circuit than the transistor, assuming you're using a common emitter amplifier. With a very high load impedance, gains of tens of thousands are possible, although designing a usable circuit with that much gain can be tricky, to say the least.

For power gain, the results depend more on the rest of the circuit than on the transistor, but gains of 15-20 db are not unreasonable and a clever designer can no doubt squeeze out more than that. Again, this is not an area where you want to push the limits because single-stage, high-gain amplifiers are naturally unstable and will try to oscillate (this is where the cleverness comes in).

Hope this helps.

73, Bill W7LZP
wrt@eskimo.com

2382. Eimac 4CX250B tueb and SK620 socket FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <55958c$q22@newsbf02.news.aol.com>
Source record: 101190

I have a new in the box Eimac 4CX250B and SK620 socket for sale.

Price $90 including shipping

Email Pbunn624@aol.com

2383. QRP Calling Frequency CRYSTALS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <5595pn$qdg@newsbf02.news.aol.com>
Source record: 101191

Crystals HC18 Case , solder leads

7040 Khz, 10106 Khz, 14060KHZ Brand New!

Super Special priced!! $3.50 each or 3 for $10 postpaid

Email 624 Kits:

Pbunn624@aol.com

2384. Re: Best CB's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Oct30.035144.27863@ke4zv.atl.ga.us>
Source record: 101192

In article <32771029.2E12@worldnet.att.net> Woody White <woody.white@worldnet.att.net>
writes:
>
>I would like to hear a serious answer. I have been a homebrewin' ham off
> and on since '62 but know nothing about cb brand/quality. What I wish
>to know is what rig might be found at a low price and work well as an IF
>(SSB) for my homebrew transverters. ...Woody

Well, remember that these things are built to price, and a pretty
low price at that. The filters usually aren't very good, and of
course they're channelized. The ones made in the last several years
are hard to move off the CB channels, which may not matter if you're
using it with a homebrew transverter, but they're also generally
hard to modify to slide *between* channels. Older units could
usually be modified easily so that the clarifier moved transmit
as well as receive. HyGain and Cobra both made units that were
easy to convert. I'd be checking garage sales for older SSB
units by either company.

There's usually a little bitty ad in QST for a book on 11m->10m
conversions. Getting a copy of that might be worth your while.
It should point you toward radios that are easy to modify.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2385. Tom, W8JI, is the source for amplifier tips.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <559al3$sg3@newsbf02.news.aol.com>
Source record: 101193

Thanks Tom, for the explanation. It helped me
understand them ol' tubes a little more.

Carl

2386. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <559al3$sg4@newsbf02.news.aol.com>
Source record: 101194

In article <32763f3c.31207011@news.lin.foa.se>, larsm@lin.foa.se (Lars Moell) writes:

>Hi
>I am etching some PCB's with various results, and the major problem
>seems to be the plastic film that I use in my copier. To get the
>"least bad" result here is how I do it:
>
>

I tried 'em all.

Here is how I do it.

Layout the PCBoard with Harvard Graphics 3.
Using an HP DeskJet 500C print the layout on a transparency.
AN HP550C is better because it prints true black.
Only HP sheets work for me. The Premium kind.
You now have a very fine detail negative or positive (I use negative).
The output menus in HG3 gives you many ways to print
once you get the hang of it.
Coat (I laminate) the board with the resist.
Shoot the PCBoard thru the negative for 5 minutes with a PE-2 bulb at 12 inches..
Use the proper type (POS - NEG) and develope the board
Etch as hot as you dare! And agitate.

Note: Laminating the resist to the PCBoard eliminates all that messy stuff.
You get perfect coating at 1.5 mil with the laminate process.

You don't need a $1000 laminater to do it either.
The Ibico units (at Office Depot) work great. (<$250.00)

I get my chemicals and laminate from Kepro. 1-800-325-3878

Carl

2387. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-3010961333560001@port5.vcnet.com>
Source record: 101195

> W8JI Tom wrote:
>
> > ... If you cut open the film resistors that come with the
> > nichrome suppression kit, you will see the resistor element is wound in a
> > spiral around a ceramic form. This is the last thing you want in a
> > non-resonant VHF suppressor, ...

OK, Tom, a quick quiz. What is the inductance of the film resistors we use in our parasitic suppressor retrofit kits? BTW, Tom, you can not find out anything by cutting one of these resistors. Scraping the blue coating off is the technique that works.

Straight one-inch copper tubing has more inductance than most hams realize. It takes surprizing little of it to make 100nH.

Carborundum "non-inductive" resistors are no less inductive than a piece of copper tubing of the same length and diameter. The typical "non-inductive" Carborundum resistor has approximately the same inductance that is required for the suppressor inductor. Thus, if you put such a resistor in parallel with a typical 70nH suppressor inductor, you loose the essential stagger-tuning effect that lowers the Q of the parasitic suppressor. .

--
--Rich-- ag6k, 805.386.3734

2388. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <559al0$sg2@newsbf02.news.aol.com>
Source record: 101196

Thanks Tom, for the explanation helping me understand
them ol' tubes a little more.

The title of this thread should read "Tom is the source for amplifier
tips"

at's a right!

Carl

2389. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <557aht$24mq@info4.rus.uni-stuttgart.de>
Source record: 101197
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <326fc364.5358598@news.efn.org>,
Dick Hughes <dhughes@efn.org> wrote:
>In general, the correct length of coax for an HF antenna is the
>distance it takes to get from the transmitter to the antenna. Don't
>worry about length.

Please do not disregard situations where the line can be used for
matching. Take a quad loop, with 100 Ohms input impedance.
A quaterwave of 75 Ohms line, with a few coiled turns for a balun
will save you an antenna tuner. And there a other situations
where matching is simplified (less losses) when using a defined
length of line for tranformation.

73, Moritz DL5UH

2390. New Old Stock Hammarlund HF 15 Variable Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <5595m8$qao@newsbf02.news.aol.com>
Source record: 101198

Ceramic panel mount variable capacitors, 4-17pF, Nickle plated brass
These make great variable caps for VFO's. They are single bearing but beat
the aluminum palte variables for stability. Surplus Sales of Nebraska had
these in their catalog for $20 each!

$4.50 each or 10 for $35

I also have some 2 1/2 " vernier dials marked 0-100. They are available at
$6
each and quantity is limited.

Email to 624 Kits:

Pbunn624@aol.com

2391. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: <>
Message-ID: <558bm5$29fs$1@news-s01.ca.us.ibm.net>
Source record: 101199
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <557aht$24mq@info4.rus.uni-stuttgart.de>, moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>In article <326fc364.5358598@news.efn.org>,
>Dick Hughes <dhughes@efn.org> wrote:
>>In general, the correct length of coax for an HF antenna is the
>>distance it takes to get from the transmitter to the antenna. Don't
>>worry about length.
>
>Please do not disregard situations where the line can be used for
>matching. Take a quad loop, with 100 Ohms input impedance.
>A quaterwave of 75 Ohms line, with a few coiled turns for a balun
>will save you an antenna tuner. And there a other situations
>where matching is simplified (less losses) when using a defined
>length of line for tranformation.
>
>73, Moritz DL5UH
>
>

Excellent example here. I fed a triband quad with this method for several years. It was the only way I could get a GEM Quad to play with a single 50 ohm coax to three tuned 75 ohm quarter wave stubs.
Jim WD9AHF

OS/2 Warp V4 Java Enabled Operating System.

2392. National NCSixty SPECIAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Bill Downes <h7v4b2wl@abaco.coastalnet.com>
Message-ID: <55663v$28u@treasure.coastalnet.com>
Source record: 101262

Help!Need manual for SixtySpecial &12be6 tube.
ke4tzo@coastalnet.com (919-206-1618)

2393. Re: Looking for mods, gen info on the Alinco (DJ-180) VHF Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32771203.B9E@worldnet.att.net>
Source record: 101263

Chris,

Try the link to radio mods from my page (I forget the exact address of
the pub). Who knows what may show up, it is pretty big?! ...Woody

http://www.geocities.com/capecanaveral/3722

Chris Rose wrote:
>
> Does anyone have any information regarding this radio.
>
> I just got it from a friend.
>
> Looking for mods, power adjustments, general information.

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2394. Re: Best CB's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32771029.2E12@worldnet.att.net>
Source record: 101264

I would like to hear a serious answer. I have been a homebrewin' ham off
and on since '62 but know nothing about cb brand/quality. What I wish
to know is what rig might be found at a low price and work well as an IF
(SSB) for my homebrew transverters. ...Woody

Filip M Gieszczykiewicz wrote:
> In Article <326C6EF5.5AED@pi.net>, through puissant locution, Adriaan <adpe1khp@pi.net>
soliloquized:
> >krimson@micron.net wrote:
> >> Can anybody suggest a good quality brand and model handheld CB? My
> >> main criteria is sound and quality.
> >
> > The Best CB-set is that one without a Vol, speaker and a antenna.
> ...SNIP...
Greetings. "ha ha".. right. While that may be amusing to you, I am
> looking into getting a few CBs (portable jobs) for use during
> multi-car trips. ...SNIP...
> +-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
> | http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
> | Enjoy your job, work within the law, make lots of money : Choose any two.
> | I think for myself. I listen. I make decisions. I speak what I believe.

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2395. Re: CASH FOR RADIO SUPPLIES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: glenn schultz <glenn@spacestar.net>
Message-ID: <01bbc607$6bddf680$2993dccc@default>
Source record: 101265
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.b

Conrad R. Dery, Jr. <conradjr@bright.net> wrote in article
<01bbc483$d2664c20$8c74d4cd@default>...
> Take a few minutes and read this. It could change your life!!!!
>
> This is your chance to earn BIG BUCKS
>
> This is for real....no gimmicks!!!
>
> I read this article from a news group telling me I could make $50,000.00
in
<snip>

Conrad,
Do you realize that this scheme is called Wire Fraud and Mail Fraud? Most everyone else does that reads this crap. ESPECIALLY with such a misleading title and the fact that it was cross-posted to 10 different NG's! A message has been sent to your ISP notifying them of your actions, along with copies to the FCC and US Postal Service. KEEP THIS CRAP OUT OF OUR NEWS-GROUPS!
--
Glenn Schultz
10X 68391
N0VYK

interNET ==>> glenn@spacestar.net
packetNET ==>> n0vyk@n0vyk.ampr.org

Check out the Ionospheric Protection League
Amateur and Antique Radio Homepage
==>> http://www.spacestar.net/users/glenn/index.html

2396. Re: DSSB from QRP Notebook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Glenn McAllister <delta@dy.co.nz>
Message-ID: <3276C3C8.1723@dy.co.nz>
Source record: 101266

Tim Hynde wrote:

> I built the DSSB generator from the QRP Notebook, works great but I can't
> seem to null the carrier at all. ((snip))
> I took the output of the DSSC and fed it directly to the
> input of an old DX-150 reciever tuned to the correct freq.
>
> While tuning the oscilator of the DC Reciever I could hear it in the DX-150
> very strong of course. ((snip))
>
> Any thoughts?

Don't know how sensitive the DX150 receiver is or what the output level
is
from the DSB module, but don't you think plugging the exciter directly
into the receiver input might just overload it a tad?? Assuming a
conservative -10dBm from the exciter, even if you achieve an unrealistic
40dB carrier suppression from the exciter, the receiver will still be
getting
S9+ on the suppressed carrier!

How about sheilding the exciter and adding some extra 30dB or so
attenuation
between the exciter and receiver. (free space works well)

> Regards and thanks,
>
> Tim, ka8ddz

73 de Glenn, ZL2TLD
Sunny Wellington, New Zealand

2397. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: bbaka@syix.com
Message-ID: <N.102996.215640.71@treasure-d17.syix.com>
Source record: 101267
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Charles Wenzel, <wenzel@wenzel.com> said...
>
> A really crude but often effective estimate of a bipolar transistor's voltage
> gain is simply 38 times the voltage across the collector resistor.

Actually it ranges from 1 to 100+ and depends more on the emitter resistor ratio to the collector resistor. Power transistors can have a Beta or current gain of only 10, where most generic 2N3904 NPN types will run about 100, some special types go up to 200 or so, and Darlingtons can go up to about 10,000, but don't count on frequency response. Assuming the current gain is enough the voltage gain is going to be the ratio between the emitter resistor and the collector resistor, unless you have bypassed the emitter resistor for High frequency gain. The math is easy until you start trying trick configurations.

> The beta of the transistor mainly affects the input impedance ....
> I tried a 2N4401 with about 35 volts across the collector resistor and got a
> gain near 1000 which is a bit shy of 1330 but pretty impressive anyway! I
> could use higher current to swamp the collector shunt losses but then the
> input impedance would become hopelessly low. I wonder how well my
> small-signal 300 volt transistors would do!

Actually, you can get a gain of 100,000, not that it will be good for much. No emitter resistor and a 1 meg collector resistor. As soon as you pass the Base-Emitter thresh hold the 1 meg will saturate. Useless, but a demonstration.
>
> Good for Charles. After watching the off-base answers on this thread for a
> while, I wondered if anybody was going to come up with the straight-forward
> answer!
>
> In fact it's not crude at all, and is theoretically exactly 39.5 V at
> "standard" room temp (20C, 68F) and 39.2 at the temperature I like, (22C,
> 72F).
>
> The gain of a single stage is g_m * R, where R is the load. We know one of
> the
> most predictable things about a transistor is its transconductance, which can
> be derived from the physics of the transistor with the Ebers-Moll equation
> (see
> AoE pg 80 - take the derivative). The transconductance is dependent upon
> the
> collector current and is g_m = 1/r_e = I / V_T where V_T is kT/q = 25.3mV at
> room temp (20 deg C). Since k, T and q are all physical quantities having
> nothing at all to do with the transistor's design and construction, this is a
> very dependable parameter.

>
> As Charles said, the voltage drop across the collector resistor is the key.
> This is because of ohms law, I = V / R so that g_m = I / V_T = V / (R * V_T
>)
> and the gain G = R * g_m = R * V / (R * V_T) and R cancels out leaving
> G = V / V_T. Neat huh!
>
> So if Charles takes a 300V supply and biases his 300V transistor at 10V, so
> there's 290V across the load resistor, he'll get a small signal gain of over
> 11,000. !! Of course, this ignores the Early effect (pg 75), which does
> depend
> upon device design and will reduces this number.
>
> In any amplifier it's always nice to have a low-impedance output, as can be
> had
> with a transistor emitter follower. Even tho a follower stage has a gain of
> only 1, there's a simple trick which allows very high gain for the two-
> transistor pair, without using HV transistors or 300V supplies. I leave this
> as an exercise for the reader!
> --
> Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
> The Rowland Institute for Science _/ _/ _/_/ _/
> Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
> _/ _/ _/ _/ _/
> http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

You guys have been reading too much, or not enough. the bandwidth is very much tied to the gain and current passed through the transistor and 100uA to 5mA is what most want unless you only want audio. If you try the 0 ohm emitter resistor and the 1 meg collector what you will have is a very nice switch, but not an amplifier. All of the manufacturers do something a little different with their transistors, to change the gain, bandwidth, current, power, etc., which all affects the capacitance and response. I suggest you get a modern reference from someone who is still making them (not ECG, or SK replacements) and look at the variety that can be had. Motorola is big on R.F. power transistors and still makes a line of small signal. Siliconix, (now Temic, Eoropean) makes F.E.T.s of all kinds.

If you want a front end R.F. amplifier, try this. Get a junction FET, N, depletion mode and put a 150 ohm to ground on the source side. Bypass this with a .01uf and 10 ohm to ground. Feed the gate with the top output of a tuned circuit tank with variable cap, (whatever band you want). Wind your outside antenna with about one turn around the tuned tank circuit with the end grounded. This will give good coupling into the tuned circuit without affecting its' Q. Take the Drain lead and tie it to a 2N3904 or whatever H.F. NPN you have. Take the base of the NPN and tie it to +5 volts, bypassed by a .01uf or smaller. Take the collector of the NPN and tie it through a 1K (experiment for your design) and take the collector output to a cap (D.C. isolation) to the input to to your receiver. You will find that the Q factor is so high that it will pull most receivers plus and minus 10 or 20 KhZ before they figure out what is going on. I used a 10" diameter loop for the tuned circuit and picked up a lot of

stations without any outside connection. The outside antenna was just icing on the cake.

Try it, have fun. I'm an E.E. so I have the data books on most REAL 2N type transistors if you need them.

E.C.G. and S.K. I gave up on a LONG time ago, ditto Rat-Shack, since all they have is repackaged T.I. types, which I suspect failed a test or 2 and where sent to the R.S. (good enough for them bin). Tandy is based in Texas, so is (obviously, Texas Instruments).

If my spelling is off tonight, well hell, I can't type that good after 2 beers.

Bill Baka

Hoping I could help without muddying the waters.

2398. Hallicrafter Transmitter Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: harryo@oanet.com
Message-ID: <556l3k$b8@hermes.oanet.com>
Source record: 101268

There is a member of our Amateur Radio club that has a Hallicrafter Transmitter Model HT-40 built from a kit circa 1960. The transmitter covered from 160m thru 6m. He is looking for the manual that goes with it as over the years some of the parts have been used for other projects. If anyone has a copy, please e-mail me and I will contact the Amateur.

Thanks,

Harry
VE6 HPA

2399. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <327715F1.3CD5@wenzel.com>
Source record: 101269
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

bbaka@syix.com wrote:

<<much clipped>>
>
> Actually, you can get a gain of 100,000, not that it will be good for much. No
> emitter resistor and a 1 meg collector resistor. As soon as you pass the
> Base-Emitter thresh hold the 1 meg will saturate. Useless, but a demonstration.

Where did you get those 3000 volt transistors? If the circuit is biased to get 5 volts across the 1 meg. the gain will be near 200. And the circuit IS useful for driving a crystal earphone from a crystal radio source. The gain really doesn't go up with the collector resistance as you suggest.

<<clip>>

>I suggest you get a modern reference...

When Dr Hill publishes his next book, I will.

<<clip>>
> Hoping I could help without muddying the waters.

Many may be wondering why I referred to my estimate of a common-emitter's gain as "crude" when Dr. Hill suggests that it is pretty accurate. Well, here are my top ten reasons:

10) Hoping for the Bill Gates "Analog Isn't as Good as Digital" award.
9) Qualifier required by legal staff.
8) "Re: What is a capacitor?"
7) Bad habit of using solder for jumper wires.
6) Here in Texas, "crude" is good.
5) Third copy of "Art of Electronics" stolen from library - had to wing it.
4) Still confused by that Kelvin - Centigrade thing.
3) Suspicious of devices with no screen grids.
2) Spock-like brain works to six digits.
And the #1 reason:
1) Only on week 'till election - don't want to blow it now!

2400. Etch-Resist Transfer film

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: abdb@bora.dacom.co.kr
Message-ID: <556sdraog1@usenet.dacom.co.kr>
Source record: 101270

Hello,

I'm looking for a supplier of the type of transparency that I can photocopy a PC board pattern on and iron right on to the unetched board.

As I am not a regluar reader of this newsgroup, could you please direct your responses to the email address below.

Thanks in advance,

Andy

---abdb@bora.dacom.co.kr

2401. Re: Best CB's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <55739m$5eu@newsbf02.news.aol.com>
Source record: 101271

Use the TRC-457. 399 channels available at 10 kHz spacing.

199 with 5 kHz spacing.

Carl

2402. Removing an Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Jon Ralls <haven@azstarnet.com>
Message-ID: <01bbc622$542020c0$080bc5a9@StarNet.azstarnet.com>
Source record: 101272

I mounted a 2 meter ant. to my window on a van and I would like to move it. The problem is that it is stuck to the window with the adhesive that came on it. The antenna was made by Radio Shack and the guys there don't have a clue if it can be removed without damaging the antenna. Anybody got any ideas? Thanks.
Jon Ralls
KB0FKI

2403. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <32772640.7547@hevanet.com>
Source record: 101273
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dick Hughes wrote:
>
> On Thu, 24 Oct 1996 14:07:27 GMT, gary@ke4zv.atl.ga.us (Gary Coffman)
> wrote:
>
> >In article <54nc7a$s6@lily.redrose.net> jpoll@redrose.net (James Pollock) writes:
> >> I have a friend who swears up and down that the length of the
> >>coaxial cable to maintain resonance at a given frequency is important
> >>for reducing the SWR. He feels that it acts in a similar principal to
> >>the fact that the elements of an antenna must be cut to the correct
> >>length for the antenna to be resonant at a given frequency.
> >>
> >> It seems to me I have also read somewhere that this is a myth. I
> >>need the true scoop on this. I'm preparing to put up a pretty good
> >>antenna system on my roof (a homebrew 10 meter antenna cut to exactly
> >>the middle of the band), and don't want to purchase an extra 6 ft of
> >>Belden 9913 coax only to have it looped up and losing signal, when in
> >>reality I could of used 20 feet instead of 26 feet of cable.
> > >
> >Ok, this can get complex because there are several interrelated
> >things happening here. Lets take them one at a time.
> > >
> >The only thing that determines SWR on a transmission line is
> >the ratio of the characteristic impedance of the line to the
> >impedance presented by *the load*. Nothing you can do at the
> >generator end can affect SWR, and changing the length of the
> >cable won't change SWR either (but see below).
>
> <huge snip>
>
> >Gary
>
> In general, the correct length of coax for an HF antenna is the
> distance it takes to get from the transmitter to the antenna. Don't
> worry about length.
>
> Dick Hughes - W6CCD

There's an important issue that has not been mentioned.
If your SWR is 1:1, coax length is unimportant.
If it's not, then the impedance looking into the coax is a function
of the length. Draw a (constant SWR) circle on a Smith Chart. As you
change length,

you move around that circle. As long as your transmiter can match any impedance on the circle, you're OK. With a high SWR or with a modern no-tune rig, you might find that the rig behaves significantly differently depending on the coax length. SWR doesn't change, but the matching network required to drive the coax sure does.

Having said that, I suggest you put your effort into making the antenna 1:1 rather than messing with the coax length.

miker

2404. Re: Low dropout regulator info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32771643.21DF@worldnet.att.net>
Source record: 101274

Doug,
I couldn't locate anything to help in my data books (only a few new enough to cover low dropout regs). Best I could do was a 0.6 volt drop regulator chip from TI. It would, however, only supply 750 ma. I got around a similar problem (ATV Tx =flaky when batt low) by building an step-up switcher - down regulated. It is set to supply 13 volts reg while the input can be from about 10 to 18 volts. ...73, Woody

Doug Faunt N6TQS +1-510-655-8604 wrote:
>
> I need to provide 10.6v at 1.6A from a 12V lead-acid battery.
> Any hints on low-dropout regulators for this application?
> Regulation doesn't have to be great.
>
> 73, doug

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2405. switching power supply mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: God@Provide.Net
Message-ID: <55724i$6tb@news.provide.net>
Source record: 101275

I have an old switching power supply from a large computer.
It says 5 volts at 50 amps. I was wondering if I could modify it so
that it would deliver say 12 volts at 20 or so amps.
What do ya think about this:

1. change the output filter caps to 16vdc

2. tear apart the trans and rewrap the secondary with smaller
guage and proper turns ratio for higher E and lesser I.

3. change resister divider network that feeds the sampler/error amp

Will it work? Will I have saturation problems?

Any advice would be appreciated.

Thanks, Brett

2406. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: hill@rowland.org
Message-ID: <557p58$md7@fridge-nf0.shore.net>
Source record: 101276
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Bill Baka, <bbaka@syix.com> said...
>
>Charles Wenzel, <wenzel@wenzel.com> said...
>>
>> A really crude but often effective estimate of a bipolar transistor's
>> voltage gain is simply 38 times the voltage across the collector resistor.
>
> Actually it ranges from 1 to 100+ and depends more on the emitter resistor
> ratio to the collector resistor.

Of course, Bill, emitter degeneration, or any other type of feedback will reduce voltage gain. However, since here we're discussing "what is the maximum (voltage) gain that you can get..." it's clear that introducing gain-reducing components or techniques will simply muddy the waters.

> Power transistors can have a Beta or current gain of only 10, where most
> generic 2N3904 NPN types will run about 100, some special types ...

It cannot be stated often enough that in a properly-designed common-emitter amplifier stage, the current gain of the transistor should not be a factor in determining voltage gain.

> Darlingtons can go up to about 10,000, but don't count on frequency response.

This is totally misleading and simply incorrect. The proper use of a darlington transistor circuit does not reduce frequency response, but often enhances it.

> ... Actually, you can get a gain of 100,000, not that it will be good for
> much. No emitter resistor and a 1 meg collector resistor. As soon as you
> pass the Base-Emitter thresh hold the 1 meg will saturate. Useless, but a
> demonstration.

Now you've really got me going! Bill I think these generalizations are not useful and inaccurate. First, without an emitter resistor, the quick formula for low-frequency voltage gain of an unloaded common-emitter stage, adjusted for a given load resistor voltage V, is just G = V * kT/q and as this formula shows, the actual value of the load resistor has nothing to do with the gain.

Let's make some amplifiers with different collector load resistors. We'll assume a +9V supply and bias the transistor collector at +4V, by means not covered here. Emitter to ground. We'll assume 5pF of collector capacitance, and a low-Z driving source.

collector collector frequency theoretical
resistor current response voltage gain comments

--------- --------- -------- ---------- -----------
10k 500uA 3.2MHz 200 AM-band radio stations
100k 50uA 320kHz 200
1Mohm 5uA 32kHz 200 9V battery lasts a long time
10M 0.5uA 3.2kHz 200
22M 0.11uA 1.5kHz 200 light-powered circuits
100M 50nA 320Hz 200 "good for a demonstration"

Note that the voltage gain doesn't change. Also note the perfectly acceptable 32kHz bandwidth with a 1M-ohm collector resistor. Are the low-current versions useless except for a demonstration? Of course not. Many real-world applications get along well with sub-kHz signals and are forced to work with very low supply currents. I won't even start the long list.

Now Bill, wrt "Actually, you can get a gain of 100,000 ..." I should point out that a more complete formula for CE stage gain is G = g_m * (R_L || r_o) where r_o results from the output conductance of the transistor due to the Early effect. The actual fact is that the Early effect may well prevent a gain of 25,000 let alone 100,000 in a single-transistor CE amplifier. {This is not to say a higher single-stage gain cannot be obtained when more than one transistor can be used.]

If this thread had serious attendance by semiconductor device engineers (which I am not) we'd see that "Early voltage" would be at the heart of the discussion. Early voltage, VA, or VAF, is very important to the bipolar transistor designer, right along with f_T, beta and base resistance. See for example, http://fnctsrv0.chips.ibm.com/products/ams/tech/Tquickref.html

The beta-VA product is an industry figure-of-merit parameter, often reported by industry gurus like Frank Goodenough. It's a critical issue for example in designing high-performance current sources. E.g. see http://www.ee.washington.edu/conselec/W94/aleph/aleph498.htm

In conclusion, Bill, I'd like to say that we could all use a little more reading!

Keep the faith.

--
Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
The Rowland Institute for Science _/ _/ _/_/ _/
Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

2407. Re: Removing an Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: kc5egg@ix.netcom.com
Message-ID: <557p1a$70e@sjx-ixn5.ix.netcom.com>
Source record: 101277

In <01bbc622$542020c0$080bc5a9@StarNet.azstarnet.com> "Jon Ralls"
<haven@azstarnet.com> writes:
>
>I mounted a 2 meter ant. to my window on a van and I would like to
move it.
>The problem is that it is stuck to the window with the adhesive that
came
>on it. The antenna was made by Radio Shack and the guys there don't
have a
>clue if it can be removed without damaging the antenna. Anybody got
any
>ideas? Thanks.
>Jon Ralls
>KB0FKI

Easiest way use a heat gun like those you use for shrink tubing. Don't get it too hot about 120 F is enough for most glues. Remove the excess glue by scraping with a stainless steel single edge razor blade. Stainless blades won't scratch the glass, it has to do with the way stainless micro machines.

73 Jerry

2408. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32776DBF.4618@arrl.org>
Source record: 101278

W8JI Tom wrote:

> In article <32760A8D.3AF4@arrl.org>, Zack Lau <zlau@arrl.org> writes:
>
> > How about using ferrite beads over wires instead of resistors?
> >I've heard reports that they are almost purely resistive at VHF.
> Shouldn't
> >the HF bypass choke keep the beads out of saturation if the system is
> >properly designed?

> Since this is almost always (with a proper layout) a single frequency area
> problem, we want to add as much damping as we can over the undesired
> frequency range.
>
> The problem with ferrites is the transition from inductive to resistive
> behavior (loss of Q) is generally very slow as frequency is raised. What
> we want is an abrupt change, where loss is very low at desired operating
> frequencies (allowing good efficiency) and suddenly the loss is very high
> at the undesired frequency.
> How is the non-inductive resistor better than a ferrite as the lossy
element at assisting in the abrupt change? Doesn't the resistor rely
on the inductor to obtain the "abrupt change?"

Being a "single frequency area problem", what do you think about using
inductive resistors in a clever design? While not everyone has
a network analyer for alignment, why not use an antenna analyzer
as an inexpensive adjustment guide?
--Zack KH6CP/1

> In the ideal case we would have the most rapid "insertion" of damping
> resistance possible as frequency is increased, short wide grid leads and
> short wide anode connections. All resitance should be concentrated at one
> area so it can be adjusted to the correct value for maximum damping.

2409. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <557scp$9um@newsbf02.news.aol.com>
Source record: 101279

Gary asked about the MLA. One reason I suspect you've had such good life is you know how to operate the amplifier, many or most Hams do not.

If you recall that the root of our disagreement about the tetrode articles. My position was tetrode PA's were not as forgiving in the hands of the general population. With focused beam cathode triodes, they have some tetrode-like charicteristics. One is that a very slight amount of mis-tuning or excessive drive will cause grid current to skyrocket. While grid current changes slowly with load adjustment in tubes like the 3-500Z, it varies rapidly in the 8873-8875 series. Not only is the potential for excessive grid current by mis-tuning increased, but the grid is many times smaller in mass. It takes less time to heat the grid (low thermal inertia), and it has less area to dissipate unwanted heat. It is also closer to the hot cathode.

If any amplifier needed grid dissipation protection, it was the MLA. Yet some MLA's had no grid meter at all, let alone an overload circuit. To give you an idea how quickly a tube like that can be ruined, I wasted a 3CX800 in abouta matter of seconds when I was prototyping a 3CX800 PA. I hadn't installed the grid trip circuit yet, and was doing some tank changes. After three or four SHORT hits with a 100-150 mA of grid current, the tubes were history. When I cut one open, the gold was boiled off the grid.

Not having electronic grid protection is a mistake. A fuse is not fast or reliable enough to control dissipation (you can find data on failure times with various overloads in a Buss catalog).

Other than that, and Dentrons failure to include a surge limiting resistance in the anode lead (it should be a 25 ohm or larger energy absorbing type of resistor with a high voltage breakdown), Dentron amps shared a few other common flaws:

1.) Voltage at the heater pins were often excessive (and don't run it too low or you'll strip the cathode)

2.) The bleeders were carbon resistors, they age down in value unevenly, and eventually cause the electrolytics to fail. Bleeders should be metal film or wire wound, with a value of bleeder current normally (since they equalize the caps) 10 to 20 times greater than the expected leakage current in the caps. (The formula actually must include the safe voltage delta allowed across the caps and the leakage current delta expected, it's ohms law...I'm sure you can figure out the method since the goal is to never have the voltage rating of any cap exceeded due to leakage resistance tolerances)

3.) Cooling was marginal in most PA's

4.) They used 300-400 volt resistors across the HV diodes

5.) Tank Q was goofy on some bands (that really only hurts efficiency a tiny bit)

6.) Input circuits were lacking, or located too far from the tubes, or had the wrong values for a proper match

It wouldn't be a bad idea to measure the filament inrush on a triggered scope, since the filament is run off a very large transformer. Heater/filament damage is accumulated thermal damage, so failure depends on the number of times you cycle the filaments off and on as well as the amount of overload. Just to be safe, you might check it. Two times operating value for inrush virtually elimates any chance inrush life shortening, although if the filament isn't cycled off an on a lot more can be tolerated.

The easy way to measure this is clip the isolated scope probe across a small area of filament wiring on one side of the filament and click the amp on from a cold start several times (I use a triac that triggers at zero voltage, because that allows the filament to "feel" the impact of the entire full first cycle, and gurantees maximum inrush) watching the voltage drop (it represents current).

Almost any amplifier with a separate transformer is OK for inrush with no other protection as long as the transformer is marginal for the filament current rating.

73 Tom

2410. Re: Removing an Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: Peter Gottlieb <Peter_Gottlieb@msn.com>
Message-ID: <01bbc679$67a91fa0$210f2399@peter>
Source record: 101280

Jon Ralls <haven@azstarnet.com> wrote in article
<01bbc622$542020c0$080bc5a9@StarNet.azstarnet.com>...
> The problem is that it is stuck to the window with the adhesive that came
> on it.

You could try VERY CAREFULLY using a hot air gun to heat up the window around where the antenna is mounted and see if that softens the adhesive. Be VERY uniform with the heating so as to not crack the window.

Alternatively, perhaps you can find a solvent that attacks the adhesive used, and keep applying it while slowly making repeated passes at the edge with a single edged razor blade.

Otherwise, live with it attached or destroy it to remove.

2411. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <5584h2$cev@newsbf02.news.aol.com>
Source record: 101281

Hi Zak,

In article <32776DBF.4618@arrl.org>, Zack Lau <zlau@arrl.org> writes:

>Being a "single frequency area problem", what do you think about using
>inductive resistors in a clever design?

That's allready being done, in the AL1200 and some commercial applications. Because the 3CX1200A7 is so difficult to stabilize, a small series silver mica is used to tune a inductive resistor to resonance at the parasitic frequency.

The circuit looks basically like this:

```
L
anode -----((((((------------------------][-----plate tune cap
^ ^
^ --][--WW--^
C R
```

L is a small inductance in series with the anode to tank path, C is the cap that resonates the resistor path, and R is an INDUCTIVE metal film resistor.

If you model this or do it long hand you'll see the current will shift very rapidly into the resistor when L in combination with C approaches parallel resonance, and R's inductance in combination with C approaches series resonance.

This gives excellent suppression with minimum dissipation on the operating frequency. (Patent was applied for, I need to check to see if it was ever granted yet)

>While not everyone has
>a network analyer for alignment, why not use an antenna analyzer
>as an inexpensive adjustment guide?

The MFJ analyzer works well for some applications like this because it covers the normal range HF tubes oscillate at, 20-150 MHz. The anode impedance, when the suppression circuit is properly designed, is even within the useful impedance range of the device. It would be a long post to tell someone how to use it in multiple applications, however.

BTW, ferrite beads would not need to be in the dc anode current path. Saturation Rick L. brought up would still be a concern, especially on ten meters where the output capacitance of the tube is the primary source of tank input capacitance. The fact the anode capaciatnce is part of the tank places ANY component or wiring between the tube and the tank in the path

of high circulating currents at the operating frequency. Any additional loss at the operating frequency de-Q's the tank and reduces harmonic suppression, and the high VAR currents tend to cause stress on the components. I sure would stick anything dissipative at the operating frequency (including a ferrite bead) in that path, except as a last resort.

Great thinking and suggestions from you Zak and Rick L !!

73 Tom

2412. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-3010961224430001@port20.vcnet.com>
Source record: 101282

In article <32760A8D.3AF4@arrl.org>, Zack Lau <zlau@arrl.org> wrote:

> W8JI Tom wrote:
>
> > Myself also. If you cut open the film resistors that come with the
> > nichrome suppression kit, you will see the resistor element is wound in a
> > spiral around a ceramic form. This is the last thing you want in a
> > non-resonant VHF suppressor, because it adds series non-dissipative
> > inductance in the resistor path and forces the resistor OUT of the circuit
> > at higher frequencies, right where it is needed most. What a PA really
> > needs are the types of resistors you mentioned, carbon compositions or
> > Carborundum type non-inductive resistors.
.
> How about using ferrite beads over wires instead of resistors?
> I've heard reports that they are almost purely resistive at VHF. Shouldn't
> the HF bypass choke keep the beads out of saturation if the system is
> properly designed?
>
> Or, stepping a little further back, how about a distributed
> design solution, perhaps with an integrated transmission line to reduce
> the unwanted parasitic elements? After all, you do have to shield the
> amplifier anyway--why not integrate the shielding with the circuitry,
> instead of trying to make it invisible?
>
RE: Shielding:
Spurious radiation is not the problem. The most common type of vhf oscillation in HF amps. is not continuous, Zack. It is intermittent because there is virtually no resistive load--i.e., something has got to give, and often does. Here's why: With virtually no load, the vhf energy runs amok in the front end of the HF tank circuit, typiclly resulting in arcing at the tune capacitor, and/or the 10m and 15m contacts on the bandswitch. If they exist, as is the case in the 922, include the tune capacitor-fixed padder contacts for 80m and 160m. Since the amount of vhf energy probably exceeds 1kw in large amplifiers, destruction can result. For a picture of the nauseating details see *QST*, Sept. 1990, page 33. Another example can be seen in Figure 12 at http://www.vcnet.com/measures

The voltages that can result from an intermittent vhf oscillation are impressive. For instance the TL-922 uses a tuning capacitor that tests out at well over 5000vdc. The max. RF peak voltage across this capacitor is normally around 2700v with the electric-mains supplying 240v to the 922. Other manufacturers of similar amplifiers typically use a tune capacitor with only 60% of the air gap in the 922's tune capacitor, so the safety factor is awesome. However, when the 922 oscillates at 140 MHz,

the tune cap. can arc. If you are lucky enough to see this happen, the arc is purple---a strong indicator that vhf voltage is present.

W1AW had a TL-922 that arced it's tuning capacitor so much that some of the plates melted. The tuning capacitor was replaced. Parasitic Suppressor Retrofit Kit s/n 293 (5/23/89) was reportedly installed. No complants yet. Any comments would be appreciated, Tom.
---
e-mail copy to Mr. Lau

--
--Rich-- ag6k, 805.386.3734

2413. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180003010961006480001@news.west.net>
Source record: 101283

In article <1996Oct29.222006.26424@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> In article <54em53$rjl@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
> >While many of Measures' suggestions are harmless, some are not. Some
> >suggestions will put the user in harm's way, or cause equipment damage.
> >I'd hate to see someone ruin a $500 tube, or worse yet hurt themselves,
> >following poor advice.
>
> Well, don't leave us in the dark. Which suggestions are dangerous?
>
Good question, Gary.

Obviously, electrocution of owner, caused by owner forgetting to unplug the amp.,prior to owner putting hands therein, could be classified as a danger---but so could using a curling iron in a bathtub.

Accusations without a foundation are spurious emissions, Tom. I would like to hear the details about ruining $500 tubes, and details about equipment damage.

--
--Rich--
ag6k, 805.386.3734

2414. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-3010961038210001@port35.vcnet.com>
Source record: 101284

In article <555o5h$9dv@hpscit.sc.hp.com>, rkarlqu@scd.hp.com (Richard Karlquist) wrote:

> >In article <32760A8D.3AF4@arrl.org>, Zack Lau <zlau@arrl.org> writes:
> >
> >> How about using ferrite beads over wires instead of resistors?
> >>I've heard reports that they are almost purely resistive at VHF.
> >Shouldn't
> >>the HF bypass choke keep the beads out of saturation if the system is
> >>properly designed?

> Another problem with ferrite beads is that they start to
> saturate at a few hundred mA.
>
> Rick Karlquist N6RK
> rkarlqu@scd.hp.com

I have seen ferrite vhf attenuator beads purportedly used as vhf parasitic oscillation suppressors in HF amplifiers However, as Rick says, they are easily saturated by dc current. Another problem is that they have a well deserved reputation for being non-linear devices. Verily. I inadvertently generated TVI at 555MHz, a.k.a. Ch. 28, from my 7MHz signal. This was the result of a saturating ferrite core. When I looked at the transmitted 7MHz waveform with an oscilloscope, it was abundantly obvious that the waveform was Not a sinewave.

--
--Rich-- ag6k, 805.386.3734

2415. GET FAST CASH

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-30 00:00:00 UTC
From: gingham2@aol.com
Message-ID: <558ff8$gov@newsbf02.news.aol.com>
Source record: 101285

Hello! I've got some awesome news that I think you need to take two minutes to read if you have ever thought "How could I make some serious cash in a hurry???" , or been in serious debt, ready to do almost anything to get the money needed to pay off those bill collectors. So grab a snack, a warm cup of coffee, or a glass of your favorite beverage, get comfortable and listen to this interesting, exciting find!

Let me start by saying that I FINALLY FOUND IT! That's right!. I found it! And I HATE GET RICH QUICK SCHEMES!! I hate those schemes like multi-level marketing, mail-order schemes, envelope stuffing scams, 900 number scams... the list goes on forever. I have tried every darn get rich quick scheme out there over the past 12 years. I somehow got on mailing lists for people looking to make money (more like: 'desperate stupid people who will
try anything for money!'). Well, when I was a teenager, these claims to 'get me rich quick' sounded irresistible! I would shell out $14.95 here, $29.95 there, $24.95 here, and another $49.95 there. I had maxed out my new CircuitCity Card AND my Visa...I was desperate for money!! So, I gave them all a chance but failed at every one of them! Maybe they worked for some people, but not for me. Eventually, I just tossed that JUNK MAIL in the trash when I got the mail. I recognized it right
away. I can smell a money scam from a mile away these days...or so i thought. I believed I could sniff out a scam easily. WAS I WRONG!!...I LOVE THE INTERNET!!!

I was scanning thru a NEWSGROUP and saw an article stating: 'GET CASH FAST'!! I thought..."Here on the Internet?? Well, I'll just have to see what schemes could possibly be on the internet." The article described a way to MAIL A ONE DOLLAR BILL TO ONLY FIVE PEOPLE AND MAKE $50,000 IN CASH IN 4 WEEKS! Well, the more I thought about it, the more I became very curious.
Why? Because of the way it worked AND BECAUSE IT WOULD ONLY COST ME FIVE DOLLARS (AND FIVE STAMPS), THAT'S ALL I EVER PAY....EVER!!

Ok, so the $50,000 in cash was maybe a tough amount to reach, but it was possible. I knew that I could at least get a return of $1,000 or so. So I did it!! As per the instructions in the article, I mailed out ('snail mail'for you e-mail fanatics) a single dollar bill to each of the five people on the list that

was contained in the article. I included a small note,
with the dollar, that stated "Please Add Me To Your List."
I then removed the first position name of the five names listed
and moved everyone up one position, and I put my name in position
five of the list. This is how the money starts rolling in!
I then took this revised article now with my name on the list and
REPOSTED IT ON AS MANY NEWSGROUPS AND LOCAL BULLETIN
BOARDMESSAGE AREAS THAT I KNEW. I then waited to watch the
money come in...prepared to maybe receive about $1000 to $1500
in cash or so....But what a welcome surprise when those envelopes
kept coming in!!! I knew what they were as soon as I saw the
return addresses from people all over the world--most from the
U.S., but some from Canada, even some from Australia! I tell
you, THAT WAS EXCITING!! So how much did I get in total return?
$1000? $5000? Not even!!! I received a total of $23,343!!!
I couldn't believe it!!

I now have a brand new black Acura Integra to speak for, due to
this!! Now after almost 8 months, I am ready to do it again!!!
Somaybe it was possible to get $50,000 in cash, I don't know,
but IT COMPLETELY DEPENDS ON YOU, THE INDIVIDUAL! You must
follow through and repost this article everywhere you can think
of!
The more postings you achieve will determine how much cash will
arrive in you rvery own mailbox!! It's just too easy to pass
up!!!

Let's review the reasons why you should do this: The only cost
factors are for the five stamps, 5 envelopes, and the 5 one
dollar
bills that you send out to the listed names by snail mail
(US Postal Service Mail). Then just simply repost the article
(WITH YOUR NAME ADDED) to all the newsgroups and local BBS's you
can.
Then sit back, and enjoy walking (you can run if you like! :o)
down your driveway to your mailbox and scoop up your rewards!!
We all have five dollars to put into such an easy effortless
investment with SPECTACULAR REALISTIC RETURNS OF $15,000 to
$25,000
in about 3-5weeks! So HOLD OFF ON THOSE LOTTERY NUMBERS FOR
TODAY,
EAT AT HOME TONIGHT INSTEAD OF TAKEOUT FROM McDONALDS AND INVEST
FIVE
DOLLARS IN THIS AMAZING MONEY MAKING SYSTEM NOW!!! YOU CAN'T
LOSE!!

So how do you do it exactly, you ask? I have carefully provided
the most detailed, yet straightforward instructions on how to
easily
get this underway and get your cash on its way. SO, ARE YOU READY
TO

MAKE SOME CASH!!!?? HERE WE GO!!!*** THE LIST OF NAMES IS AT THE
END
OF THIS ARTICLE. ***OK, Read this carefully. Get a printout of
this
information, if you like, so you can easily refer to it as often
as
needed.

INSTRUCTIONS:

1. Take a sheet of paper and write on it the following: "Please add my
name
to your list". This creates a service out of this money making system
and
thus making it completely legal. You are not just randomly sending a
dollar
to someone, you are paying one dollar for a legitimate service. Make
sure
you include your name and address. I assure you that, again, this is
completely legal! For a neat little twist, also write what slot their
name was in: "You werein slot 3", Just to add a little fun! This is all
about having fun and making money at the same time!

2. Now fold this sheet of paper around a dollar bill ,(no checks or
money
orders), and put them into an envelope and send it on its way to the five
people listed. The folding of the paper around the bill will insure its
arrival to its recipient. THIS STEP IS IMPORTANT!!

3. Now listen carefully, here's where you get YOUR MONEY COMING TO YOUR
MAILBOX. Look at the list of five people; remove the firs tname from
position one and move everyone on the list up slot one on the list.
Position 2 name will now move to the position 1 slot, position 3 will now
become position 2, 4 will be be 3, 5 wil be 4. Now put your name,
address,
zipcode AND COUNTRY in position 5, the bottom position on the list.

4. Now upload this updated file to as many newsgroups and local bulletin
boards' message areas & file section as possible. Give a catchy
description
of the file so it gets noticed!! Such as: "NEED FAST CASH?, HERE IT
IS!,"
or "NEED CASH TO PAY OFF YOUR DEBTS??," etc. And the more uploads, the
more money you will make, and of course, the more money the others on the
list will make too. LET'S ALL TAKE CARE OF EACH OTHER BY BEING HONEST
AND
BY PUTTING FORTH 120 PERCENT INTO THIS PROFITABLE & AMAZING SYSTEM!!!
You'll reap the benefits, believe me!!! Set a goal for the number of
total
uploads you'll post, such as 15-20 postings or more! Always have a goal
in mind!!! If you can UUE encode the file when uploading, that will make
it easier for the people to receive it and have it downloaded to their

hard
drive. That way they get a copy of the article right on their computer
without hassles of viewing and then saving the article from the File
menu.
Don't alter the file type, leave it as an MS-DOS Text (***.txt) file.
The best test is to be able to view this file using Microsoft's Notepad
for
Windows 3.x or WordPad for Windows '95. If the margins look right without
making the screen slide left or right when at the ends of the sentences,
you're in business!

5. If you need help uploading, simply ask the sysop of the BBS, or"POST"
a message on a newsgroup asking how to post a file, tell them who your
Internet provider is and PEOPLE WILL ALWAYS BE GLAD TO HELP. I would try
to describe how to do it but there are simply too many internet software
packages with slightly different yet relatively simple ways to post or
upload a file. Just ask for help or look in the help section for
'posting'.
I do know that for GNN, you simply select 'POST' then enter a catchy
description under the subject box, choose 'ATTACH', selecting 'UUE' and
NOT 'TXT', then choose 'Browse' to go look for the file. Find your text
file CASH.TXT and click on it and choose 'OK'. Place a one line
statement
in the main body section of the message post screen. Something like
"Download this to read how to get cash arriving in your mailbox with no
paybacks!," or whatever. Just make sure it represents its true
feasibility,
NOT something like:" Get one million dollars flooding in your mailbox in
two days!" You'll never get ANY responses!

6. And this is the step I like. JUST SIT BACK AND ENJOY LIFE BECAUSE
CASH
IS ON THE WAY!! Expect to see a little money start to trickle in around 2
weeks, but AT ABOUT WEEKS 3 & 4, THE MONEY STORM WILL HIT YOUR MAILBOX!!
All you have to do is take it out of the mailbox and try not to scream
too
loud (outside anyway) when you realize YOU HIT THE BIG TIME AT LAST!!

7. So go PAY OFF YOUR BILLS AND DEBTS and then get that something
special
you always wanted or buy that special person in your life (or the one you
want in your life :)) a gift they'll never forget. ENJOY LIFE!

8. Now when you get low on this money supply, simply re-activate this
file again; Reposting it in the old places where you originally posted
and
possibly some new places you now know of. Don't ever lose this file,
always
keep a copy at your reach for when you ever need cash. THIS IS AN
INCREDIBLE TOOL THAT YOU CAN ALWAYS RE-USE TIME AND TIME AGAIN WHEN
CASH IS NEEDED!

9. (This comment added by Ron Markarian) Hell dude, this is great,
just send the money and wait like 1 week, then all of a sudden, BOOOOOOM!
Mail flood FULL of dollar bills. Hahahaha...its great

****** ******* ****** ********* ****** ******* ******* ***** *******
******
THE NAMES LIST THE NAMES LIST THE NAMES LIST
****** ******** ****** ********* ******* ********* ********* ******
****

HONESTY IS WHAT MAKES THIS PROGRAM SUCCESSFUL!!!

1. Ron Markarian
353 w. nees #214
Fresno, CA 93711
USA

2. Rob Shannon
2204 wabash ave,unit 24
Eielson,AK 99702
USA

3. Jesse Fahrenbruch
1147 Georgetown Rd.
apartment 104
Norfolk, VA 23502
USA

4. Stian Haugen
Jerpeveien 14
4890 GRIMSTAD
NORWAY

5. Chris Vogth-Eriksen
198 College Hill Rd.
Clinton, N.Y 13323
USA

2416. Re: Low dropout regulator info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: jbj@intr.net
Message-ID: <559adp$qrr@news.intr.net>
Source record: 101200

Uncle (uncle@net1.nw.com.au) wrote:
: On Mon, 28 Oct 1996 17:35:42 GMT, faunt@netcom17.netcom.com (Doug
: Faunt N6TQS +1-510-655-8604) wrote:

: +I need to provide 10.6v at 1.6A from a 12V lead-acid battery.
: +Any hints on low-dropout regulators for this application?
: +Regulation doesn't have to be great.
: +
: +73, doug

: Won't ask what 10.6v is needed for, but is the 1.6A
: fairly constant? To keep it simple, I'd be happy just
: to use a simple TO-3 case pass transistor, adjust
: your base voltage according to the drop across a small
: series resistance, or even a stack of zeners totalling
: approx 10.6 volts to the base. For mere 1.6A, might
: even get away w/o using a sink.

: Refer ARRL handbook for basics regarding.

Well, that sounds more noise than signal. Check the
Data sheets for National Semiconductor, Maxim,
and Linear Tech. They all have a good collection of
LDO (low drop-out) regulators. You can browse National's
data book on line. Here is the exact location of
positive LDO's:
http://www.national.com/catalog/660.html

-- Andy
Email me at: arm@helix.nih.gov

: Uncle Brian VK6BQN

: - - - -
: Life isn't meaningless, it just has a poor signal to noise ratio.

--
Jeff Johnson ARS N3NPQ
jbj@jbj.org
Bethesda, MD

2417. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: hill@rowland.org
Message-ID: <5596p3$lpg@news-central.tiac.net>
Source record: 101201
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

Gary Coffman, <gary@ke4zv.atl.ga.us> said...
>
> hill@rowland.org (Winfield Hill) writes:
>>Charles Wenzel, <wenzel@wenzel.com> said...
>>>
>>> A really crude but often effective estimate of a bipolar transistor's
>>> voltage gain is simply 38 times the voltage across the collector resistor.
>>> The beta of the transistor mainly affects the input impedance ....
>>
>> Good for Charles. After watching the off-base answers on this thread for a
>> while, I wondered if anybody was going to come up with the straight-forward
>> answer!
>
> Always nice to hear from the master, however is this really the straight
> forward answer we're looking for? A transformer can offer voltage "gain".

Hey Gary, give me a break! Remember, I only chimed in with the (gory) details after waiting a few days and seeing their absence. Didn't you think it useful? Anyway, with an attractive lob like that, who could resist a smash return?

Of course adding a transformer would change the whole story! Surely you can see most of us on the thread assumed voltage rather than power gain was the question (although no detail was stated), and that it was "transistor only." After all, as you said, with a transformer, you can get voltage gain, without any transistor at all! No load defined? Near infinite turns ratio - tuned? Consider the arguments and flames that would produce. So without detailed limits it becomes a senseless question.

> What separates an active device like a transistor from a passive device
> like a transformer is the possibility of *power gain*. Given a power
> gain, we can easily make practically any voltage we like with a step up
> transformer in the drain circuit.

Exactly, Gary. Isn't that a question without a real answer? Hey, create a new thread: "What's the maximum power gain from one transistor?" But, I'll probably stay out of that mudpit!

As for me, despite my well-known love of transformer design, somehow I can't appreciate your transformer form of the question. Instead, the idea of considering the capabilities of a few small inexpensive components (rules out a transformer)... now, that's more compelling.

--
Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
The Rowland Institute for Science _/ _/ _/_/ _/

Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

2418. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <559hui$241@newsbf02.news.aol.com>
Source record: 101202

In article <measures-ya023180003010961006480001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

>Accusations without a foundation are spurious emissions, Tom. I would
>like to hear the details about ruining $500 tubes, and details about
>equipment damage.

I can give a few specific examples, but I'm sure this would quickly turn from a technical discussion to personal "bashings". I would prefer to talk about the cause of problems, and the cures, rather that specific examples.

Since there are several suggestions that might cause damage or reduce reliability, and some are fairly involved they deserve to be discussed in isolated responses. Discussions are always clearer when they are point by point. Givin enough time, we'll get to the areas of concern. With that in mind:

In article <measures-3010961224430001@port20.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>RE: Shielding:
> Spurious radiation is not the problem. The most common type of vhf
>oscillation in HF amps. is not continuous, Zack. It is intermittent
>because there is virtually no resistive load--i.e., something has got to
>give, and often does.

Oscillators do not work that way Rich. If the feedback loss (including less than ideal phase shift) is less than the overall gain, a system will oscillate. Let's look at a typical GG triode. The primary path for oscillation if via the anode to grid capacitance (remember anode to cathode feedback is degenerative. It reduces gain and helps stabilize the PA).

At some frequency above the typical operating frequency of the tube, the combination of shunt grid capacitance and series grid inductance forms a parallel tuned circuit. The inductance is made up of the grid, the grid leads, the socket, and the connection from the socket to chassis. Shorter and wider leads, along with a small grid, increases this frequency.

If the anode of the tube (inside the tube) has a high impedance at or near the same frequency as grid resonance, and if feedback capacitance is high enough, oscillation can occur.

We have to understand what sets the gain of this oscillator. It is the anode impedance, (as it appears inside the tube), and the grid impedance. When the tube is sitting at idle, drawing minimum anode current (but in conduction) the anode impedance is highest. The same is true for the grid.

The grid has an extremely high impedance when it isn't drawing current, limited only by stray losses. If the grid draws current, the grid impedance drops very rapidly. If anode current increases, anode impedance drops (less abruptly than the grid, because it is biuased into current at idle).

When these impedances drop, feedback is reduced. This is one reason why oscillators stabilize at one level.

So you see, it isn't that the stage just sits there waiting minutes, hours, days or years to suddenly oscillate when a big peak comes along, because that big peak actually reduces the gain!

You can see this effect easily by removing suppression and forcing the PA to oscillate. If a PA is brought just beyond the edge of stability, VHF oscillations will cease when drive is applied.

> Here's why: With virtually no load, the vhf energy
>runs amok in the front end of the HF tank circuit, typiclly resulting in
>arcing at the tune capacitor, and/or the 10m and 15m contacts on the
>bandswitch.

Let's think a little bit about this. The VHF impedance of the plate tuning cap is very low. It is on the other side of the series inductance of the anode to tank lead. In order to generate VHF voltages of thousands of volts, many amperes of VHF current would have to flow. I find it a far stretch to imagine that occuring to the extent 5 kilovolts of VHF energy appears acorss the low reactance of the tank capacitor, when you tell us it can't occur at HF where the series impedance is lower and the shunt impedance higher!

> If they exist, as is the case in the 922, include the tune
>capacitor-fixed padder contacts for 80m and 160m.

I find it even more difficult to believe the padding capacitors for 160 will arc from VHF signals. Tell me the value of those caps, and let's run some numbers to see how plausible that postulation really is.

>The voltages that can result from an intermittent vhf oscillation are
>impressive. For instance the TL-922 uses a tuning capacitor that tests
>out at well over 5000vdc. The max. RF peak voltage across this capacitor
>is normally around 2700v with the electric-mains supplying 240v to the
>922. Other manufacturers of similar amplifiers typically use a tune
>capacitor with only 60% of the air gap in the 922's tune capacitor, so
the
>safety factor is awesome. However, when the 922 oscillates at 140 MHz,
>the tune cap. can arc. If you are lucky enough to see this happen, the
>arc is purple---a strong indicator that vhf voltage is present.

An HF air gap arc is the same color as a VHF arc Rich. You might be confusing this with neon gas, it changes color with frequency being yellow or orange at low frequencies and purple at higher frequencies.

73 Tom

2419. Motorola ht210 conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: tumino@acsu.buffalo.edu
Message-ID: <559jcf$pnl@prometheus.acsu.buffalo.edu>
Source record: 101203
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

HEllo there!

I just got ahold of some motorola ht210s and was wondering if anyone had
any experience bringing these radios into the ham band?

If you have any info about these radios or how to do the conversion,
please post and e-mail me

Thanks in advance!

Thomas N2YTF

2420. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: chalpm@hqlab.ico.olivetti.COM
Message-ID: <199610310747.XAA27342@mail.ucsd.edu>
Source record: 101204

My Sony ICF-SW 7600 radio (Italian version) covers the following frequency range 150-285 KHz step 3 KHz, 531-1602 KHz step 9-10 KHz selectable, 3850-26100 KHz step 5 KHz, 88-108 MHz FM step 50 KHz.

The American version of the same radio covers the LF,MF and HF frequencies with the range 150-29995 KHz. I would liKE to obtain the same HF frequency range as that available on the American version but the frequencies 1602 - 3850 KHz and 26100 - 29995 KHz are not receivable on the Italian version!

The radio is controlled by CPU, it has a PLL utility, is equipped with a keyboard and can store 10 items in memory. The receiever is 48055 and 455 KHz double version and demodulates AM and SSB.

At power on the CPU checks the jumper configuration (LW, step 9-10 KHz in MW, SW, FM). Setting the LW jumper to OFF extends the frequency range from 285 to 531 KHz, while setting the FM jumper to OFF extends the FM range from 76 to 88 MHz step 100 KHz. Setting the SW jumper to ON or OFF has no effect, the frequency range remains 3850-26100 KHz in both cases.

* Does anybody have the ICF-SW 7600 schematics?

* Does anybody know how to extend the frequency range from 1602 to 3850 KHz and 26100 to 29995 KHz?

Please send your reply to my e-mail address, as detailed below.

Thanks.

Chalp Maurizio Olivetti (Italy)

e-mail address: chalpm@hqlab.ico.olivetti.com

2421. BIRD >1KW ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: christer.jogenborn@eraj.ericsson.se
Message-ID: <559n84$kdh@newstoo.ericsson.se>
Source record: 101205

Will soon be putting a 1KW 144MHz signal through
a BIRD meter with N connectors.
The PA is good for <1.5KW CW and I am not really
familiar with the BIRD capabilities.
The 2.5KW plug is used - but what connectors
should be used ?

Chris sm0ncl

2422. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: emullins@ix.netcom.com
Message-ID: <559h3v$56c@dfw-ixnews2.ix.netcom.com>
Source record: 101206
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

In article <557p58$md7@fridge-nf0.shore.net>
hill@rowland.org (Winfield Hill) wrote:
>
> If this thread had serious attendance by semiconductor device engineers (which
> I am not) we'd see that "Early voltage" would be at the heart of the
> discussion. Early voltage, VA, or VAF, is very important to the bipolar
> transistor designer, right along with f_T, beta and base resistance.

I couldn't agree with Mr Hill more completely. I have been waiting for
someone to mention Va/Vt. I generally do not respond to questions of
this nature, but felt compelled upon reading Mr. Hills posting.

As a practical example consider the following which
will be somewhat specific to a typical Bipolar IC process,
but can be applied to transistors in general, BJT, MOS JFET.

Bias a Lateral PNP transistor with a vertical NPN current source. Let
the early voltage for the two devices be 20v and 200v respectively.
Assume the collectors are held at some voltage within their linear
range by a device with an infinite input resistance.
The voltage gain can be expressed as gm*R where gm = Ic/Vt,
and R is the resistance at the collector node. In the
case of assumed infinite load resistance, the resistance on
the node is the parallel combination of ro from the NPN
(output resistance of the current source) and the ro of the
PNP common emitter, (the output impedance of the gain device)
ro NPN = VaNPN/Ic and roPNP = VaPNP/Ic. Doing the math I conclude
that the total output resitance on the collector node is 18.18v/Ic. Now
multiply that by gm, Ic/vt and you get (18.18/Ic) *(Ic/vt) or 18.18/Vt,
about 700v/v (assume all numbers are valid at 25C). If
some cascoding or degeneration techniques were utilized to
increase the
output resistance of the current source, the total output
resistance would approach
20v/Ic, or simply VaPNP/Ic. This leads to the simple yet useful conclusion
that the maximum voltage gain from a single transistor stage will
not exceed Va/Vt. For the aforementioned devices that would imply
770 for the PNP and 7700 for the NPN. In practice achieving Va/2Vt is
more typical for an actively loaded, non cascoded common emitter
stage, as described above. Often times this is aggressive,
and loading must always be considered.

EM

2423. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Lance Ryan <ryanl@topaz.cqu.edu.au>
Message-ID: <01bbc703$187b8c80$09374d8a@Lance.cqu.edu.au>
Source record: 101207
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

A beta of 200 is fairly good :"

Bob Wilson <bwilson@newshost> wrote in article
<5535pn$cnm@viking.mpr.ca>...
> lbliao (lbliao@alumnae.caltech.edu) wrote:
> : The above question is asked in academic vain. I am interested in
finding out
> : various viewpoints.
>
> You talking current gain, or voltage gain, or power gain??
>
> Bob.
>

2424. Needed: Jones connector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <55a51b$mu1@news1.mnsinc.com>
Source record: 101208

Hello guys:
I need a 12 pin Cinch-Jones connecter FEMALE, Cable end.
This is the P.S. connector used on the old WRL DUO-BANDER 84 rig I have acquired.

Any leads would be appreciated. I have a bunch of other old BA parts I could trade for it or whatever.

Any help or leads would be appreciated.

Please e-mail me at bry@mnsinc.com

73 de Bry - G3XLQ / W4 & AF4K

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

2425. Oscilloscope.FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-3110960659050001@wd1v.mv.com>
Source record: 101209

Its on my home page or send me an Email that has "SUBSCRIBE"
on the subject line.

Best regards,

John D. Seney
http://www.mv.com/ipusers/wd1v

2426. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: hill@rowland.org
Message-ID: <5597at$lpg@news-central.tiac.net>
Source record: 101210
Cross-posted to: sci.electronics.design,sci.electronics.misc,,rec.radio.swap,rec.radio.amateur.homebrew

J M Woodgate, <jmwa@thenet.co.uk> said...
>
>The maximum gain you can get depends on what circuit configurations you
>allow. If you allow positive feedback, the answer is 'infinite'. Then again,
>how many 'non-ideal' properties will you take into account? Finite output
>resistance is easily allowed for, then comes internal c-b feedback
>resistance, then capacitances.

I'd guess anything goes, if it involves just simple R C and real (bipolar)
transistors. And, I'd imagine it rules out oscillators. Now, controlled
positive feedback: Hmmmm. Is there a one-transistor (no transformer) circuit
configuration for this?

--
Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
The Rowland Institute for Science _/ _/ _/_/ _/
Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

2427. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180003110960335460001@news.west.net>
Source record: 101211

In article <557scp$9um@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:

> To
> give you an idea how quickly a tube like that can be ruined, I wasted a
> 3CX800 in abouta matter of seconds when I was prototyping a 3CX800 PA. I
> hadn't installed the grid trip circuit yet, and was doing some tank
> changes. After three or four SHORT hits with a 100-150 mA of grid current,
> the tubes were history. When I cut one open, the gold was boiled off the
> grid.

The idea that the 3CX800A7 grid structure could be elevated to over 2000 degrees F by 150mA of grid current is not logical. 150mA times the voltage present is simply not going to make enough power to bring the grid up to gold-boiling temperature, .Tom. Did you ever wonder why the grid itself did not show indications of exposure to high temperature? The most likely answer is that the surface of the gold plating was heated and the underlying metal was not. This is what Eimac told me.

Have you ever heard of skin-effect? Do you realize how hot 2000 degrees is? At such temperatures, things don't just turn red, they glow bright yellow. Some ceramic glazes are fired at 2000 degrees. I once put some stainless steel wire through the peep hole in my ceramics kiln to see what would happen. It disintegrated.

Stephan's Law says the amount of energy required to increase the temperature of a radiating object is T^4. It might be fun to measure the mass of a 3CX800A7 grid, and calculate how much power would be needed to raise that mass to 2000 degrees.
---
e-mail copy to Mr. Rauch

--
--Rich--
ag6k, 805.386.3734

2428. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <3278d075.12600893@news.lin.foa.se>
Source record: 101212

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

Aha
Interesting to know! I have usede the 3M PP2500 especially for copiers
and did not realise there was a special for lasers! If I take a
"clear" PP2500 and put that on a P20 PCB and expose in UV-light I
clearly can see where the film has been located after a thorough
developement.

Would be very nice to hear form someone that tried to use ink-jet and
clear transparencies. (Might try it myselfe if have the spare time)
Must see if I can locate this special transparencies for lasers too.

Have tried a color-copier but with even worse result!

There must be an easy way!
Please tell us your experience....
73 Lasse SM5GLC
>
>I use the Avery brand laser transparencies. These are different
>from the transparencies sold for copiers and seem to work better.
>I'm told copiers are hotter, and require a different transparency
>material. If you use copier transparencies in a laser printer,
>you don't get as good a fusion of toner to the transparency.
>
>I friend of mine just showed me a transparency he did on an Epson
>Stylus inkjet printer. Looked really good. This may be a better
>way to go. Note, inkjets need a special transparency material
>or the ink will smear like crazy. The side the ink goes on has
>a slightly rough feel.
>
>I hope this doesn't need to be said, but of course you need to
>print the transparency with a mirror image of the layout and
>expose with the ink side toward the board. Otherwise you'll
>get undercutting of the resist.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

2429. Homebrew satellite data radio plans wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Dave_Covert@msn.com
Message-ID: <00001fee+00001d62@msn.com>
Source record: 101213

I would like to work the microsats but do not wish to spend $2000 for
a FT-736.

So, I am looking for plans for a 2m xmitter and a 70cm rcvr pair that are
both microprocessor controlled (for auto dopler compensation) and capable of
9600bd FSK FM (mode JD). I don't care about front panel display or anything.
Kind of a 'microsat data brick'.

Anyone ever seen anything like that?

How about just a PLL controlled pair that I could add a BASIC Stamp
to for uP control.

Dave Covert, KB5GOG

2430. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55b1hb$du2@newsbf02.news.aol.com>
Source record: 101214

Hi Rich,

It's fun to do lot's of things, but better to look at facts.

In article <measures-ya023180003110960335460001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

>The idea that the 3CX800A7 grid structure could be elevated to over 2000
>degrees F by 150mA of grid current is not logical. 150mA times the
voltage
>present is simply not going to make enough power to bring the grid up to
>gold-boiling temperature

The grid meter does read the true effective current, but the voltage is
not indictated except by direct measurement of the average cathode to
anode voltage over the portion of the cycle when the cathode is negative
compared to the grid.

In a grounded grid amplifier, with the anode mistuned, negative feedback
is removed and both the duty cycle of the grid and grid to cathode voltage
(and hence current) increases.

It's very easy to exceed the thermal limitations of the grid in the
3CX800, since the dissipation rating is only a few watts. If you like, we
can calculate the temperature rise of the grid and prove this, although
Eimac has already done this as part of the specs and gives it to us as
allowable grid dissipation.

At 150 mA of grid current in a typical HF PA, a single 3CX800 has a
measured grid dissipation of almost 20 watts. That's almost 5 times the
maximum rated dissipation of the grid.

I find it remarkable that you expect no damage from this severe an
overload, since even a rugged and thermally massive high temperature anode
located a large distance from the hot cathode wouldn't survive operation
at five times the rated dissipation for more than a few seconds (with an
internal anode tube) or minutes (with an external anode tube).

Heat caused by grid dissipation is concentrated in the very fine grid
mesh. This mesh has almost no thermal mass, it is designed to be as open
as possible so it doesn't block the cathode to anode path, except by it's
electric field.

Heat is only conducted from the grid via the path through that very low
mass mesh, or via radiation effects.

It's no surprise the plating disappears first, because normal
deterioration of materials, especially materials that are quickly heated,

occurs from the outer layers first.
Gold has a melting point of 1063 degrees C, and the base material used in the grid structure has a melting point between 2600 and 3400 degrees C (depending on the alloy).

I find it difficult to understand why you insist RF skin effect has something to do with the Gold deterioration, when the outside of the grid (where the Gold is) gets heated first, heated most, has by far the lowest melting and boiling point of any material used in the tube.

If that isn't enough, the underlying base material has lower thermal conductivity, reducing the thermal rise of the inner material. Since the Gold is directly heated, and thermal conductivity is lower in the underlying structure, the Gold quite obviously gets hotter and is damaged far faster than anything else for this reason alone.

I wonder how you justify your theory that only a UHF signal could damage the Gold, in light of well documented facts like melting points, thermal conductivity, and heat conduction?

It's only natural the grid is going to show Gold damage if overdriven from any cause.

73 Tom

2431. Help -> Motorola MT700

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: richard@rac.pass.theplanet.co.uk
Message-ID: <846790529.29332.0@d16.modem.planet.internet.co.uk>
Source record: 101215
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi,

I wonder if anyone has (or knows where i can get hold of)
technical information for a Motorola MT700 FM handi.

I've got one of these units at present, it cost me a couple
of pounds at a local car boot sale, it seems to be working fine.
TX is 461.625 / RX is 456.125 with a 110.9Hz tone squelch unit.

I'm interested in converting it down onto my local 70cms repeater
freq. (433.325) and would be grateful if anyone can give me
some info.

Cheers,
Richard

2432. Icom 706 Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: daveu@i-2000.com
Message-ID: <327b3313.6322480@News.i-2000.com>
Source record: 101216

Hello,

Does somebody has some software specialy for the Icom 706. I'm looking
for it and tried several places but couldn't find something.
Would be nice to help me out.

73 de Dave N2XMF

2433. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@TECLink.net>
Message-ID: <3278E74A.7E32@TECLink.net>
Source record: 101217

>>>While many of Measures' suggestions are harmless, some are not. Some
>suggestions will put the user in harm's way, or cause equipment damage.
>I'd hate to see someone ruin a $500 tube, or worse yet hurt themselves,
>following poor advice.
>
>73, Tom<<

OK, Tom. Like the old E F Hutton commercials.....you've got us all
listening....<g> Please give us the details!

73

Tom KJ5IE

2434. power zener

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: johnf <johnf@cyberramp.net>
Message-ID: <32796712.7723@cyberramp.net>
Source record: 101218

http://www.why.net/home/3051

2435. Re: Recieving tubes for transmitting?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <55b69q$i2o@sf18.dseg.ti.com>
Source record: 101219
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

In article <3274D455.3263@speckle.ncsl.nist.gov>, morgan@speckle.ncsl.nist.gov says...
>
> Compactrons CAN be very useful: they are fairly cheap, are the final\
> stage in the development of vacuum tubes, and can do a LOT in one envelope.
> Sockets are available from AES and other places.

I have a compactron in use right now in a transmitter! I'm using a 6T9 in a classic 80/40m circuit taken from the 1968 edition of ARRL's How To Be A Radio Amateur. I believe this circuit also appeared in the 1972 Handbook. It runs 4 Watts output on 80m and 40m CW, crystal controlled (of course!). This is the second variation of this circuit that I've built, and it works really well. The 6T9 is a triode/pentode pair in one envelope. I'm using the triode as the oscillator and the pentode as the PA. It's a two-stage transmitter, but with only one filament to feed, and only one tube socket to install and wire up. Give the Compactrons a try!

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

2436. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180003110960903440001@news.west.net>
Source record: 101220

In article <559hui$241@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <measures-ya023180003010961006480001@news.west.net>,
> measures@mail.vcnet.com (R.L. Measures) writes:
>
> >Accusations without a foundation are spurious emissions, Tom. I would
> >like to hear the details about ruining $500 tubes, and details about
> >equipment damage.
>
> I can give a few specific examples, but I'm sure this would quickly turn
> from a technical discussion to personal "bashings".
snip...
ï¿½ï¿½ï¿½ï¿½Try me. ï¿½ï¿½

> > If they exist, as is the case in the 922, include the tune
> >capacitor-fixed padder contacts for 80m and 160m.
>
> I find it even more difficult to believe the padding capacitors for 160
> will arc from VHF signals. Tell me the value of those caps, and let's run
> some numbers to see how plausible that postulation really is.

Tom: The term "capacitor-fixed" should have been "fixed-capacitor".
Sorry for the typo. It should have read:

>>With virtually no load, the vhf energy
>>runs amok in the front end of the HF tank circuit, typiclly resulting in
>>arcing at the tune capacitor, and/or the 10m and 15m contacts on the
>>bandswitch. If they exist, as is the case in the 922, include the tune
>>fixed-capacitor padder contacts for 80m and 160m.

Question: Am I talking about arcing the fixed-capacitors or arcing the
contacts?
---
e-mail copy to Mr. Rauch

--
--Rich--
ag6k, 805.386.3734

2437. Re: Etch-Resist Transfer film

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Lyle Koehler <k0lr@emily.net>
Message-ID: <32794076.40DE@emily.net>
Source record: 101221

You can buy a product called TEC-200 film from:

Meadowlake Corp.
P.O. Box 1555
Oneco, FL 34264

The stuff comes in 8.5 by 11 inch sheets. 5 sheets cost $4.95 plus $1.75 postage; 10 sheets for $6.95 plus $2.00 postage; 25 sheets for $16.00 plus $3.00 postage, etc. I just got some and have tried it once. It's not perfect, but is a lot less messy than ironing on from a paper copy and dissolving away the paper in Chlorox solution. With practice it might be possible to turn out some pretty nice PC boards.

Lyle

k0lr@emily.net

2438. Re: Aerial tuner circuit for FM requested

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <3279974A.50C1@wenzel.com>
Source record: 101222

There is a hobbyist FM preamplifier in our technical library at
www.wenzel.com. I don't think you need an antenna tuner as much as you need a
directional antenna. Consider a roof-mounted Yagi FM antenna with a rotator!

nobody@massey.ac.nz wrote:
>
> I am looking perhaps in the wrong place for suggestions on how to build an
> external aerial tuner circuit that would help pull in distant broadcast FM
> stations.
>
> If this is not the best group to send this request to then my apologies, I
> look forward to your suggestions.
>
> Bruce

2439. Can a Panadaptor be modified?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Richard Valentine <tde@ntplx.net>
Message-ID: <32797E76.1DDB@ntplx.net>
Source record: 101223

Can anyone offer a way to modify a 455Kc IF Panadaptor to work with an FT-1000? The FT's IF output is 73.62 MHz. I'd be willing to pay for a conversion. -- N1SQJ

2440. Greetings Fellow 4-1000 HF Amp builders,

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: cvictor@hooked.net
Message-ID: <559clg$g8c_003@news.hooked.net>
Source record: 101224

Greetings Fellow HF Amp builders,

Many years ago I have seen designs with for a 4-1000 amp with a Zener diode (50 Watt) in the center tap of the fil xfmr to ground.

Is this to provide a good biasing scheme for SSB operation?? or just a easy way to cut-off the tube during no xmt modes and in xmt modes w/no modulation?

Many thanks for any/all responses.

de Chris WA6SUY

2441. Re: Removing an Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Mike <mikes@fishnet.net>
Message-ID: <3279A9B1.57A8@fishnet.net>
Source record: 101225

Hello Jon, I once removed a cell phone antenna which was attached the same way. I used acetone being very careful with the run off. Use a very thin piece of sheet metal to help get "under" the adhesive pad
Good luck
73 Mike K6YPB

2442. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Jeff Andle <andle@biode.com>
Message-ID: <01bbc736$370f6da0$313075cc@enterprise>
Source record: 101226
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.swap,rec.radio.amateur.homebrew

Winfield Hill <hill@rowland.org> wrote in article
<5597at$lpg@news-central.tiac.net>...
> J M Woodgate, <jmwa@thenet.co.uk> said...
> >
> >The maximum gain you can get depends on what circuit configurations you
> >allow. If you allow positive feedback, the answer is 'infinite'. Then
again,
> >how many 'non-ideal' properties will you take into account? Finite
output
> >resistance is easily allowed for, then comes internal c-b feedback
> >resistance, then capacitances.
>
> I'd guess anything goes, if it involves just simple R C and real
(bipolar)
> transistors. And, I'd imagine it rules out oscillators. Now, controlled

> positive feedback: Hmmmm. Is there a one-transistor (no transformer)
circuit
> configuration for this?
>
does a superregenerative receiver count? I forget if it has a transformer
or not, but that is a circuit that doesn't oscillate without an input
signal,
yet provides tremendous output signal - to input signal ratio.

> --
> Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
> The Rowland Institute for Science _/ _/ _/_/ _/
> Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
> _/ _/ _/ _/ _/
> http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/
>

--
Jeff Andle <andle@biode.com>
"To each according to his ability, From each accordint to his needs."
- Ayn Rand's rebuttal to Karl Marx

2443. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <32789470.28494399@eskinews.eskimo.com>
Source record: 101227
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Charles Wenzel <wenzel@wenzel.com> wrote:

>bbaka@syix.com wrote:
>
><<much clipped>>
>>
>> Actually, you can get a gain of 100,000, not that it will be good for much. No
>> emitter resistor and a 1 meg collector resistor. As soon as you pass the
>> Base-Emitter thresh hold the 1 meg will saturate. Useless, but a demonstration.
>
>Where did you get those 3000 volt transistors? If the circuit is biased to get 5
>volts across the 1 meg. the gain will be near 200. And the circuit IS useful for
>driving a crystal earphone from a crystal radio source. The gain really doesn't go
>up with the collector resistance as you suggest.
^^^

guarantee!

73, Bill W7LZP
wrt@eskimo.com

2444. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: kirkland <kirkland@nortel.ca>
Message-ID: <3278C0CA.60B0@nortel.ca>
Source record: 101228

I have heard of people using Vellum (i.e. translucent drafting paper,
it feels kind of like a plastic).

I have also heard of/and tried using several transparencies one
of top of each other to get the necessary darkness.

One thing to remember is that just because you can see through the
transparency doesn't mean that the UV rays will pass through it very
well.

Also make sure that the toner side of the image is face down on the
resist.

You can also take your art work to a print shop and have them make
a line print (a high contrast black and white print). You might be
able to do this yourself by exposing your transparency onto ortholithic
film (Kodak makes this - available at a good Black and White
camera/print shop). Ortholithic film is a high contrast black and white
film - this may help compensate for the low contrast transparency.
You will need the special developer that goes with the film. The film
is easy to work with as it is safe to use under the standard
yellow/orange B&W safelight.

Bill Kirkland
VE3JHU

2445. Insides of HF tuner MJF-941 or similar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Kenneth Carrigan <rbwash@ix.netcom.com>
Message-ID: <01bbc751$f89037a0$b16a60cf@wizzard>
Source record: 101229

Doing some plasma experiments with 28 MHz ISM band
and would like to know what components are needed
to match 50ohm linear to plasma unit. Would an MRF-941
unit do it? Is this just a T network with one adjustable
inductor (coil) and two caps?

What is the tuning impedance range at the antenna port
with a 50 ohm signal input? .1 to 1000 ohms?

Thanks Ken

2446. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: UN93B <UN93B@ford.com>
Message-ID: <32798A76.73BC@ford.com>
Source record: 101230

this is a test

2447. Homebrew:'Sprat' 80M xcvr data?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: CBS5LD@leeds.ac.uk
Message-ID: <55aag8$f48_001@leeds.ac.uk>
Source record: 101231

I'm looking for the schematics / design details for the G-QRP club's Sprat xcvr. I've got most of the schematics but I don't know how to connect some of the KANK coils (which pins) and it is not mentioned in the article. The thing is based on a MC3362 and I need the tank circuit details for running the vco at 8MHz, as well as the preselector KANK info. TIA

73 de Laurens

2448. Re: Newbie needs info!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-10-31 00:00:00 UTC
From: Madjid VE2GMI <mboukri@cam.org>
Message-ID: <32796C04.2D52@cam.org>
Source record: 101232

Jeremy Craigs wrote:
>
> Could some one send me/point me towards some FAQ's re:radio?
> My main interest is reception at the moment, with transmission
> to come later.
>
> any help would be appreciated.
> au127@freenet.toronto.on.ca
> --
> Jeremy Craigs au127@freenet.toronto.on.ca
> Ask me no questions, I'll tell you no lies.
>
> And now, for something completely different...

Check these pages:

http://www.rac.ca/ Radio amateurs of Canada

http://www.cam.org/~dino/ham.html Dino super super page

Madjid VE2GMI

2449. Help! 10 meter linear amplifier...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: tjohnsto@erols.com
Message-ID: <55c1nj$932@boursy.news.erols.com>
Source record: 101136

Am interested in homebrewing a 10 meter Linear Amplifier...

I have investigated converting a 'CB foot warmer' for 10 meters... but I do not care for the construction style nor the harmonics that these things create....

Does anyone have a GOOD schematic for a 10 meter linear amp in the 200-300 watt PEP range? Mostly plan to use on SSB but AM/CW capability would be nice also. 12 volt operation would also be nice since I travel a lot and would like to run mobile...

I plan to use a old car audo amplifer chasis.... it has an extremely effecient heat sink on it...

Tj (N4UYQ)

2450. 8930 needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <55c25o$m1r@news3.microserve.net>
Source record: 101137

Hello,
Looking for 8930 tetrode in good used condition.
Commercial pull prefered. Will be used on 20 mtr band, so ok
if it's vhf capacity is a little down. Would pay $50 for unit
that still has 1 amp of peak current availible at 2kv with 300
vdc on screen. Will use for ssb so peak amps are important to me.
73 KD3SH

P.S. have lots of good (like new 4X150A) tetrodes for sale.
glass only, no later version ceramic base.

2451. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <3279c1e7.1605842@news.lin.foa.se>
Source record: 101138

I guess I have to try ink-jet printers. Wounder if red is ink is
better than the black?

I use a special UV-light box with 6 tubes and get good results both
with both negative Kodak KPR and positive P20 stuff *IF* the film is
good. Lith-film is of course great but too expensive especially if you
do it on hobby basis

/73 de Lasse SM5GLC
the2x4@aol.com (The2X4) wrote:

>I tried 'em all.
>
>Here is how I do it.
>
>Layout the PCBoard with Harvard Graphics 3.
>Using an HP DeskJet 500C print the layout on a transparency.
>AN HP550C is better because it prints true black.
>Only HP sheets work for me. The Premium kind.
>You now have a very fine detail negative or positive (I use negative).
>The output menus in HG3 gives you many ways to print
> once you get the hang of it.
>Coat (I laminate) the board with the resist.
>Shoot the PCBoard thru the negative for 5 minutes with a PE-2 bulb at 12
>inches..
>Use the proper type (POS - NEG) and develope the board
>Etch as hot as you dare! And agitate.
>
>Note: Laminating the resist to the PCBoard eliminates all that messy
>stuff.
> You get perfect coating at 1.5 mil with the laminate process.
>
> You don't need a $1000 laminater to do it either.
> The Ibico units (at Office Depot) work great. (<$250.00)
>
>I get my chemicals and laminate from Kepro. 1-800-325-3878
>
>Carl

2452. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55cge1$21s@newsbf02.news.aol.com>
Source record: 101139

Hi Dan,

In article <327827B4.1ABC@citrus.infi.net>, DAN <AD4HW@citrus.infi.net>
writes:

>If my ARRL membership depended on the "cheap shot response" that appeared
as
>a result of
>his (Mr. Measures') provacative article in QST, I would no longer be an
ARRL
>member.
>
>Dan - AD4HW

First: If everyone is patient, I'll go over every bit of this point by point in detail, and Rich can speak for himself. No one will learn anything if this becomes a political discussion or an emotional discussion of personalities.

Second: This should be about how circuits really work, and how accurate, reasonable, and logical our views are, not about people or groups. If there are 15 or 20 comments and questions at once in various areas, nothing will be addressed properly.

Finally:

While I appreciate any support (as I'm sure Rich does), I don't need or want a cheering squad turning this into a personality debate. There never has been anything personal at all in this so far as I'm concerned. It's simply a matter of technical accuracy and logical analysis.

The technical facts will ALL become absolutely clear if we are given enough time to work through this, and we all confine ourselves to one area at a time. The proper place for talking about personal opinions is rec.radio.policy.

This system is slow at times, so give me time to respond.

73 Tom

2453. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55cge9$21v@newsbf02.news.aol.com>
Source record: 101140

Hi Jeff,

I've really been wanting to talk openly with Rich about this, so I want to keep that going. Your questions relate to the discussion at the moment, and might help clarify some areas.

I wrote:
>>In any event, resonance in the anode does not guarantee oscillation.
>>The grid must also be resonant at or near the same frequency, and the
>>feedback path loss must be less than the overall gain of the system at
>>the frequency of oscillation.

And Jeff asked:
>Does the grid really need to be resonant too? Certainly, the feedback
>path loss must be less than the overall gain (and proper phase shift
>too), but as long as this second condition is met, is grid resonance
>really required?

The grid only has to have a high enough impedance to allow feedback, but the impedance peaks rapidly near resonance. So the oscillation does not have to be on the resonant frequency of the grid or anode circuit, but it does need to be somewhat near those frequencies. Understand this includes the effects of external leads.

This is why proper PA construction dictates short grid and anode leads to the point of VHF bypassing. This moves the tendency to oscillate higher in frequency, where gain is less. Any stage is easier to stabilize when the desired operating frequency is far removed from the frequency of unwanted feedback.

That's why tubes with short wide internal leads, like the 8877, are almost totally guranteed to not oscillate with any suppression in a good layout, while tubes like the 572B require a suppressor with many turns.

>How is the FCC testing performed? Is it with a nominal load (50 ohms
>resistive)? Or are there a suite of "standard" load impedances, both
>resistive and reactive, that you test with. And do you pick one
>frequency per band for testing? Sweep through? (Unfortunately, my FCC
>books are at work. What are the appropriate regs?)

The FCC is a bit off subject, and the test proceedure isn't specified anyway.

When I test a PA, I unload the input and output. I have a relay controlled line stretcher that I use to rotate the VSWR around on the input, while the output is tuned (with a pi-net output rotating the tune and load through various combinations has the same effect, with solid state I use a

line stretcher there also).

>Part of the reason why I ask is because of the damped transients that
>Mr. Measures claims he saw when testing with pulsed drive, which seem
>to be a sign that something is perhaps on the edge of stability. Under
>different loading conditions, or with a "pulse" of energy (caused by
>harmonics, distortion (creating out-of-band energy), or who knows what)
>at just the wrong frequency, perhaps sustainable oscillations could
>occur.

I think I covered how an oscillator works well enough. If a circuit is on the "edge" of stability, as claimed, then it would be a simple matter to push it over the edge. Anything we do to rasise the impedance of the anode and grid will cause a large change in feedback. I've yet to see a stage anywher close to oscillating that couldn't be made to oscillate steadily.

Let me give an example of unstable amplifiers, the Dentrons with 4- 572B tubes. Under normal loading, they are stable on 15 and ten. If the load or source is removed, and the loading capacitor is closed and the plate capacitor and tank brought to resonance near or above 25 MHz, the PA will oscillate. Yet with pulsed drive into a load, no effect of "damped oscillations" are evident. The PA is operating close to the self-neutralizing frequency of the 572's, yet if the anode is loaded heavily enough ther is no sign of instability.

>It seems as though part of the argument now is over the existance of
>destructive parasitic oscillations. Or, looking at it another way, the
>existance of the following four cases...
snip
>From the above 4, we can toss out the last as false. Now, do parasitic
>oscillations occur and, if so, can they destroy amps?

It's always nice to have one thing we can blame as the cause for every problem that occurs. We like that in life. Of course parasitic oscillations can occur if the PA isn't properly designed, or has a defective component that affects stability.

>Or are amp
>failures caused by other mechanisms. If so, what?

Of course most failures are due to other things. Many tube failures are due to manufacturing or material defects and many to poor operating habits. Poor design can contribute to or cause failures also.

>The claim that the parasitic surpressors (which are designed to stop
>these oscillations) have cured flakey amps (if true), is to me pretty
>compelling evidence that item 1 is true. If there were no parasitic
>oscillations, then how could these surpressors fix the problem?

This is where emotion confilcts with science. Let's assume you found a defective 3-500Z tube, and you assumed a parasitic caused it to fail. The tube is replaced and tricks added to "improve" stability. The PA works again.

How did you know the cure was do to the "improvement", or that the tube just had a material or assembly problem? I could have sold you snake oyl to spread on the chassis, and you'd have come away with the same opinion.

This is the very reason copper bracelets still sell for arthritis, and why people believe in astrology. The effect is emotional, rather than documented fact.

I find it fascinating that people are so unwilling to believe that sometimes tubes simply fail because they have an internal flaw. Especially when, at some times, fully 80% of a batch of tubes might be defective due to a material problem. No one used to think twice about replacing 30% of the low power, low stress tubes in a TV set once every year or two, but suddenly ANY tube failure in a PA is due to one single cause.

Not only that, parasitics are vilified as a cause of every bandswitch, tank capacitor, and choke. Every arc, spark, and even the quiet long term failures are all due to them.

Yet the designs often show no signs of instability during tests of hundreds of units, and blame is laid even though service history of the product often indicates less than one percent have the same failure after years of service.

But let's drop the speculation and move back to how things work and why things fail. With proper discussion of cicuit operation, the true problems will become very evident.
None of this stuff is magic or esoteric, it's all science.

73 Tom

2454. T368 Carbon Mike to D104 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: David Kirkpatrick <davidk@artax.webo.dg.com>
Message-ID: <3279EBD7.167EB0E7@artax.webo.dg.com>
Source record: 101141

Hi,
I want to change over a D104 Mike but I have not got a
complete manual with schematics yet. I am looking for a confirmation
to the pinout I think is right.

H goes to ground on the mike
F gets swithed at the mike to H on engaging the ptt on the D104.
C gets audio out.

The opposite side of the microphone which is connected to C goes
to ground at the mike.

Does this seem right?
davidk@artax.webo.dg.com

2455. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: hill@rowland.org
Message-ID: <55cqbv$1lb@fridge-nf0.shore.net>
Source record: 101142
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Ed Mullins <emullins@ix.netcom.com> said...
>
>In article <557p58$md7@fridge-nf0.shore.net>
>hill@rowland.org (Winfield Hill) wrote:
>>
>> If this thread had serious attendance by semiconductor device engineers
>> (which I am not) we'd see that "Early voltage" would be at the heart of the
>> discussion. Early voltage, VA, or VAF, is very important to the bipolar
>> transistor designer, right along with f_T, beta and base resistance.
>
> I couldn't agree with Mr Hill more completely. I have been waiting for
> someone to mention Va/Vt. I generally do not respond to questions of
> this nature, but felt compelled upon reading Mr. Hill's posting.
>
> As a practical example consider the following which
> will be somewhat specific to a typical Bipolar IC process,
> but can be applied to transistors in general, BJT, MOS JFET.
>
> Bias a Lateral PNP transistor with a vertical NPN current source. Let
> the early voltage for the two devices be 20v and 200v respectively. ...
> ... This leads to the simple yet useful conclusion
> that the maximum voltage gain from a single transistor stage will
> not exceed Va/Vt. For the aforementioned devices that would imply
> 770 for the PNP and 7700 for the NPN. In practice achieving Va/2Vt is
> more typical for an actively loaded, non cascoded common emitter
> stage, as described above. Often times this is aggressive,
> and loading must always be considered.

Yeah! An integrated-circuit designer steps into the fray! Ed, thanks very much, you hit the nail on the head. As you showed, the maximum voltage gain which can be acheived with only one transistor must be just Va/Vt or 39.5 Va (at 20 deg C), no matter what the circuit configuration (short of using a transformer)!!!

It's too bad most of the transistors in popular use by the rest of us come without a Va spec. I notice that the SPICE models of typical transistors have lower Early voltages, say 74V for a 2N2222, see the model at http://howard.engr.siu.edu/elec/faculty/etienne/spice.overview.html#Bipolar

That would imply a maximum gain of only 2900.

Of course, as you mentioned, there's always the cascode circuit to rescue things! And other circuit configurations, such as the classic 741-style opamp. With most of the voltage gain achieved in a single stage (to help insure a

single-pole response), the Va/Vt limit problem was solved by feeding the CE transistor with a current-sourced signal.

--
Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
The Rowland Institute for Science _/ _/ _/_/ _/
Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/

2456. Re: Problems making PCBs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: SM4WDQ
Message-ID: <55c975$9is@Steinlager.tip.net>
Source record: 101143

g4ynm@aol.com (G4YNM) wrote:

>In article <32763f3c.31207011@news.lin.foa.se>, larsm@lin.foa.se (Lars
>Moell) writes:

>>I am etching some PCB's with various results, and the major problem
>>seems to be the plastic film that I use in my copier. To get the
>>"least bad" result here is how I do it:
>>
>>1 Print a papercopy on my laser
>>2 copy to plastic film on a copier, this tends to give better contrast
>>rather than use the plastic film in the laser directly

Call me and ill help you

SM4WDQ June or July in QTC you will find my phone number

2457. Ham-Homebrew Digest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: pgirling@netspace.NET.AU
Message-ID: <199611011506.CAA19641@tornado.netspace.net.au>
Source record: 101144

```
unsubscribe ham-homebrew digest pgirling@netspace.net.au
```

2458. Ham-Homebrew Digest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: pgirling@netspace.NET.AU
Message-ID: <199611011510.CAA19938@tornado.netspace.net.au>
Source record: 101145

```
unsubscribe pgirling@netspace.net.au
```

2459. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55d8oc$9al@newsbf02.news.aol.com>
Source record: 101146

In article <55b1hb$du2@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:

>
>The grid meter does read the true effective current, but the voltage is
>not indictated except by direct measurement of the average cathode to
>anode voltage over the portion of the cycle when the cathode is negative
>compared to the grid.

Woops, grid to CATHODE voltage, not anode. Excuse me.

2460. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0111960833120001@port16.vcnet.com>
Source record: 101147

In article <559413$oik@sjx-ixn7.ix.netcom.com>, jeffa@ix.netcom.com(Jeff Anderson) wrote:

snip...

> Part of the reason why I ask is because of the damped transients that
> Mr. Measures claims he saw when testing with pulsed drive, which seem
> to be a sign that something is perhaps on the edge of stability. ... ...

Even a stable amplifier produces internal, weak, damped wave VHF ringing, Jeff. Here's why:
An L/C resonant circuit is like a bell. Strike a bell with a hammer and it rings, producing a damped wave oscillation. Shock excite an L/C resonant circuit. with a current pulse and it rings, very much like a bell, producing a damped wave oscillation. The magnitude of the ringing-voltage is proportional to the Q of the L/C circuit. Therefore, Q is probably an important consideration when designing an oscillation suppressor/dampening device.

It is not possible to construct an HF amplifier without creating a VHF resonance in the anode circuit. The anode has C. The conductors from the anode to the HF tank circuit have L. The tune capacitor completes the circuit. (The VHF resonant frequency in the anode-circuits of 1500W amplifiers varies from roughly 80MHz. to 150MHz.) Therefore, even a stable amplifier would exhibit damped-wave VHF transients in its VHF-resonant anode circui whenever the DC anode-current suddenly increased or decreased. // To view a diagram showing the VHF resonant circuits in an HF amplifier, see Figure 13 at:
http://www.vcnet.com/measures/

The interesting thing about VHF damped-wave oscillations in the anode circuit is that they can be observed with no drive signal present, merely by switching between receive and transmit modes. When an amplifier is switched from receive to transmit, or from transmit to receive, the DC anode current changes abruptly. A change in DC current is enough to cause ringing, albeit at a lower amplitude than when greater changes in anode current are used. There is no RFI problem because the weak, VHF ringing signal can not pass through the HF tank and reach the antenna. A problem only occurs when the weak ringing signal happens to get amplified, fed back, re-amplified, on and on. Bang! I don't have a clue as to what phase, current, and voltage relationships between the input and output signals are required to cause a full blown parasitic oscillation to take place. Full blown parasitic oscillations typically take place only rarely.

The magnitude of the damped-wave VHF signal is weak. The best way to observe it is to solder a half-watt 51 ohm resistor across the end of some sub-minature coax. Connect the other end of the coax to a spectrum analyzer and have a look. Keep in mind that VHF damped-wave ringing is NOT a VHF parasitic oscillation.

> The claim that the parasitic surpressors (which are designed to stop
> these oscillations) have cured flakey amps (if true), is to me pretty
> compelling evidence that item 1 is true. If there were no parasitic
> oscillations, then how could these surpressors fix the problem?
> False claims? Or perhaps there is a different failure mechanism that
> the surpressors somehow affect in a completely unexpected way?
>
I have never said that lowering the Q of a parasitic suppressor will Stop parasitic oscillations forever. It has been my experience, and the experience of others, that parasitic oscillations are less likely to occur with lower Q suppressors. When lower Q suppressors are combined with suitable glitch-protection diodes and resistors, if perchance a parasite appears, damage is usually limited to cheap diodes and resistors instead of uncheap tubes and meters.

Maybe some of the people who have installed lower Q suppressors should be polled to see what their experiences are?
---
e-mail copy to Mr. Anderson

--
--Rich-- ag6k, 805.386.3734

2461. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0111960858320001@port16.vcnet.com>
Source record: 101148

In article <55b1hb$du2@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> Hi Rich,
>
> It's fun to do lot's of things, but better to look at facts.
>
> In article <measures-ya023180003110960335460001@news.west.net>,
> measures@mail.vcnet.com (R.L. Measures) writes:
>
> >The idea that the 3CX800A7 grid structure could be elevated to over 2000
> >degrees F by 150mA of grid current is not logical. 150mA times the
> voltage
> >present is simply not going to make enough power to bring the grid up to
> >gold-boiling temperature
>
> The grid meter does read the true effective current, but the voltage is
> not indictated except by direct measurement of the average cathode to
> anode voltage over the portion of the cycle when the cathode is negative
> compared to the grid.

I do not agree that anode voltage has anything significant to do with grid
dissipation.

> In a grounded grid amplifier, with the anode mistuned, negative feedback
> is removed and both the duty cycle of the grid and grid to cathode voltage
> (and hence current) increases.

HELLO, TOM. Oscillations occur in amplifiers that have previously been
tuned correctly.

When the anode (tank) is mistuned, negative-feedback is reduced, but not
removed like throwing a switch. However, the negative-feedback is only at
the operating frequency. Are amplifiers oscillating at the operating
frequency? // The problem is that at the VHF ringing frequency of the
anode resonant circuit---it's POSITIVE-FEEDBACK, an essential ingredient
for oscillation. .

--
--Rich-- ag6k, 805.386.3734

2462. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55dbja$ahf@newsbf02.news.aol.com>
Source record: 101149

In article <measures-ya023180003110960903440001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

>Question: Am I talking about arcing the fixed-capacitors or arcing the
>contacts?

Yes, you said the contacts. My mistake.

In any event, the most simple calculation would be the voltage across the shunt C of the plate tuning cap. We could easily calculate the amount of VHF current required to produce that voltage.

Correct me if I'm wrong, but you say a VHF or UHF signal can cause all sorts of current (and hence voltage) to appear across the low reactance of the capacitor, and yet claim the HF signal current, appearing across a much higher reactance, can NOT cause this voltage to appear.

That is a direct conflict with circuit theory. The HF circuit, optimized for gain at HF and with minimal impedance between the source and the capacitor under question, is expected to produce less voltage across a higher reactance than a VHF or UHF signal would across a much lower reactance.

Another conflict with fact is the claim gold can't be damaged by HF signals, but can be damaged by VHF or UHF signals, and this is somehow due to skin effect. Yet the grid is not heated by current flow through the element, it's heated by the kinetic energy of electrons smacking the outer layer of metal, the gold.

To support that claim, the high boiling point of gold is mentioned and an implication made the gold is hard to damage. Yet gold is a soft metal with a low melting point, especially when compared to the tungsten grid base material with three times gold's melting point.

Even if parasitics of the violent nature described by you could occur (which I highly doubt) this theory has two insurmountable flaws:

1.) RF is not even required to damage the outer layer first. Even dc heats the skin only since the heating effect is almost entirely from kinetic energy of electrons smashing into the grid, not I^2 R losses in the grid.

2.) Gold melts at a much lower temperature than tungsten. Even if the grid was heated evenly the gold would be damaged long before the tungsten grid showed damage.

This brings me to the point out the first harmful suggestion in your articles. You suggest the user remove electronic grid protection circuits and replace them with resistors or fuses, and claim mistuning or excessive

drive can not hurt the grid. Another claim is adding nichrome will cure grid damage.

Yet the facts indicate both excessive drive and improper tuning can cause damaging grid dissipation. Any excess grid dissipation **always** damages the gold first.

Removing an electronic grid protection circuit, as you suggested, and replacing it with someting as unreliable and slow as a fuse..or worse yet your suggestion of using a resistor, will almost guarantee eventual grid damage from over dissipation in tubes like the 8877, 3CX800A7, and so on. This is the first of several modifications that actually increase the likelyhood of tube or related component damage.

All focused beam metal oxide cathode grounded grid tubes require fast **electronic** grid overload protection. Any suggestion such circuits be removed, or manufacturer NOT including electronic grid protection, is doing so contrary to good engineering, simple facts, and common sense.

Unless the goal is to ruin expensive tubes.

73 Tom

2463. Announce: RF version 1.1 available (includes limited license facility for evaluation)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Jon Jenkins <academic@onthenet.com.au>
Message-ID: <55dk9h$n3c@fjholden.OntheNet.com.au>
Source record: 101150
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space

```
If you are not a registered RF user or are not interested in
radio or micorwave circuit design then hit delete now.

This news item announces that a new version of RF (1.1) is available.

The upgrade is available either via ftp:

ftp.onthenet.com.au /pub/academic/

or via WWW ftp:
ftp://ftp.onthenet.com.au/pub/academic

or simply via the WWW
http://www.onthenet.com.au/~academic

The update is free to all existing RF users although you will
have to contact Academic for a new serial number. The encrypt
key to decode the ftp'able zip file pdisk1.zip is the same as
for V1.0.

Also available now to interested parties are time limited
licenses which allow you to use RF's full facilities for a
limited time. Please contact us if you would like to try
RF.

The update is an interim update to add some requested features
and fix some bugs. A major upgrade (1.2) containing many new
features will be available in about four months.

If you have any questions please contact academic@onthenet.com.au

------------------------------------------------------------
Name: Academic Technologies Bongaree Rd,
Voice/Fax: 61-7-55-905-008 Terranora,
Inet: academic@onthenet.com.au NSW, AUSTRALIA 2486
Web: http://www.onthenet.com.au/~academic
My 3 year old son: "Daddy, why did God put the dinosaurs here first ?"
My 6 year old daughter: "To make it interesting for us!"...think about it
!!
------------------------------------------------------------
```

2464. PWM AM and SSB Linear amp questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <55dki5$d9u@opera.iinet.net.au>
Source record: 101151

Greetings from Oz

Has anyone any experience of AM transmitters using PWM of a solid state power amp? I understand that most broadcast AM transmitters use this technique nowadays. I intend to do this using a power FET switching the collector/drain volts of the RF amplifier. Are there any special problems with this approach? The PWM would work at about 100 KHz so obviously a LPF would be necessary in the supply line following the switching FET. Ultimately the idea is to apply this to a linear SSB amp. The low level signal is limited and applied to the final amp in class C while the amplitude info is "stripped off" and modulates the final as above. No doubt this has been done before - does anyone have info re best circuits and the sort of performance (efficiency/IMD) that could be expected?
Thanks in advance

Richard Hosking
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

2465. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: hill@rowland.org
Message-ID: <55dul4$2mj@fridge-nf0.shore.net>
Source record: 101152
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.swap,rec.radio.amateur.homebrew

Jeff Andle at andle@biode.com says...
>
>Winfield Hill <hill@rowland.org> wrote

>> J M Woodgate, <jmwa@thenet.co.uk> said...
>>>
>>>he maximum gain you can get depends on what circuit configurations
>>> you allow. If you allow positive feedback, the answer is 'infinite'.

>> ... controlled positive feedback: Hmmmm. Is there a one-transistor
>> (no transformer) circuit configuration for this?
>>
> does a superregenerative receiver count? ...
> ... provides tremendous output signal - to input signal ratio.

Yes I'd say it counts. That's good. Sort of a very-high gain tuned
amplifier! But now we see, thanks to Ed Mullin's postings, that the
ultimate limit is surely going to be set by the transistor's output
resistance, r_o which is characterised by IC designers with the Early
voltage paramter, Va.

--
Winfield Hill hill@rowland.org
Rowland Institute for Science
Cambridge, MA 02142

2466. Re: your LISTSERV request "help -> motorola mt700"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Listserv@ucsd
Message-ID: <199611010745.XAA22429@mail.ucsd.edu>
Source record: 101153

```
The mailing list "->" could not be found.
You may use the INDEX command to get a listing
of available mailing lists.
```

2467. Wanted: MC145170 designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Dave_Covert@msn.com
Message-ID: <00001fee+00001d70@msn.com>
Source record: 101154

I am looking for a 2m xmitter implementation of the MC145170.

The MC145170 is a PLL frequency synth that also has a serial interface for interfacing with a MCU. The MC145170-1 version will go up to 185MHz.

Anyone have anything using the MC145170?

Dave Covert, KB5GOG

2468. Re: Wanted: MC145170 designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: stevem@best.com
Message-ID: <55e2tr$qc2@shellx.best.com>
Source record: 101155

In article <00001fee+00001d70@msn.com>,
David Covert <Dave_Covert@msn.com> wrote:
>
>I am looking for a 2m xmitter implementation of the MC145170.
>
>The MC145170 is a PLL frequency synth that also has a serial
>interface for interfacing with a MCU. The MC145170-1 version
>will go up to 185MHz.
>
>Anyone have anything using the MC145170?
>
>Dave Covert, KB5GOG

The Motorola web page has both data sheets and app notes with
enough info to roll your own. Mini-Circuits makes a VCO that
would probably perform well as the companion oscillator.

Steve M.
WF6R

2469. FS: 7586, 7587 and 7895 nuvistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Robijanto Soetedjo <robi@u.washington.edu>
Message-ID: <Pine.OSF.3.95.961101160406.2366C-100000@saul5.u.washington.edu>
Source record: 101156

Hi,

I have a couple of new nuvistors:

QTY. Description

5 7586 RCA Made in USA, New in RCA individual boxes and they are in a
box-of-five package.

2 7587 RCA Made in USA, New in boxes.

2 7895 RCA Made in USA, New in boxes.

I inherited them and don't know what they are for. I'm not an EE.
I hope I post them in a right group. I did search for nuvistor and 7586
and found a couple newsgroups, inc. this one.
I know their new and used price (Newark and newsgroups info).
I'm selling them as is.

Please make a reasonable offer for all of them.

thanks,

robi@u.washington.edu

2470. Vibroplex web page up...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: "Mitch, WA4OSR" <fmitch@vibroplex.com>
Message-ID: <327A9C39.6632FF49@vibroplex.com>
Source record: 101157
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

The Vibroplex web page is now up at-
http://www.vibroplex.com

check it out, and give me your feedback...

thanks,
mitch
--
-------- * * * VIBROPLEX - The oldest name in ham radio! * * ---------
Felton "Mitch" Mitchell, WA4OSR The Vibroplex Co., Inc.
fmitch@viborplex.com 11 Midtown Park, E.
334-478-8873, FAX 334-476-0465 Mobile, AL 36606-4141

2471. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <327AE489.5AB2@wenzel.com>
Source record: 101158
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Bill Turner wrote:
>
> Charles Wenzel <wenzel@wenzel.com> wrote:<clip>
>The gain really doesn't go
>up with the collector resistance as you suggest.

> ----------
> Yes, it does. If you want to make a truly awesome-gain single stage
> amplifier, instead of a resistor in the collector, use another transistor as a
> current source, which acts essentially as an infinitely high value resistor.<much clipped>

No it doesn't! The current source transistor provides a high impedance AND alot of DC current. The Thevenin equivalent of this source is a high value resistor driven by a VERY high voltage. The voltage is what gives you the voltage gain. Really!

The current in the emitter diode is about Vin x Ic /.025. The voltage out is this qty. times Rout. The gain is Vout/Vin which is Ic x Rout/ .025. And note that Ic x Rout is the voltage across the load resistor. When you fiddle with Rout you change the voltage across it or the collector current. You are cheating when you add another transistor which gives lots of DC current AND a high Z as explained above. The gain is "about" 39 times the voltage or "equivalent" voltage across the collector resistor up to gains of many thousands.

2472. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <327AE563.5639@wenzel.com>
Source record: 101159
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Winfield Hill wrote:
<<clip>>
> Of course, as you mentioned, there's always the cascode circuit to rescue
> things! And other circuit configurations, such as the classic 741-style opamp.
> With most of the voltage gain achieved in a single stage (to help insure a
> single-pole response), the Va/Vt limit problem was solved by feeding the CE
> transistor with a current-sourced signal.
>

Here is where I step in it! Does the current source get around the Va/Vt limit or simply give a Thevenin equivilant with a high voltage and large resistance (and thus more gain)? I hope the latter since I just posted that theory elsewhere!

2473. Re: What is the maximum gain that you can get out of a transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <327AE6AA.4D82@wenzel.com>
Source record: 101160
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.swap,rec.radio.amateur.homebrew

Winfield Hill wrote:
>
> Jeff Andle at andle@biode.com says...
> >
> >Winfield Hill <hill@rowland.org> wrote
>
> >> J M Woodgate, <jmwa@thenet.co.uk> said...
> >>>
> >>>he maximum gain you can get depends on what circuit configurations
> >>> you allow. If you allow positive feedback, the answer is 'infinite'.
>
> >> ... controlled positive feedback: Hmmmm. Is there a one-transistor
> >> (no transformer) circuit configuration for this?
> >>
> > does a superregenerative receiver count? ...
> > ... provides tremendous output signal - to input signal ratio.
>
> Yes I'd say it counts. That's good. Sort of a very-high gain tuned
> amplifier! But now we see, thanks to Ed Mullin's postings, that the
> ultimate limit is surely going to be set by the transistor's output
> resistance, r_o which is characterised by IC designers with the Early
> voltage paramter, Va.
>
> --
> Winfield Hill hill@rowland.org
> Rowland Institute for Science
> Cambridge, MA 02142

Superregens do oscillate. The break into brief oscillations at a "quench" frequency, usually above audio. The input signal modifies the rate of this oscillation (or its duration in external quench types) and hence the amount of power consumed by the circuit. Perhaps regen receivers?

2474. Kenwood TH-28a mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Vince Curtis <stopahmanson@loop.com>
Message-ID: <327AE1C0.4C79@loop.com>
Source record: 101161

Does anyone have info about modifying this unit ? Please help. Thanks-
Vince

2475. Phase modulation / demodulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: conrad@eng.um.EDU.mt
Message-ID: <199611020804.JAA14532@neil.eng.um.edu.mt>
Source record: 101162

I would like to build a phase modulator / demodulator... and relevant links
on the net or books which I can refer to ???

Thanks

2476. ICOM IC706 Any modifications known?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: info@success.u-net.com
Message-ID: <55dvsp$idg@nuntius.u-net.net>
Source record: 101163

please reply via email as I can only get to view these newsgroups once every two weeks or so and I might miss a follow up.

Thanks

Ron Lindon, c/o
info@success.u-net.com

2477. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: meric@feynman.arc.nasa.gov
Message-ID: <meric-0111961439430001@meric.arc.nasa.gov>
Source record: 101164
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

In article <32789470.28494399@eskinews.eskimo.com>, wrt@eskimo.com (Bill Turner) wrote:

> ----------
> Yes, it does. If you want to make a truly awesome-gain single stage

No, it does not. See below.

> If you think about what's happening when you vary the input to the base, for a
> given input (either voltage or current), you get an equivalent change in the
> collector current. For whatever that change in collector current is, the
> larger the collector load resistor, the larger the voltage impressed across
> it, and therefore the larger the voltage output. The reason this works like
> it does is that for a bipolar transistor, the collector current is esentially
> independent of the collector voltage, within reason of course. There has to
> be SOME collector voltage present. What this means is that for example if the
> collector current varies by 1 milliamp and the load resistor is 1000 ohms, the
> voltage across the 1000 ohm resistor will vary by 1 volt. Likewise, if the
> resistor is 10,000 ohms, the voltage will vary by 10 volts, and so on. All
....
> 73, Bill W7LZP
> wrt@eskimo.com

What you are missing is this: Suppose your supply
voltage is Vcc, and you biased the collector at Vcc/2.
So DC collector current is then Ic=Vcc/2Rc where Rc is the
collector resistor.

Now small signal transconductance, gm of the transistor is:
gm=q Ic/kT, so if the voltage applied to base is v1, the change
in the collector current is :

ic= gm v1

and

collector voltage vc :

vc= - Rc ic or if you combine all the eqs. above

vc= -Rc q Ic/kT v1

now if you replace Ic with Vcc/2Rc, the output voltage becomes
independent of Rc!

vc=-q Vcc/2kT v1, or the gain is: -q Vcc/2kT! no collector
resistor dependence...

Meric
meric@feynman.arc.nasa.gov

2478. Quadrifilar antenna article help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: n2ucn@router.n2ucn.ampr.ORG
Message-ID: <1991@router.n2ucn.ampr.org>
Source record: 101233

Hi everyone. I saw a construction article for a quadrifilar antenna
in some magazine in the recent past. I think it was QST.

Can someone help me with the name and issue of the magazine?
Thanks

Chuck Curtis

amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

2479. Aerial tuner circuit for FM requested

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: nobody@massey.ac.nz
Message-ID: <55bqjf$dha@cc-server9.massey.ac.nz>
Source record: 101234

I am looking perhaps in the wrong place for suggestions on how to build an external aerial tuner circuit that would help pull in distant broadcast FM stations.

If this is not the best group to send this request to then my apologies, I look forward to your suggestions.

Bruce

2480. $$ FAST CASH $$

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-01 00:00:00 UTC
From: Obelisk965 <Obelisk965@aol.com>
Message-ID: <01bbc80b$ac7a1ce0$5ae331cf@johnboy.net-link.net>
Source record: 101235
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap,rec.radio.broadcast

THIS IS THE FAIREST MOST HONEST WAY I KNOW TO

SHARE THE WEALTH! Hi there!

Question: would you like to make thousands of dollars,

quick, legally, with NO CATCH? If Yes, then keep reading. Please

take five minutes to read this article. It will change your life, just

like it did mine. If you're not interested, I apologize for wasting your

time.

It's true! You can make up to or over $50,000 dollars in 4-6

weeks, maybe sooner! I SWEAR I'M NOT LYING TO YOU, AND

THIS IS NOT A SCAM! Interested? Then here we go.

A little while back, I was browsing through these

newsgroups, just like you are now, and came across an article

similar to this one, which said; "You could make thousands of

dollars in weeks with an initial investment of only $5!" So, I thought,

"Yeah, right, must be a scam!"... ...but like most of us I was

curious. So, I kept reading.

It said you send $1 to each of the 5 names and addresses stated in

the article. You then place your own name and address in the

article at the bottom of the list at #5, and post the article in at least

200 newsgroups (there are thousands). No catch, that was it!

So I thought it over, talked to a couple of people about the

whole thing. I figured what have I got to lose except for 5

stamps and $5? So, I tried it.

Well, guess what...within 7 days, I started getting money in

the mail! I was shocked! I figured it would end soon, and didn't

give it another thought. But the money kept coming IN, tripling in size and multiplying by 10-20 times the amount that I got the first week! In my first week I made a total of over $1,000!!!! In the third week, I had over $10,000 dollars, and it's still growing. This is my fourth week (Oct 28) and I've made about $42,000 TOTAL, and the money is still coming in.....

Let me tell you how this works and more importantly, WHY it works. Make sure you print a copy of this article NOW, so you can use the information from it, and begin making money.

The process is very simple, and it consists of 3 EASY steps:

STEP 1: Get 5 pieces of paper and write the following on each sheet of paper..."PLEASE PUT ME ON YOUR MAILING LIST." Fold each piece of paper in half. Take five $1 bills and place ONE in each piece of paper. Then put each piece of paper in to it's own envelope and seal it. You should now have 5 sealed envelopes , EACH containing a piece of paper AND a $1 bill inside the folded paper. Make sure the words ..."PLEASE PUT ME ON YOUR MAILING LIST." are written on each piece paper. By doing that, you are creating a service and it's PERFECTLY LEGAL.

Finally, mail 1 envelope to 1 of the following 5 addresses:

1. S. Shaw, 611 23rd St., Sacramento, CA 95816
2. G.Charters,5809 Hudson St., Vancouver, B.C. Canada V6M 2Z2
3. D.Miller, 26 Aristone Dr., Berlin, NJ 08009
4. B.Peale, 1619 Nth 5th St., Perkasie, PA 18944
5. D.Watson, 2430 W.Territorial Rd., Battle Creek, MI 49015

STEP 2: Now take the #1 name off the list that you see above, move the other 4 names up (5 becoming 4, 4 becoming 3, etc..) and put YOUR NAME as number 5 on the list.

STEP 3: Post your amended article (with you name at #5)
to at least 200 news groups (I think there are close to 18,000 of them). This is easy to do. You can either type out this message (altering any part you deem worthy, EXCEPT the name and addresses) with an ordinary editor or with your web browser's 'To:News' key at the upper left corner of this screen (Netscape Navigator 3.0). After typing this article, save a copy. Any time you want to post this article on a newsgroup, just use a flashy subject and post your saved copy. That's it, easy! Now, post the message to at least 200 DIFFERENT newsgroups. 200 IS THE MINIMUM. The more you post, the more money you will make. You are now in the mail order business and will start receiving your $1 envelopes from various people all over the world within days.

HINT: THE MORE NEWSGROUPS YOU POST TO, THE MORE MONEY YOU WILL MAKE. You may even want to rent a PO Box, eventually because of all the mail. If you wish to stay anonymous, you can come up with a name, such as "manager" or "investor." Please be sure to check that all the addresses on the envelopes are correct.

.

LET ME TELL YOU WHY THIS SYSTEM WORKS!!!

Out of every 200 postings, let's say I ONLY receive 5 replies, which is actually VERY LOW. So I made 5 dollars with my #5. Now then, each person who just sent me $1 makes, say only 200 POSTINGS, now with your name at number 4, WHICH IS A TOTAL OF 1000 POSTINGS, not including yours too. 50 people send you $1 now; that's $50 you just made! Now, then your new 50 agents post 200 each with YOUR NAME AT NUMBER 3, OR 10,000 POSTING (50x200). Average return is 500 at $1 each is $500. They make 200 postings, which is 5,000 returns at $1 each, which

is $5,000 dollars! And finally, 5000 people make 200 postings each with YOUR NAME AT NUMBER 1. YOU NOW GET A RETURN OF $50,000 BEFORE YOUR NAME DROPS OFF THE LIST. AND THAT'S IF EVERYONE MAKES 200 POSTINGS ONLY, AND IF ONLY 5 PERSONS RESPOND!!!!!

When your name is no longer on the list, you just take the latest posting that is appearing in the newsgroups, and SEND OUT ANOTHER $5 TO THE NAMES ON THE LIST, PUTTING YOUR NAME AT 5 AGAIN. And start posting again. The thing to remember is, do you realize that THOUSANDS OF PEOPLE ALL OVER THE WORLD ARE JOINING THE INTERNET AND READING THESE ARTICLES EVERY DAY, JUST LIKE YOU ARE RIGHT NOW!!! So can you afford $5 dollars and see if it really works? I think so....

People have said, "What if the plan is played out and no sends the money?" So what! What are the chances of that happening when there are TONS OF NEW HONEST USERS AND NEW HONEST PEOLE who are joining the Internet and newsgroups everyday and are willing to give it a try?

Estimates are at 20,000 to 50,000 new users, every day, with THOUSANDS of those joining the actual Internet. Remember, play FAIRLY and HONESTLY and this WILL WORK, I PROMISE YOU!!!

Honesty is the key, and the best policy. Make sure you print this article out RIGHT NOW, also, try to keep an eye on the newsgroups to make sure everyone is playing fairly.

REMEMBER, HONESTY IS THE BEST POLICY. YOU DON'T NEED TO CHEAT THE BASIC IDEA TO MAKE MONEY!! GOOD LUCK TO ALL AND PLEASE PLAY FAIRLY AND YOU WILL REAP THE HUGE REWARDS FROM THIS, WHICH IS TONS OF EXTRA CASH!!!

<< By the way, if you try to deceive people by posting the

messages with your name on the list and not sending the money to

the people already on the list, you'd be wasting your time.

I talked to someone who did that and only made $150 dollars, and

that was AFTER seven or eight weeks! He decided to send the 5

$1 bills, and in 4-5 weeks, he had over $10K. >>

THIS IS THE FAIREST AND MOST HONEST WAY I HAVE EVER SEEN TO SHARE THE WEALTH OF THE WORLD WITHOUT COSTING ANYTHING BUT OUR TIME!!

GOOD LUCK!

2481. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <55g2ip$jc6@dfw-ixnews5.ix.netcom.com>
Source record: 101086

I don't understand why no-one hasn't contacted Eimac (Varian) regarding the gold-sputtering issue. Rather than argue the physics back and forth, couldn't this issue be settled, quickly and simply, with a phone-call or two to the experts? Somebody there must have a handle on this problem.

The 8877 is manufactured in Salt Lake City. Their number is 801-972-5000. The San Carlos (California) number is 415-592-9988.

- Jeff, WA6AHL

2482. Re: Aerial tuner circuit for FM requested

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: Mandy Wright <Mandy@the-symposium.demon.co.uk>
Message-ID: <FZqsnqA0+peyEwQx@the-symposium.demon.co.uk>
Source record: 101165

In article <3279974A.50C1@wenzel.com>, Charles Wenzel
<wenzel@wenzel.com> writes
>There is a hobbyist FM preamplifier in our technical library at
>www.wenzel.com. I don't think you need an antenna tuner as much as you need a
>directional antenna. Consider a roof-mounted Yagi FM antenna with a rotator!
>
>nobody@massey.ac.nz wrote:
>>
>> I am looking perhaps in the wrong place for suggestions on how to build an
>> external aerial tuner circuit that would help pull in distant broadcast FM
>> stations.
>>
>> If this is not the best group to send this request to then my apologies, I
>> look forward to your suggestions.
>>
>> Bruce
A roof mounted high gain antenna, with a rotator, low loss feeder to the
receiver. A band tuned (not a broad band) amplifier can be fitted at the
mast head with just enough gain to overcome feeder loss. The noise
figure should be as low as possible, at least as good as the receiver.
This must also have good dynamic range or it will be crossmodulated by
strong local signals.

Hope this helps
Mandy
(Replying on behalf of my husband who hates computers
despite being a practising RF Engineer!)
Sussex
UK

2483. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <55e5id$qa8@nadine.teleport.com>
Source record: 101166
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <32752732.13C7@microdes.com>,
Dave Hand <dhand@microdes.com> wrote:

>An electrical 1/2 of coax is a tried and true method of mesuring
>the SWR at the antenna feed point remotely for exactly that reason.
>Its totally invisible to the remote test gear. If you doubt it try it!

You probably mean "measuring the impedance at the antenna feed point". If used for that purpose, even a small amount of coax loss can make a suprising amount of difference in the measurement. It's particularly bad if the impedance to be measured is very different from the Z0 of the half wavelength cable. Loss will cause the value looking into the line to be skewed toward the Z0 of the cable.

As for SWR measurement, consider an antenna which has exactly a 50 ohm feedpoint resistance and no reactance. Connect it to your rig with a half wavelength of 75 ohm cable, and put an SWR meter at the rig end. A 50 ohm SWR meter will read 1:1. The SWR on the cable is 1.5:1. A 75 ohm SWR meter, if you can find one, will read 1.5:1. (Actually, the meter will read a little less due to inevitable cable loss.)

How about an antenna which has a 75 ohm feedpoint resistance and no reactance, connected to the rig with a 50 ohm cable? A 50 ohm SWR meter at the rig will measure 1.5:1, regardless of the length of the coax. (Again, the actual reading will be a little less due to loss, and will decrease as the coax gets longer because then the loss gets greater.)

Roy Lewallen, W7EL

2484. FS/TRADE: PARTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <327ae551.6686844@fvnews.com>
Source record: 101167

o.k., you want prices..so i'll assign price's to most items, or all
items are 'make reasonable offer'
all are plus shipping.
i'm not hard to deal with....we all like to get something at 'our
price' don't we? take a chance, the
worst i will do is make a counter offer....plus shipping (although,
pickup on heavy items would be
nice, but not a must)
location address & phone number, are in my sig.
****
TRADES:
I am in need of 2 - 32mb 72 pin simms 60 or 70 ns (both the same)
non-edo strips
flatbed color hi res scanner (1200 x 1200 or better)
2 meter allmode base
6 meter allmode base
Capacitance checker digital *must* be able to check air variables
range pf thru mmfd
other trade items considered...email what you have & what you want to
trade for...
**********□
P.S. if you call, and the phone is busy, it means i'm on the computer
(internet) send email
and let me know your trying to call.....(gotta get another line 8-)

I HAVE :

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3,000vrms 34 ohm dcr

$250
electro eng. works reactor High Voltage DC filter choke type 11654-a
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res 4.0kv ins
choke 10HY @ .2ADC $150
UTC AR-409
RCA A.C. VOLTAGE PICK-UP MI-27516 $20
GE model 9T51Y6171, pri. v. 120/240 sec. v. 12/24 kva .250 80
C rise $50
magnetic control # 34321-U coil v. 115, (have 2) $20 ea.
STANDARD ELECT. adjust-o-volt type 520BU, input 230 output 0-270
max kva .81 3a $75

Filiment transformer 12.6v @ 29a $50
Jennings: 1000 pf fixed $75
Jennings: 75 pf vaccumm variable $75
3x3000T1 tube marked: "rebuilt by Econco" (condition unknown) $100
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blower 1.5 hp 3ph cabable of 2.2 @ 120 cfm $150
ceramic standoff's, feedthru's, all sizes and shapes

also have all the tunning coils, all below come with standoff's,
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****only have 1 of each coil****☐

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WITH INTERNAL DRUM

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INTERNAL DRUM ELECTRIC
OPERATED

3> EFJ $50 EDGEWOUND 34 TURNS 8 " DIA. COIL LENGTH 8 3/8"
NO DRUM INSIDE

4> EFJ $50 EDGEWOUND 15 TURNS 5 3/8 DIA. COIL LENGTH 3
1/8"
NO DRUM INSIDE

5> MULTRONICS $50 TUBULAR COIL 3/8"DIA STOCK 4 TURNS 8" DIA
COIL LENGTH 2 7/16"

Magnetic breakers 2 - rated at 70 Amp's each $70 ea
Allen-Hart contactor up to 50A $30
EFJ # 145-101-13 HV contactor (rca # 1K703) $75
6A, 10A, & 30A relays $5, $5, $10
Tubes: Filiments tested good...condition unknown:
3) 4-65A 19) 4-125A/4D21/6155 2) 4-250A (condition
unknown)
RCA Part #'s: 3) 218346 n.o.s. 4) 218347 n.o.s. $5 ea.
have 120 more of above, used, mounted 20 per board, have 6
boards $50 ea board
Resistors $3.00 ea
these have the metal end caps with ceramic in between
Large 1.25" dia. x 11 7/16 L`
4) 500 WL 1) 250 ohm 1) 1600 ohm 1) 8000 ohm
1) 1400 ohm 1) 3100 ohm
Medium size: 1.25" x 7.5"
2) 80,000 ohm 1) 40,000 ohm 3) 31,500 ohm
3/4" x 5 3/16"
2) 5,000 ohm
3/4" x 4.5" 1) 8,000 ohm

1/2" x 3" 1) 6,300 ohm 1) 8,000 ohm
********** *********
****
GLOBAR type A 15,000 ohms
IRC type HOA 25,000 ohm 200W
OHMITE MULHI 250 ohms
IRC type HAA 25,000 ohm
35,000 ohm
5,000 ohm
IRC type 4 1/2 EA 2,500 ohm 65W (2)
IRC type EP 1,000 ohm 50W

****
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1/ 3.5 x 1-7/16
1/ 3 x 1-11/16
1/ 2.25 x 1-5/16
1/ 4-7/8 x 2-1/16
3/ 3.75 x 2
1/ 6-3/8 x 2
1/ 6 x 3 (1)-has slight cracking,epoxy would fix on inside
1/ 6.5 x 4 has inner ceramic form, adjustable sliding tap
1/ 6 x 4 dual sliding taps, w/inner coil that rotates via outside
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RF CHOKE FORMS SMALL RESISTOR STYLE 20 FOR $1.00 +

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2/S-59, 2/S-72, 2/S-72L, 2/S-77, 1/S-78, 1/S-78A, 1/S-80, 2/S-81,
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2/5R50/51/52, 1/5R230/231/232, 1/8R40/40C, 1/TW-25, 1/TW-55/B55,
1/TW500/600,
1/TW1000, 1/CA-2/2A, 2/CA-4, 1/ATCL-9/10/11, 1/ST-74, 1/ST-83,

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==========]-[->
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news group: ham-am@Listserv@ucsd.edu....Body: add ham-am

2485. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <55ejg1$6kt@library.airnews.net>
Source record: 101168
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

w7el@teleport.com (Roy Lewallen) wrote:
>How about an antenna which has a 75 ohm feedpoint resistance and no
>reactance, connected to the rig with a 50 ohm cable? A 50 ohm SWR meter at
>the rig will measure 1.5:1, regardless of the length of the coax.

I think you meant to say, "...connected to the rig with 75 ohm coax."

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2486. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov2.051332.13672@ke4zv.atl.ga.us>
Source record: 101169

In article <55dbja$ahf@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>Even if parasitics of the violent nature described by you could occur
>(which I highly doubt) this theory has two insurmountable flaws:
>
>1.) RF is not even required to damage the outer layer first. Even dc heats
>the skin only since the heating effect is almost entirely from kinetic
>energy of electrons smashing into the grid, not I^2 R losses in the grid.

Ah. What's the electron velocity in the neighborhood of the grid?
As I recall, the grid is located very close to the cathode. The relatively
small grid potential is able to modulate a large electron flow because
that little potential is able to overcome the kinetic energy of the
electrons heading for the anode.

In fact, a potential of about -100 volts seems to completely cancel
the velocity built up due to the anode potential, and cut the tube off.
Thus we're looking at electron kinetic energies in the vicinity of
the grid of less than 100 electron volts are we not? An eV is an
exceedingly tiny amount of kinetic energy.

Now down at the other end of the tube, the electron is really hauling,
and the kinetic impact *is* the major source of heating of the anode.
But down very near the cathode where the grid is located the electrons
are barely getting started accelerating. They're just loafing along.
Kinetic energy is proportional to the square of velocity, and the
electrons just aren't moving that fast right off the cathode. I'm
going to have to see some numbers before I'll buy that kinetic
energy is the primary source for heating the grid.

>2.) Gold melts at a much lower temperature than tungsten. Even if the grid
>was heated evenly the gold would be damaged long before the tungsten grid
>showed damage.

Yeah, but the plating will spall off due to core thermal expansion
long before it can melt. It won't melt and form spherical melt balls
splattered around the innards of the tube if the heating is uniform.
There'll be flakes and ribbons of gold strewn around the tube if the
heating is uniform.

>This brings me to the point out the first harmful suggestion in your
>articles. You suggest the user remove electronic grid protection circuits
>and replace them with resistors or fuses, and claim mistuning or excessive
>drive can not hurt the grid. Another claim is adding nichrome will cure
>grid damage.

Oh, oh, that does sound like bad advice.

>Yet the facts indicate both excessive drive and improper tuning can cause
>damaging grid dissipation. Any excess grid dissipation **always** damages
>the gold first.

I still don't think you've made a case for this. Excess RF dissipation
yes, excess DC dissipation, you'll have to do better if you want to
explain the melt balls.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2487. Re: Importance of coax length on HF A myth?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <55f2ac$cv9@nadine.teleport.com>
Source record: 101170
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <55ejg1$6kt@library.airnews.net>,
jfriley@iadfw.net (J. Fred Riley) wrote:
>w7el@teleport.com (Roy Lewallen) wrote:
>>How about an antenna which has a 75 ohm feedpoint resistance and no
>>reactance, connected to the rig with a 50 ohm cable? A 50 ohm SWR meter
at
>>the rig will measure 1.5:1, regardless of the length of the coax.
>
>I think you meant to say, "...connected to the rig with 75 ohm coax."

Nope. Often as I screw up, I managed to say what I meant this time. But the 50 ohm SWR meter would also read 1.5:1 for any length of cable if the cable were 75 ohms. (Of course the SWR on the cable is 1:1 in this case, not 1.5:1 as it would be if the cable were 50 ohms.)

Roy Lewallen, W7EL

2488. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55f4ie$1md@newsbf02.news.aol.com>
Source record: 101171

In article <measures-0111960858320001@port16.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:
>
>I do not agree that anode voltage has anything significant to do with
grid
>dissipation.

I corrected that, it should hve been grid to cathode voltage

Could you comment on my dissipation figures and the causes of gold damage?

>> In a grounded grid amplifier, with the anode mistuned, negative
feedback
>> is removed and both the duty cycle of the grid and grid to cathode
voltage
>> (and hence current) increases.
>
>HELLO, TOM. Oscillations occur in amplifiers that have previously been
>tuned correctly.

Hello Rich,

You said:
>When the anode (tank) is mistuned, negative-feedback is reduced, but not
>removed like throwing a switch. However, the negative-feedback is only
at
>the operating frequency.

Not at all. It affects the input and anode impedance at every frequency,
at the parasitic frequency and even dc.

I'm not sure if I wasn't clear enough. I sopke of feedback in to separate
contexts, one was when I was discussing grid damage. In that case, if
loading is reduced negative feedback is reduced. Since the input and
output are in series in a grounded grid amplifier, feedback is dependent
on the ratioo of driving impedance to output impedance. In this case,
lighter loading (higher anode impedance) causes grid current and grid
dissipation to increase. This is the primary cause of grid damage in
grounded grid focused beam power grid tube PA's, and the reason for damage
to the gold plating (low temp) of the tungsten grid (high temp). It is a
virtual certainty that improper loading (for higher drive levels) will
cause damage to the grid. Contrary to your claims the effect is kinetic
energy (the collision) from electrons hitting the outer surface of the
grid that causes heating, distributed resistance (and hence skin effect)
has no effect, since the heating is not from I^2 R losses. And contrary to
your claims the gold melts at much lower temperature (three times) than

the tungsten core grid. As I said, Eimac gives a rated grid dissipation based on the effect of electron bombardment, not I^2 R heating of the element.

Let's not mix that issue with this one:

The other case delt with any possible oscillation. If the tube started to oscillate, the anode impedance would decrease. If the oscillation caused grid current to flow, the grid impedance would drop. Feedback (regenerative in this case) would decrease. The path is this:

gnd----Anode Z-----][----grid Z---gnd

A decrease of anode Z (because it controls the source voltage) or grid Z (the load) causes a reduction in feedback, and a limitation of amplitude. So it is impossible for a stage operating below the the limits of self-oscillation, to suddenly break into uncontrolled catastrophic oscillation as you theorize.

>Are amplifiers oscillating at the operating
>frequency?

No, most likely they are not oscillating at all in the real world. They either are unstable at any hour of the day, or they are not. They don't conveniently oscillate just for one quick instant of time just to support theories. Oscillator theory isn't esoteric.

>The problem is that at the VHF ringing frequency of the
>anode resonant circuit---it's POSITIVE-FEEDBACK, an essential ingredient
>for oscillation.

Why do you say ringing is positive feedback? Feedback, by definition, has to include the path from output to input. Ringing isn't any kind of feedback, it's just an effect of resonance.

73 Tom

2489. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0211960255270001@port15.vcnet.com>
Source record: 101172

In article <55dbja$ahf@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <measures-ya023180003110960903440001@news.west.net>,
> measures@mail.vcnet.com (R.L. Measures) writes:
>
> >Question: Am I talking about arcing the fixed-capacitors or arcing the
> >contacts?
>
> Yes, you said the contacts. My mistake.
>
> In any event, the most simple calculation would be the voltage across the
> shunt C of the plate tuning cap. We could easily calculate the amount of
> VHF current required to produce that voltage.
>
> Correct me if I'm wrong, but you say a VHF or UHF signal can cause all
> sorts of current (and hence voltage) to appear across the low reactance of
> the capacitor, and yet claim the HF signal current, appearing across a
> much higher reactance, can NOT cause this voltage to appear.
>
> That is a direct conflict with circuit theory.

Initially, I was also puzzled by the seeming ease with which a VHF
oscillation can arc over a tune capacitor with a much higher HF peak
voltage rating than is required for the amplifier. However, capacitor
plates are arcing/melting too often to ignore. One possible explanation
is that VHF and especially UHF voltage is not like 60Hz voltage. I built
a high power amplifier for 432MHz, and I experienced some UHF arcing.
UHF's ability to arc large gaps was awesome. The sound, smell, and the
purplish-red color of the UHF arc is like something out of this world.

According to aerodynamic theory, a bumblebee can not fly. However,
bumblebees in this neighborhood seem to manage a fairly good imitation.

Here's an AC theory question, Tom. Do think it is possible to take
120V/60Hz and make 10,000V/60Hz with one capacitor and one inductor?
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2490. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0211960334190001@port13.vcnet.com>
Source record: 101173

In article <55f4ie$1md@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <measures-0111960858320001@port16.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
> >
snip...

> >The problem is that at the VHF ringing frequency of the
> >anode resonant circuit---it's POSITIVE-FEEDBACK, an essential ingredient
> >for oscillation.
>
> Why do you say ringing is positive feedback? Feedback, by definition, has
> to include the path from output to input. Ringing isn't any kind of
> feedback, it's just an effect of resonance.
>
Did I say that ringing was a kind of feedback? Did I say that ringing is
positive feedback?

The VHF ringing signal in the anode resonant circuit is fed back to the
cathode input by the anode-to-cathode feedback capacitance of the tube.
The VHF feedback is positive because the HF tuned output and HF tuned
input are not even in the picture at VHF.
---
e-mail copy to Mr. Rauch.

--
--Rich-- ag6k, 805.386.3734

2491. Re: Insides of HF tuner MJF-941 or similar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: John Rabson <word.factory@zetnet.co.uk>
Message-ID: <19961102075439682l3@zetnet.co.uk>
Source record: 101174

In message <01bbc751$f89037a0$b16a60cf@wizzard>
"Kenneth Carrigan" <rbwash@ix.netcom.com> writes:

> Doing some plasma experiments with 28 MHz ISM band

Isn't 28 MHz an amateur-only allocation?

73 de G3PAI

2492. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0211960617270001@port28.vcnet.com>
Source record: 101175

In article <1996Nov2.051332.13672@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> In article <55dbja$ahf@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
> >Even if parasitics of the violent nature described by you could occur
> >(which I highly doubt) this theory has two insurmountable flaws:
> >
> >1.) RF is not even required to damage the outer layer first. Even dc heats
> >the skin only since the heating effect is almost entirely from kinetic
> >energy of electrons smashing into the grid, not I^2 R losses in the grid.
>
> Ah. What's the electron velocity in the neighborhood of the grid?
> As I recall, the grid is located very close to the cathode. The relatively
> small grid potential is able to modulate a large electron flow because
> that little potential is able to overcome the kinetic energy of the
> electrons heading for the anode.
>
> In fact, a potential of about -100 volts seems to completely cancel
> the velocity built up due to the anode potential, and cut the tube off.
> Thus we're looking at electron kinetic energies in the vicinity of
> the grid of less than 100 electron volts are we not? An eV is an
> exceedingly tiny amount of kinetic energy.

> Now down at the other end of the tube, the electron is really hauling,
> and the kinetic impact *is* the major source of heating of the anode.
> But down very near the cathode where the grid is located the electrons
> are barely getting started accelerating. They're just loafing along.
> Kinetic energy is proportional to the square of velocity, and the
> electrons just aren't moving that fast right off the cathode. I'm
> going to have to see some numbers before I'll buy that kinetic
> energy is the primary source for heating the grid.

Good points, Gary. The energy just isn't there from that to boil and evaporate gold. // I was looking at an 8877 grid structure this morning. My best educated guess is that it would take between 500W and 700W to raise the 8877 grid structure to a temperature of 2000 degrees..

> >2.) Gold melts at a much lower temperature than tungsten. Even if the grid
> >was heated evenly the gold would be damaged long before the tungsten grid
> >showed damage.

> Yeah, but the plating will spall off due to core thermal expansion
> long before it can melt. It won't melt and form spherical melt balls
> splattered around the innards of the tube if the heating is uniform.
> There'll be flakes and ribbons of gold strewn around the tube if the

> heating is uniform.
>
> >This brings me to the point out the first harmful suggestion in your
> >articles. You suggest the user remove electronic grid protection circuits
> >and replace them with resistors or fuses, and claim mistuning or excessive
> >drive can not hurt the grid. Another claim is adding nichrome will cure
> >grid damage.
>
> Oh, oh, that does sound like bad advice.

It would be bad advice if electronic "grid protection" circuits were designed to handle the fault currents encountered during a potentially gold-sputtering event.
I get phone calls from people who have gold-sputter damaged amplifier tubes in amplifiers that have electronic "grid protection" circuits. The grid protection circuit shorts out during what I believe was a vhf parasitic oscillation--that simulataneously damaged the tubes.**
During some vhf parasitic oscillations, I know that the peak grid current is sufficient to melt the copper wire in a 1A choke. This feat probably takes a pulse of over 15a. Since most of the electronic "grid protection" circuits use a 1A to 2A output transistor, would transistor shorting seem likely from a 15a pulse? How much current limiting protection do you get from a dead-shorted transistor?
OTOH, a 15a pulse will open a 30 ohm 0.5w carbon-film resistor every time, without fail, stopping the flow of current through the grid. I received a telephone call this morning from a fellow in Reno whose had a blown grid fuse resistor, but whose new tubes were undamaged.

> >Yet the facts indicate both excessive drive and improper tuning can cause
> >damaging grid dissipation. Any excess grid dissipation **always** damages
> >the gold first.
>
> I still don't think you've made a case for this. Excess RF dissipation
> yes, excess DC dissipation, you'll have to do better if you want to
> explain the melt balls.
>
> Gary

I agree, Gary. I don't see how the sound and fury associated with whatever produces the gold melt balls could be caused by by some extra drive to an amplifier that was tuned up 10 minutes or so before the big event.

I have seen gold in the liquid state and it is impressively hot, glowing a bright yellow color. The gold vapour needed to make melt balls would be even hotter.

** The gold-sputtered 8874 that was shown in the photograph in the article "Parasitics Revisited" (QST, Sept./Oct. 1990) was removed from an ETO 3-holer that belonged to QST Staffer Rus Healy, NJ2L. Anybody want to venture a guess why I could NOT say that in the article?

The amplifier had another 8874 that was moderately gold-sputtered. The third 8874 was lightly gold-sputtered. The ETO electronic "grid protection" circuit was shorted. Rus Healy is no longer working for QST.
The real puzzler is that Dick Erhorn or Ray Heaton have never, to the best of my knowledge, ever tested a tube for gold-sputtering damage with a high voltage breakdown tester.
==========
e-mail copy to Mr. Coffman

--
--Rich-- ag6k, 805.386.3734

2493. Re: Insides of HF tuner MJF-941 or similar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: Kenneth Carrigan <carrk@erols.com>
Message-ID: <022be5e3$3b6c3c20$01bda1ce@pentium>
Source record: 101176

John Rabson <word.factory@zetnet.co.uk> wrote in article
<19961102075439682l3@zetnet.co.uk>...
> In message <01bbc751$f89037a0$b16a60cf@wizzard>
> "Kenneth Carrigan" <rbwash@ix.netcom.com> writes:
>
> > Doing some plasma experiments with 28 MHz ISM band
> ----------------
>
> Isn't 28 MHz an amateur-only allocation?
>
> 73 de G3PAI
>
I'm using the CB band specifically which I believe is ISM band.
27.15 MHz, the medical community uses this for diathermy.

Anyway, the question is How about a matching circuit? I'll
only be using a 250 Watt amplifier but desire about 1000volts
into an Argon gas to ignite it. A faraday cage will also be used
as to NOT radiate this energy.

2494. WTB ARRL Handbooks and ARRL Publications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: ka4ikh@aol.com
Message-ID: <55fsn6$7er@newsbf02.news.aol.com>
Source record: 101177

I am interested in purchasing for my personal collection, any ARRL Handbooks or other ARRL publications (prior to 1970). I am also interested in pre-1960's QSL cards and logbooks. Anything of historical interest to amateur radio.

This is for my personal collection, and will not be resold.

Thanks, and 73's

David
KA4IKH

2495. Re: Vibroplex web page up...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: djfinn@ibm.net
Message-ID: <55fuqn$1orc$1@news-s01.ca.us.ibm.net>
Source record: 101178
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

"Mitch, WA4OSR" <fmitch@vibroplex.com> wrote:

>check it out, and give me your feedback...

My only negative comments are:

1) No pricing information. Why not? When customers go to the trouble of finding a website, the pricing should already be there. Why not put it there???

2) Why not allow customers to purchase from the website? Many people are not as hung up on security as others. Besides, netscape 3.0 is secure enough for most people.

Lot's of postives. Nice products (the 'best' of course!)

73

KR4AJ

2496. Wanted : Kenwood TH-78a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: ihsd36@aol.com
Message-ID: <55g0r0$8u8@newsbf02.news.aol.com>
Source record: 101179

Wanted to purchase a Kenwood TH-78a HT. If you have one or know of any one who has one for sale, please E-mail me at IHSD36@AOL.com or red.demon@juno.com. Please leave info on condition, accessories, and asking price. Thank You

2497. For Sale - Milling Machine/Drill press.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: NC7K@VHF.RENO.NV.US
Message-ID: <55g4rt$200@news.greatbasin.net>
Source record: 101180

ATTENTION - Antenna and amplifier builers...
For Sale:
Grizzly 12 speed bench model drilling and milling mechine
Includes X - Y table with removable vice, Drill chuck, drill motor with 8 speeds.
Powered by 100V AC. Used to construct many VHF/UHF yagis and amplifier parts.
$850.00

Contact my father - Claude Marek at (702)972-1938 between 5 and 9 PM PST

Thank, Tim - NC7K... sk

2498. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0211961216040001@port35.vcnet.com>
Source record: 101181

In article <55g2ip$jc6@dfw-ixnews5.ix.netcom.com>,
jeffa@ix.netcom.com(Jeff Anderson) wrote:

> I don't understand why no-one hasn't contacted Eimac (Varian)
> regarding the gold-sputtering issue. Rather than argue the physics
> back and forth, couldn't this issue be settled, quickly and simply,
> with a phone-call or two to the experts? Somebody there must have a
> handle on this problem.
>
> The 8877 is manufactured in Salt Lake City. Their number is
> 801-972-5000. The San Carlos (California) number is 415-592-9988.
>
> - Jeff, WA6AHL

Someone has contacted Eimac, Jeff. The fly in the ointment is that the 8877 design team no longer works at Varian-Eimac. // BTW, rumor has it that Eimac sold their glass tube division to General Electric.

In February of 1986, I had a discussion with the specs engineer who worked with the 8877's engineers.. He told me that the tube engineers discovered the gold sputtering problem during the testing phase of the 8877's development. They concluded that gold sputtering from the grid plating was due to parasitic oscillations. One look through a microscope convinced me they were right.

When I spoke with an Eimac engineer in early 1991 about their warranty policy on gold-sputter damaged tubes, he told me that if even if a tube is leaky because of sputtered gold, the tube is replaced without question. He said that the people in the warranty division are not even set up to test for gold-sputtering.

The bottom-line is that at least one engineer was aware of the gold-sputtering problem in 1991.

I find it curious that the folks in the warranty division were/are clueless, and nobody seems to care. Or, maybe it's just a hold-over from the days when Eitel and McCullough owned the company, and ANY kaput tube made by Eimac was replaced without question. Truly, the customer was always right.

---

e-mail copy to Mr. Anderson

--
--Rich-- ag6k, 805.386.3734

2499. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: hill@rowland.org
Message-ID: <55gi3d$s4s@fridge-nf0.shore.net>
Source record: 101182
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Charles Wenzel at wenzel@wenzel.com says...
>
>Winfield Hill wrote:
><<clip>>
>> Of course, as you mentioned, there's always the cascode circuit to rescue
>> things! And other circuit configurations, such as the classic 741-style
>> opamp. With most of the voltage gain achieved in a single stage (to help
>> insure a single-pole response), the Va/Vt limit problem was solved by
>> feeding the CE transistor with a current-sourced signal.
>>
>
> Here is where I step in it! Does the current source get around the Va/Vt
> limit or simply give a Thevenin equivilant with a high voltage and large
> resistance (and thus more gain)? I hope the latter since I just posted
> that theory elsewhere!

Is this semantic territory? I saw your "gain-comes-from-voltage" idea in this thread, and surely using thevenin equivalent circuit elements is fine, although I don't usually think of it that way when using current sources.

Wrt to the Va/Vt limit problem, I was thinking about the "Early effect," which causes most of the apparent collector output resistance in the first place. The Early effect says that Vbe for a given Ic will change a little bit if you change the collector voltage. This also means that for a constant Vbe, the collector current will change a little bit as you change collector voltage. This change can be seen as an little current flowing in a resistor loading the collector - hence r_o.

Incidentally, if r_o is defined just from the "Early voltage," Va, then r_o = Va / Ic (r_o changes with collector current) and the size of the Early effect is dVbe/dVc = Vt/Va where as usual Vt = kT/q. For the 2N2222 spice model, with Va = 74V (i.e. r_o = 74k at 1mA), this is 0.00034. I digress.

Think of a common-emitter cascode amplifier. Because the collector of the CE transistor drives the cascode emitter and doesn't experience significant voltage variation, it doesn't have an Early-effect Vbe problem. The cascode transistor doesn't have an Early-effect Vbe problem either, because its emitter input is driven by a current source. Although there will be changes in Vbe as the output swings up and down, the bulk of the current in the emitter still has to appear in the collector.

That's the "solution" to the Va/Vt limit.

--
Winfield Hill hill@rowland.org

Rowland Institute for Science
Cambridge, MA 02142

2500. Anyone got Ham Radio Mag Jan/79?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: lewcobb@jupiter.sun.csd.unb.ca
Message-ID: <55gim2$e8d@sol.sun.csd.unb.ca>
Source record: 101183

Hi - I am looking for Ham Radio magazine Jan/79 if anyone has it. There is an article on anodizing aluminum that I'd like to get a copy of - pages 62-69 I think...

Please e-mail if anyone has access to it.

Thanks very much

Lewis
lewcobb@unb.ca

2501. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <327C2FCD.20B4@wenzel.com>
Source record: 101184
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Winfield Hill wrote:
>
> Charles Wenzel at wenzel@wenzel.com says...
> >
> >Winfield Hill wrote:
> ><<clip>>
> >> Of course, as you mentioned, there's always the cascode circuit to rescue
> >> things! And other circuit configurations, such as the classic 741-style
> >> opamp. With most of the voltage gain achieved in a single stage (to help
> >> insure a single-pole response), the Va/Vt limit problem was solved by
> >> feeding the CE transistor with a current-sourced signal.
> >>
> >
> > Here is where I step in it! Does the current source get around the Va/Vt
> > limit or simply give a Thevenin equivilant with a high voltage and large
> > resistance (and thus more gain)? I hope the latter since I just posted
> > that theory elsewhere!
>
> Is this semantic territory? I saw your "gain-comes-from-voltage" idea in
> this thread, and surely using thevenin equivalent circuit elements is fine,
> although I don't usually think of it that way when using current sources.
>
> Wrt to the Va/Vt limit problem, I was thinking about the "Early effect,"
> which causes most of the apparent collector output resistance in the first
> place. The Early effect says that Vbe for a given Ic will change a little
> bit if you change the collector voltage. This also means that for a constant
> Vbe, the collector current will change a little bit as you change collector
> voltage. This change can be seen as an little current flowing in a resistor
> loading the collector - hence r_o.
>
> Incidentally, if r_o is defined just from the "Early voltage," Va, then
> r_o = Va / Ic (r_o changes with collector current) and the size of the Early
> effect is dVbe/dVc = Vt/Va where as usual Vt = kT/q. For the 2N2222 spice
> model, with Va = 74V (i.e. r_o = 74k at 1mA), this is 0.00034. I digress.
>
> Think of a common-emitter cascode amplifier. Because the collector of the CE
> transistor drives the cascode emitter and doesn't experience significant
> voltage variation, it doesn't have an Early-effect Vbe problem. The cascode
> transistor doesn't have an Early-effect Vbe problem either, because its
> emitter input is driven by a current source. Although there will be changes
> in Vbe as the output swings up and down, the bulk of the current in the
> emitter still has to appear in the collector.
>

> That's the "solution" to the Va/Vt limit.
>
> --
> Winfield Hill hill@rowland.org
> Rowland Institute for Science
> Cambridge, MA 02142

I suppose it is semantics but I have seen others suggest that the gain comes from the high impedance of the current source alone. But a current source would run into the same gain limit as an equal value resistor if it weren't for the higher DC current. The Thevenin equivalent description just seems irresistably simple. I'm not sure that the current source gets around r_o but rather lets you approach it (gain of 39 x Va) with a reasonable collector current.

The cascode circuit is a different matter!

2502. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-02 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com.DELETE-FOR-EMAIL>
Message-ID: <327C1261.3A93569F@primenet.com.DELETE-FOR-EMAIL>
Source record: 101185

Guys,

[Interrestion discussion about stability snipped]

"OK, I'll bite...", said Bob, leading with the chin...

First thought. With transistor amplifiers one can verify by modelling and Linville stability curves (spelled wrong I'm sure) whether an amplifier is unconditionally or only conditionally stable. Do models of these tubes exist? Can the stability be analyzed/proved? I think I've seen spice models for receiving tubes.

Second thought. I've never designed a tube power amplifier but I have some experience designing with CRT tubes. CRT tubes arc over on occasion. In an effort to improve the robustness of an problematic airborne CRT display we decided to make measurements of a CRT arc in process. We used a pulsed welding laser aimed at the electrodes inside the neck of the tube to facilitate an arc. When we fired the laser, we would create a conductive plasma from the vaporized electrode metal and an arc would ensue. One thing that became evident is that the di/dt from an arc in a vacuum is much higher than the di/dt from an arc in air. Indeed sub nanosecond current risetimes were observed. VHF ringing was also observed in the anode wiring. Just wondering if this could explain VHF excitation
of the output network.

Bob Doyle
WA3TGF

2503. Re: Kenwood TH-28a mod - th28.doc (0/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: 36fd001@ping.at
Message-ID: <55iord$7fs@peng.ping.at>
Source record: 101087

Vince Curtis <stopahmanson@loop.com> wrote:

>Does anyone have info about modifying this unit ? Please help. Thanks-
>Vince

hi, hope thi help.

vy 73 - Karl from AUSTRIA

2504. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55isek$9aq@newsbf02.news.aol.com>
Source record: 101088

In article <measures-0311960906300001@port29.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>rectanglular grid wires face the cathode, so heat transfer is minimal.
>Another factor is that gold is excellent for not absorbing infrared
>radiation.

Hi Rich,

There seems to be another basic problem with the gold theory you offer.
You seem to thing the gold has to boil for material to be lost, but that
is totally untrue.

Materials have a bonding action that keeps them from falling apart, but if
any individual atom has an energy level that exceeds the bonding potential
an atom can leave the lattice or its' neighbors. This occurs in a solid,
as well as a liquid. Water doesn't simply sit there and not evaporate
until it boils, and neither does gold.

The energy of the electrons striking the grid is expressed in volts, and
the number of them striking the grid is expressed in amperes. When the
electron stikes the gold, it has to impart its energy on the gold, aand
that raises the energy level of the particular atom it strikes. If the
increase in energy level is sufficent the atom will "evaporate" from the
surface, even if the rest of the surface is very cold.

Why is it so surprising the material on the grid eventually deteriorates
over time and migrates to other areas of the tube, or that short term
heating accelerates this process and damages the tube? Why is it OK for
this to happen in the cathode (without the materials in it "boiling" or
even becoming a liquid) and not in the grid?

As a matter of fact, the cathode life of a MOX cathode power grid is
primarily a function of filament hours at a given temperature UNLESS a
safe emission reserve margin is exceeded. A thoriated tungsten tube is
strictly a function of filament hours and temperature and are not damaged
by emission saturation. Material from the filaments and cathodes slowly
vanish, yet by the "rules and explainations" you offered for the grid this
shouldn't happen... unless we boil the cathode.

I'm puzzled at the large difference between known published physics and
science and your theories. For example, the quantum energy of a photon
must be billions of times larger than they tell us for the effect you
describe in a tube from photon bombardment to occur. Are hundreds or
thousands of reference textbook (dealing with physics and electronics
theory) authors involved in a sinister plot to mislead us all?

73 Tom

2505. add

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: jgoedh@worldonline.NL
Message-ID: <327CF3E2.6243@worldonline.nl>
Source record: 101089

add ham-homebrew

2506. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55iuf7$aal@newsbf02.news.aol.com>
Source record: 101090

In article <measures-0211960334190001@port13.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>The VHF ringing signal in the anode resonant circuit is fed back to the
>cathode input by the anode-to-cathode feedback capacitance of the tube.
>The VHF feedback is positive because the HF tuned output and HF tuned
>input are not even in the picture at VHF.

The output and input shunt reactances are very much in the picture at VHF.
Use your calculator, or borrow an RF impedance meter.

If you pick a frequency, I'll measure the phase shift and loss in the
feedback path. We can calculate the tubes gain under the best condition.
Or better yet, do the experiment along with me.

73 Tom

2507. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55iuf7$aam@newsbf02.news.aol.com>
Source record: 101091

For Gary, KE4ZV

Don't overcomplicate grid dissipation Gary. It's given simply as the voltage times current at any given instant of time, and the resulting average value of dissipation over time. I explained the calculation. It is approximated by taking the average voltage grid to cathode voltage over the portion of the cycle when the grid is positive compared to the cathode (you can use a polarity sensitive and dc biased RMS RF voltmeter to measure this), and the average current (which is measured for you on the meter).

In a grounded grid amplifier, with the anode mistuned, negative feedback is removed and both the duty cycle of the grid and grid to cathode voltage (and hence current) increases.

At 150 mA of grid current in a typical HF PA, a single 3CX800 has a measured grid dissipation of almost 20 watts. That's almost 5 times the maximum rated dissipation of the grid.

And yes, it will cause the gold to ball up, evaporate and even flake off. And yes, Eimac will confirm this.

In article <measures-ya023180000211961056110001@news.west.net>, measures@mail.vcnet.com (R.L. Measures) writes:

> After the first article I wrote about vhf parasitics was published in *Ham
>Radio*, I began to get scattered reports of parasitic oscillations
>allegedly having taken place when the amplifier was sitting quietly with
>the tube cut off. I asked many people about this phenomenon. There was
>only one scientificly-based explanation we could come up with. (Someone
>suggested that any amplifier that exhibits occasional arcing on standby,
>can only be cured by an exorcism.)

Now the amplifier will oscillate with the tube cut off. Here come the things from outer space that turn the PA on by themselves.

Never mind the poor guy had a gassy tube, it still has to be explained as a parasitic! This time the evidence is a Geiger-Muller tube clicks. Unfortunately Rich:

1.) The Geiger-Muller tube must be filled with gas (argon and ethyl alcohol) or it won't "tic"

2.) When it does "tic" the current is 5x10-14th amp for ten particals per second with each particle loosing 1 MeV.

3.) The "tic" is ion movement, not electrons. The tic is from a current of less than a pico-ampere.

Rich, how many 1000v relay contacts do you think would arc from a current of .00000000000005 amperes? How long does it take .00000000000005 amperes to charge up all the .01 caps (two to the input circuit, two to ground for a total of .04 uF) enough to allow the relay to arc over? How many photons are required to cause that current in a near perfect vacuum? Is a 3-500Z tube filled with argon and ethyl alcohol?
Do people have atomic reactors in the PA? Perhaps a dose of >10000 rems for a few seconds would make the relay arc if the tube was gassy, but the operator wouldn't care. He'd die anyway.

Why don't photons from the normal electromagnetic energy in the tube cause it to arc?

If you can overcome these problems, you may have finally hit on a true theory.
Rich wrote:

>QST would not allow the mention of background radiation in "Parasitics
>Revisited" (QST, Sep./Oct. 1990)

Thank goodness. No small wonder.

73, Tom

2508. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55iuf8$aan@newsbf02.news.aol.com>
Source record: 101092

In article <55g2ip$jc6@dfw-ixnews5.ix.netcom.com>,
jeffa@ix.netcom.com(Jeff Anderson) writes:

>
> I don't understand why no-one hasn't contacted Eimac (Varian)
>regarding the gold-sputtering issue. Rather than argue the physics
>back and forth, couldn't this issue be settled, quickly and simply,
>with a phone-call or two to the experts? Somebody there must have a
>handle on this problem.
>
> The 8877 is manufactured in Salt Lake City. Their number is
>801-972-5000. The San Carlos (California) number is 415-592-9988.
>
>- Jeff, WA6AHL
>
>
Please don't pile them up with calls, they are sick of this stuff. Here is
Eimac's reply to me on that very question Jeff.

>>
Subj: 3CX800A7
Date: 96-10-31 13:21:43 EST
From: xxx@eimac.cpii.com
To: W8JItom@aol.com

Hi, Tom. I hear you are in conversation with Rich Measures.
To answer your question regarding the 3CX800A7, this tube uses a grid made
from material which has a high melting point (Molybdenum or Tungsten)
plated with gold. If one over drives this tube or operates it at high
grid current due to improper loading or failure in the matching network or
load, then it is likely that the temperature of the grid will quickly,
within seconds, become high enough to vaporize the gold. This may be what
happened to the 8874 tubes that Measures returned to Eimac a long time
back and Bill Foote, then responsible for writing letters related to
returned products, wrote something about a microwave oscillation that we
saw IN ANOTHER PRODUCT, maybe he did not make that distinction, but to
this day Measures believes that the incidence of failures with gold
evaporated from grids are entirely due to parasitic oscillations, and
tries to hold this letter from Mr. Foote as evidence. This is bunk. I
trust that is what you are discussing with Measures? May I suggest that
you make your life more enjoyable, do something else than arguing with
Measures.

---------- Headers ----------
From xxxxxx@eimac.cpii.com Thu Oct 31 13:21:08 1996

Return-Path: xxxxx@eimac.cpii.com
Received: from pgtp1.eimac.cpii.com ([206.208.35.66]) by
emin13.mail.aol.com (8.6.12/8.6.12) with SMTP id NAA02063 for
<W8JItom@aol.com>; Thu, 31 Oct 1996 13:20:59 -0500
From: xxxxxxx@eimac.cpii.com
Received: by pgtp1.eimac.cpii.com; Thu, 31 Oct 96 10:11:25 PST
Date: Thu, 31 Oct 96 10:11:16 ���
Message-ID: xxxxxxxxxxxxxxxxxx.eimac.cpii.com>
X-Priority: 3 (Normal)
To: <W8JItom@aol.com>
Subject: 3CX800A7
X-Incognito-SN: 455
X-Incognito-Format: VERSION=2.01a ENCRYPTED=NO<<<

So they appear to think the theory is bunk, and agree with my analysis.

73 Tom

2509. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55iuep$aac@newsbf02.news.aol.com>
Source record: 101093

In article <measures-0211960255270001@port15.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Initially, I was also puzzled by the seeming ease with which a VHF
>oscillation can arc over a tune capacitor with a much higher HF peak
>voltage rating than is required for the amplifier.

That's another mistake. You seem to think the peak anode voltage can only
be 2Ep, but that is totally untrue. The peak HF anode voltage can be much
greater than 2Ep.

>However, capacitor
>plates are arcing/melting too often to ignore. One possible explanation
>is that VHF and especially UHF voltage is not like 60Hz voltage.

How did we get to 60 Hz?

Rich, you never answered or commented about the fact we just have a simple
pi network between the tube and the tank input. We can look at that
circuit with simple test equipment and end all the guessing. Let's take a
typical case of a production AL-80B.

I just coupled a constant voltage signal to the AL-80B 3-500Z anode, and
here's what I measured (the band switch was set to 20, but it made no
almost difference in readings above 35 MHz what band the tank was set
for). The voltage at the anode was 800 mV. The readings are described as
mn=min obtained , r= 20 mtr resonant point, mx= maximum obtained as the
tuning cap is rotated through it's range. Voltages are measured across the
tank cap. Values are in mV.

500 MHz 12 for all settings
400 MHz 14 for all settings
300 MHz 22 for all settings
200 MHz 45 for all settings
175 MHz ~60 for all settings
150 MHz 85 mx, 6 mn, 32 r
140 MHz 15 mx, 5 mn, 5 r
130 MHz 80 mx, 3 mn, 3 r (resonant point of grid)
120 MHz 33 mx, 14 mn, 18 r
110 MHz 34 mx, 2 mn, 17 r
100 MHz 130 mx, .2 mn, 30 r (resonant point of anode)
90 MHz 140 mx, 1.5 mn, 35 r
80 MHz 210 mx, 10 mn, 70 r
70 MHz 280 mx, 15 mn, 70 r
60 MHz 400 mx, 18 mn, 73 r
50 MHz 500 mx, 19 mn, 74 r

The voltage increases at a linear rate until at 20 MHz it reaches 800 mV max.

I wonder if you could explain how a VHF or UHF signal at the anode could cause the capacitor to arc, since the voltage step down is about 25 to one at the resonant frequency? Can the anode and plate choke withstand 87.5 kilovolts?

By the way, the bandswitch voltage was lower yet, about 30% lower.

>Here's an AC theory question, Tom. Do think it is possible to take >120V/60Hz and make 10,000V/60Hz with one capacitor and one inductor?

Absolutely, if the Q is high enough, the components are in the right positions, and they have the correct value. Now here's a question for you. Do you suppose they would make 10,000 volts if the circuit was like this:

source-- - shunt 100 ohms ---L series 100 ohms in shunt with 218 ohms r---- -shunt 32 ohms--output

Do you think we would get 5 KV at the output if we applied 5 kV at the source? 10 kV?

The "parasitics cause the tuning cap to arc" is just another wild claim that holds no technical merit at all when the facts are examined, just like the gold on the grid.

73 Tom

2510. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0311961215090001@port3.vcnet.com>
Source record: 101094

In article <55isek$9aq@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <measures-0311960906300001@port29.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
snip...
> There seems to be another basic problem with the gold theory you offer.
> You seem to thing the gold has to boil for material to be lost, but that
> is totally untrue.
>
It does not seem to be just a theory, Tom. I took a look at a
gold-sputtered grid through a microscope. It could see that gold had
bubbled and evaporated. The plethora of gold melt balls I saw on the
cathode could only have been formed from condensed gold vapour.

I do not deserve credit for the vhf-uhf-parasitic/gold-sputtering
theory. It originated at Eimac. I am only the messenger.
----
e-mail copy to Mr. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

2511. info on 1.2 gig pre amp 20 db or more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: Bill Frovik <n0mnb@minn.net>
Message-ID: <01bbc9a8$67c6ef80$a9c99dcc@n0mnb.minn.net>
Source record: 101095

need info on a good pre amp for 1.2 gig atv.. other than that dam radio
shack
one..
thanks
n0mnb
bill

2512. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com.DELETE-FOR-EMAIL>
Message-ID: <327D1735.52A88983@primenet.com.DELETE-FOR-EMAIL>
Source record: 101096

R. L. Measures wrote:
>
> In article <327C1261.3A93569F@primenet.com.DELETE-FOR-EMAIL>, Bob Doyle
> <doyle@primenet.com.DELETE-FOR-EMAIL> wrote:
>
> > Guys,
> >
> > [Interrestion discussion about stability snipped]
> snip
> > Second thought. I've never designed a tube power amplifier but I have
> > some experience designing with CRT tubes. CRT tubes arc over on
> > occasion. In an effort to improve the robustness of an problematic
> > airborne CRT display we decided to make measurements of a CRT arc in
> > process. We used a pulsed welding laser aimed at the electrodes inside
> > the neck of the tube to facilitate an arc. When we fired the laser, we
> > would create a conductive plasma from the vaporized electrode metal and
> > an arc would ensue. One thing that became evident is that the di/dt
> > from an arc in a vacuum is much higher than the di/dt from an arc in
> > air. Indeed sub nanosecond current risetimes were observed. VHF
> > ringing was also observed in the anode wiring. Just wondering if this
> > could explain VHF excitation
> > of the output network.
> >
> > Bob Doyle
> > WA3TGF
> ----------
> Interesting account, Bob. I think it could explain one mode of VHF
> excitation in HF amplifiers. The faster the risetime of the conduction
> cycle, the better the VHF resonances ring. If the VHF resonant circuit is
> connected to a high VHF-gain amplifier tube, oscillation seems like a
> possibility.
>
> VHF and UHF parasitics are more common that most engineers seem to realize.
> A company that manufacturers argon-arc movie theatre projector-bulbs, was
> experiencing occasional, premature projector-bulb failure. The cause was
> traced to an internittent UHF parasitic oscillation. The bulbs were
> redesigned, and the problem went away. The mechanism that started the UHF
> oscillation was somewhat mysterious because the bulbs operate on DC.
>
> Bob, is it true that aircraft encounter higher levels of background
> radiation at high altitude? Did your news server carry my recent post on
> the subject of background radiation?

I've never received a satisfactory explanation of why such events happen but I don't get the feeling that it is related to background radiation. If it matters, this particular display was surrounded by a pretty substantial mu-metal shield. The only consensus I got from our experts was that these events "just happen". "You might as well design the electronics to withstand them." Oh well...

Bob Doyle
WA3TGF

2513. 6-meter CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: craigivey@aol.com
Message-ID: <55j6lc$dm3@newsbf02.news.aol.com>
Source record: 101097

Is there a kit around that I can build for 6-meter CW? If so, where can I get it and how much?

Please reply via e-mail.

Thanks,

Craig
KC5UMA

2514. JUST A NOTE FS/TRADE LIST (357 LINES)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <327cde21.5766905@fvnews.com>
Source record: 101098

Hi gang;
well it's been hecktic the last few days, the father-in-law in
hospital
agin this year, last had his left lung removed, this year his right
kidney...
touch & go...wife in a turmoil...
ANYWAY, the list i posted here, is doing good,
but, Remember.....this is stuff i don't want/need....make offers..
there is a small list of items i'd trade for included, although it's
not the only stuff i'd trade for......this suff takes up a lot of
room/space....it wouldn't hurt my feelings if someone took it
all...(that would be a pick-up for sure)
IF you think a price is out of line...think " I'll make an
OFFER"
as long as it's a reasonable....you can't insult me....
thanks for the space, if you want the list again, or would
like it for the first time, email me.....remember it's parts &
some equipment..etc.

thank you

==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
Boatanchors: the list: listproc@theporch.com......subscribe boatanchors <your name>
the news group: rec.radio.amateur.boatanchors
news group: ham-am@Listserv@ucsd.edu....Body: add ham-am

2515. Re: Wanted: MC145170 designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: Bill C <wrc@tir.com>
Message-ID: <327D3F49.F16@tir.com>
Source record: 101099

Motorola's page:

http://www.mot.com/

Bill KU8H

2516. help!?! WIRING DIAGRAM MOTOROLA SYSTEM 90A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: dbarillo@texas.net
Message-ID: <55jfgl$14g@news2.texas.net>
Source record: 101100

does anyone have a wiring diagram or pinout for motorola system 90a
control head accessories group / syntor vintage?
I have a module to select private line tones and a touch tone module
and no idea of how they connect up
thanks Dave

2517. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55jsmu$nqn@newsbf02.news.aol.com>
Source record: 101101

In article <measures-0111960833120001@port16.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>Maybe some of the people who have installed lower Q suppressors should be
>polled to see what their experiences are?

If we poll people who wear copper bracelets, we'll find the majority will
claim their health has improved. If they didn't believe, they wouldn't
wear the bracelet. :-)

73 Tom

2518. Re: info on 1.2 gig pre amp 20 db or more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: stevem@best.com
Message-ID: <55jif4$st@shellx.best.com>
Source record: 101102

In article <01bbc9a8$67c6ef80$a9c99dcc@n0mnb.minn.net>,
Bill Frovik <n0mnb@minn.net> wrote:
>need info on a good pre amp for 1.2 gig atv.. other than that dam radio
>shack
>one..
>thanks
> n0mnb
>bill

You might try Down East Microwave or one of the many roll your
own designs in the ARRL handbook and microwave handbook.
There are no special "made for ATV" designs.

Steve M. WF6R

2519. Tone decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: jpaulino@planete.NET
Message-ID: <M.110496.005643.67@tou1-13.planete.net>
Source record: 101103

I'm looking (for a repeater project) for an IC which can decode ZVEI, CCIR,EEA,
EIA selcall Tones.
Many thanks. 73 from F1TMY

JPAULINO@Planete.net

2520. AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: maroof@triton.kaifnet.com
Message-ID: <55h7bp$c2v@post.servtech.com>
Source record: 101104
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Most common PLL(like the NE564/565) application-notes/data-sheets say that the PLL can be used for AM detection/demodulation. But I haven't seen any AM demodulator using a PLL. Can anyone show a few examples of such ckts?
Thanks

Maroof

2521. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55jsfh$nns@newsbf02.news.aol.com>
Source record: 101105

In article <measures-0111960833120001@port16.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Even a stable amplifier produces internal, weak, damped wave VHF ringing,
>Jeff. Here's why:
> An L/C resonant circuit is like a bell. Strike a bell with a hammer
and
>it rings, producing a damped wave oscillation. Shock excite an L/C
>resonant circuit. with a current pulse and it rings, very much like a
>bell, producing a damped wave oscillation. The magnitude of the
>ringing-voltage is proportional to the Q of the L/C circuit. Therefore,
Q
>is probably an important consideration when designing an oscillation
>suppressor/dampening device.

That's not entirely true. In a tank, as in a Bell, the peak voltage
developed during the ringing can not exceed the level of the single pulse
that drove the Bell.

The effect is very much like a pendulum, one perfect tug and at the very
most the voltage equals the voltage delta of the tug.

If the tube "pulls" the voltage low in step with the resonant frequency
over and over again, and losses do not exceed the energy supplied by this
"pull", voltage can build up. It builds (and as it does losses also
increase) until equilibrium is reached between energy applied and energy
lost.

In no case is the bell or tank an amplifier or multiplier of energy,
although it is a simple energy storage system.

>A change in DC current is enough to cause
>ringing, albeit at a lower amplitude than when greater changes in anode
>current are used. There is no RFI problem because the weak, VHF ringing
>signal can not pass through the HF tank and reach the antenna. A
>problem only occurs when the weak ringing signal happens to get
amplified,
>fed back, re-amplified, on and on. Bang! I don't have a clue as to
what
>phase, current, and voltage relationships between the input and output
>signals are required to cause a full blown parasitic oscillation to take
>place. Full blown parasitic oscillations typically take place only
>rarely.

This is where the theory falls apart (just as the gold migration
explaination did), here's why.

If the stage has enough feedback to sustain oscillation, it will start on it's own. Gain of any tube is highest when the anode impedance (E/I) is highest, and the grid impedance is highest (E/I). As soon as any tube has the plate current or grid current increase, gain drops. (You can confirm this on your PA at home by driving the PA with low power, tuning for maximum power, and measuring the gain. If you apply more power, tune for maximum power, and measure the gain, it will be less.)

When a stage oscillates and causes grid current or increased anode current, gain decreases. When the stage is driven with fundamental RF, gain decreases.

>I have never said that lowering the Q of a parasitic suppressor will Stop
>parasitic oscillations forever. It has been my experience, and the
>experience of others, that parasitic oscillations are less likely to
occur
>with lower Q suppressors. When lower Q suppressors are combined with
>suitable glitch-protection diodes and resistors, if perchance a parasite
>appears, damage is usually limited to cheap diodes and resistors instead
>of uncheap tubes and meters.

The giant leap from dampened ringing (which really is a simple frequency response peak) to damaged meters and diodes is hard to understand. So far, nothing has indicated the suspected violent oscillations occur or even could occur, and every bit of damage described can have multiple cuses not related to parasitics.

It sounds like we are grasping at straws to blame every single problem from meters to tubes on something we can't see or measure, rarely occurs, and makes little technical sense when analyzed.

I'd like an explaination of HOW a VHF signal can produce many kilovolts across the low reactance of the tuning cap, while lower frequency signals (where the reactance is higher) can't. How the system can operate happily for days or years without a failure, and suddenly go unstable. How the gold can be damaged only by a very brief VHF signal, when the heating is not even related to skin effect.

We haven't even done that, and now we've added the meters and diodes to the components damaged by parasitics. Hopefully if the plug falls out of the wall it won't be from a parasitic.

73 Tom

2522. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: hill@rowland.org
Message-ID: <55ierq$ed3@fridge-nf0.shore.net>
Source record: 101106
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Charles Wenzel, <wenzel@wenzel.com> said...
>
>Winfield Hill wrote:
>>
>> Charles Wenzel at wenzel@wenzel.com says...
>> >
>> > Here is where I step in it! Does the current source get around the Va/Vt
>> > limit or simply give a Thevenin equivilant with a high voltage and large
>> > resistance (and thus more gain)? I hope the latter since I just posted
>> > that theory elsewhere!
>>
>> Is this semantic territory? ...
>>
>> Wrt to the Va/Vt limit problem, I was thinking about the "Early effect,"
>> which causes most of the apparent collector output resistance in the first
>> place. The Early effect says that Vbe for a given Ic will change a little
>> bit if you change the collector voltage. This also means that for a constant
>> Vbe, the collector current will change a little bit as you change collector
>> voltage. This change can be seen as an little current flowing in a resistor
>> loading the collector - hence r_o.
>
> I suppose it is semantics but I have seen others suggest that the gain comes
> from the high impedance of the current source alone. But a current source
> would run into the same gain limit as an equal value resistor if it weren't
> for the higher DC current. The Thevenin equivalent description just seems
> irresistably simple. I'm not sure that the current source gets around r_o but
> rather lets you approach it (gain of 39 x Va) with a reasonable collector
> current.
>
> The cascode circuit is a different matter!

Of course, current sources also have an Early-effect-induced r_o problem which limits the gain. In the case of a simple pnp transistor current mirror, as often seen in ICs, the effect can be severe. Remember Ed Mullins mentioned a typical bipolar IC process with Va of 20V for pnp compared to 200V for npn devices. Using a cascode pnp current source would be a solution, and I've seen it in some circuits, but the Wilson current mirror (AoE fig 2.48) also reduces the effect of Vbe variation with collector voltage, providing a greatly increased output resistance.

--
Winfield Hill hill@rowland.org _/_/_/ _/_/_/_/
The Rowland Institute for Science _/ _/ _/_/ _/
Cambridge, MA USA 02142-1297 _/_/_/_/ _/ _/ _/_/_/

```
_/ _/ _/ _/ _/
http://www.artofelectronics.com/ _/ _/ _/_/ _/_/_/_/
```

2523. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.200.004987D3@azstarnet.com>
Source record: 101107

In article <measures-0311960710440001@port5.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>From: measures@mail.vcnet.com (R. L. Measures)
>Subject: Re: Good source for amplifier tips
>Date: Sun, 03 Nov 1996 07:10:43 -0700

>In article <55b1hb$du2@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
>wrote:

>> Hi Rich,

>> It's fun to do lot's of things, but better to look at facts.
>snip...

>> It's very easy to exceed the thermal limitations of the grid in the
>> 3CX800, since the dissipation rating is only a few watts.

>Tom: What is the rated grid-dissipation for the 3CX800A7?

>> If you like, we
>> can calculate the temperature rise of the grid and prove this, although
>> Eimac has already done this as part of the specs and gives it to us as
>> allowable grid dissipation.
>>
>> At 150 mA of grid current in a typical HF PA, a single 3CX800 has a
>> measured grid dissipation of almost 20 watts. That's almost 5 times the
>> maximum rated dissipation of the grid.
>>
>As close as I can remember, the cathode to grid driving voltage for a
>3CX800A7 is around 40V RMS. 150mA times 40V is 6W. Does it seem likely
>that a steady 6W is going to raise the temperature of the grid structure
>to over 2000 degrees F?

Fools rush in...

Gentlemen: Regarding the temperature rise in the grid structure, have you considered that the grid is very near the cathode and is running at an elevated temperature even without additional dissipation.

Mind you, I don't have a clue as to the actual spacing or the cathode temperature in this tube. Just asking.

73, Wes -- N7WS

2524. tube info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: dstiles@juno.COM
Message-ID: <19961103.115257.4223.0.dstiles@juno.com>
Source record: 101108

Hello to all:

Looking for some information--

Am trying to bring back to life an old Heath SB-303 for station at
children's school.

Several have helped with info.

Does anyone have tube substitution information for the following two
tubes?

6AU6
and a 6EA6

I have a small box of tubes scrounged from other radios that were too far
gone to repair for club.

I used to have the GE substitution book but it has gone elsewhere

Thanks for info
tnx and 73, DAn

2525. Re: PWM AM and SSB Linear amp questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierE0Cyo3.3Cu@netcom.com>
Source record: 101109

in <55h8gl$k71@library.airnews.net>, J. Fred Riley wrote:
: richardh@iinet.net.au (Richard Hosking) wrote:
: > the idea is to apply this to a linear
: >SSB amp. The low level signal is limited and applied to the final amp
: >in class C while the amplitude info is "stripped off" and modulates
: >the final as above. ...

: We do this all the time in our shortwave transmitters. Anode
: conversion efficiency exceeds 85%, modulator efficiency is 97%, and
: the IMD is easily -40 at 2,000 KW PEP. The critical aspect is to
: match the amplitude response and phase delay of the RF signal to the
: transmitter's modulator--along with having a low-distortion modulator,
: of course. You will find may suitable phase/amplitude correction
: circuits to copy in any AM stereo exciter that can be scaled to your
: SSB generation frequency.

I can see how that would work with SSB with a full or reduced carrier
(H3E, R3E) but how can that work with supressed carrier (J3E). Since
it's just the voice baseband translated up in frequency, there's no
domiant carrier and for things like the s sound, there's just noise.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2526. FT-1000D- Jumper Mod ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: K.S.
Message-ID: <55iqnj$8o6@peng.ping.at>
Source record: 101110

Hi

Any comment for the jumper on the CNTL-Unit ???

What do this Jumper (Jumper 3 is for general TX)

Thank you

2527. Re: Kenwood TH-28a mod - th28.doc (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: 36fd001@ping.at
Message-ID: <55iorh$7fs@peng.ping.at>
Source record: 101111
Body handling: Inline uuencoded payload not displayed: th28.doc

[Inline uuencoded payload not displayed: th28.doc]

2528. ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: Robert Newland <robtnew@why.net>
Message-ID: <327D65E3.4A71@why.net>
Source record: 101112

visit the tired old mans page at http://www.why.net/home/robtnew for ham links and sports and more!

2529. Wanted: Yaesu FT-73 mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <55j4td$kbo@login.freenet.columbus.oh.us>
Source record: 101113

Hello all;

I've got a Yaesu FT-73 that, like it's newer siblings, uses "add/remove Jumper" type modifications to alter various aspects of the operation of the radio. This particular unit has been modified so that the display shows "CH 1" "CH2" "CH 3" and so on for memory channels, as would be found on the commercial "Vertex" version of the FT-73, rather than the frequency in the main window and the channel number in the upper left corner of the display, as is normally found on the amateur version FT-73.

Does anyone out there have a list of the various jumper assignments for the FT-73? I'd like to restore the display to it's proper state for amateur use.

Thanks,

Tom Swisher, N8GQK

--
****
Tom Swisher, N8GQK | E-mail:
The Ohio Railway Museum | tomswisher@aol.com
"Save Our Roads.. Ship It By Rail" | tswisher@freenet.columbus.oh.us

2530. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <FUwccBAOkNfyEwY7@ifwtech.demon.co.uk>
Source record: 101114

Rich Measures wrote:
>
><G3SEK@ifwtech.demon.co.uk> wrote:
>> When the amplifier goes bang after sitting quietly under essentially the
>> same operating conditions for several hours, the real question is: why
>> didn't it happen hours ago? Are the conditions for oscillation soooo
>> very special?
>>
>Ian
>------
> There is a somewhat logical explanation for this puzzlement, Ian, although
>it may sound a bit bizarre at first. A power grid tube presumably should
>not be able to conduct current during receive mode when the cathode bias
>relay contacts are open, which applies cut-off bias to the tube.
>Certainly, conduction is not possible by a means *inside* the amplifier.
>
> After the first article I wrote about vhf parasitics was published in *Ham
>Radio*, I began to get scattered reports of parasitic oscillations
>allegedly having taken place when the amplifier was sitting quietly with
>the tube cut off. I asked many people about this phenomenon. There was
>only one scientificly-based explanation we could come up with.

> (Someone
>suggested that any amplifier that exhibits occasional arcing on standby,
>can only be cured by an exorcism.)

Fortunately all the participants do agree that we're looking for
something more substantial than that: we're looking for a scientific
explanation that fits all the facts.

Standing on the sidelines and sorting through the evidence, here's what
it seems to say to me, so far, FWIW.

>
>A Geiger counter is a useful instrument for measuring background radiation.
>I own a Mada Devices, Inc. Geiger counter.
[snip]
> When high energy photons of radiation pass through a Geiger tube, the
>photons collide with atoms, and temporaritly knock electrons free. The
>freed electrons become current carriers. This causes current to flow
>through the tube and the meter
>basicly indictes the resulting current. If
>high energy photons can create current carriers by striking atoms within a
>Geiger tube, does it seem possible that high energy photons could create
>current carriers by strinking atoms within an amplifier tube?

I don't think so; and ionizing radiation is something I do know about. Cosmic rays are passing through you, me and your PA tube at quite a frequent rate, leaving small trails of separated electrons and positive ions. Some of the electrons are energetic enough to create additional electrons (secondary ionization) but most do not, so the overall effect is usually that the trails of ionization recombine with very little long-term effect. A Geiger tube is specially built to maximize the effects of secondary electron multiplication, so that each ionized trail creates a much larger shower of secondary electrons that is big enough to register as a pulse. The conditions to achieve electron multiplication are quite specific: the tube is filled with an ionizable gas at a critically optimized pressure.

Such conditions do not exist in a normal vacuum tube. If there is a transient effect that sends the tube into violent conduction, it's much more likely to be due to a release of a micro-pocket of trapped gas, or a flake of material falling off one of the electrodes. It doesn't seem to be necessary to invoke cosmic rays to explain this.

>If this is
>possible, then the amplifier tube could conduct briefly without the cathode
>bias relay being closed. Naturally a current pulse would cause the anode
>circuit to ring at its vhf self resonance, and a vhf parasitic oscillation
>just might be possible.

I'm open-minded on this, but we seem to be talking about a sudden arc-over rather than a specifically vhf parasitic oscillation.

Jumping across to the other branch of this discussion that deals with gold sputtering, I don't see how anybody - not even Eimac - can say that sputtering effects "must have been" caused by vhf parasitic oscillation. That kind of hindsight does not exist. All we know for sure is that the sputtering was caused by heating, probably directly at the gold surface of the grid wires rather than from the inside out. Large vhf currents concentrated on the surface by the skin effect could be one cause of surface heating; but not the only possible cause - see later.

Another piece of evidence, that doesn't fit in with intermittent vhf parasitics being the cause of the sputtering problem in HF amps, is that the 8877 and 3CX800 can be used all the way up to 432MHz, at and above their rated maximum power. Yes, there have been a few tubes catastrophically destroyed, but what'ya gonna blame for that - shf parasitics?

The other main cause of surface heating in vacuum tubes is of course particle bombardment. We can accept the evidence that incorrect operating conditions will damage the grid due to over-dissipation (excessive grid current), and obviously the worse this abuse, the sooner the tube will fail. Maybe different mechanisms will be at work over different timescales (seconds - hours - months) but this is all quite different from the catastrophic mode of destruction where it's all over in a small fraction of a second. Those are two totally different modes of failure that really shouldn't be discussed together.

It seems reasonable to use electronic protection against damage caused by incorrect operating conditions (grid currents up to maybe 10x the rated value). But it's not reasonable to complain that the same circuit doesn't protect against catastrophic damage (grid currents which Rich estimates at say 15A).

So where does the catastrophic damage come from? If it's capable of doing so much damage to the grid, even when the cathode is back-biased in standby mode, it seems that the current must be sourced from the anode.

Gary points out that electrons striking the grid from the cathode have neither the mass nor the volts of accelerating potential to do much damage. On the other hand, positive ions sourced from the anode would have several thousand times the mass and an accelerating potential of several kV - and all their impact energy is initially deposited on the surface of the grid.

The original source of the ions could be de-gassing as I mentioned earlier, but once the arc is running it would be self-sustaining. When the neutral atoms at the anode dissociate, positive ions flow from anode to grid (or screen in the case of a tetrode) and electrons flow the opposite way.

Unless my notion of the physics of an arc is all wrong, the arc theory seems to explain the available evidence without any need for rf oscillations as well.

A final clue from Rich:
>I received a telephone call this morning from a fellow in Reno whose
>had a blown grid fuse resistor, but whose new tubes were undamaged.

New tubes? Isn't that suggestive of a little too much gas, resulting in a liability to arc until the tubes are fully de-gassed by a few hours of normal operation?

I'm not taking sides here - this has been a very high-quality discussion among people whose expertise I greatly respect, even though they disagree with one another! I'm just thinking aloud (or whatever the Internet equivalent is), feeling my way forward and trying to piece together a story that fits all the facts...

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

2531. mods 4 ext RX/TX IC2GXAT????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-03 00:00:00 UTC
From: ag722@chebucto.ns.ca
Message-ID: <55itl3$7hk@News.Dal.Ca>
Source record: 101115

Anyone know where to find the info/docs for an extended RX and TX mod
for the Icom 2GXAT handheld tranceiver???? I've already completed the
"keyboard fix" for extended RX capability but I have need of the extended
TX ability out of band. As far as I know there is no 'keyboard fix' for
the TX mod.

Thanks a mill.
VE1UNI
ag722@chebucto.ns.ca
--

2532. Block diagram for data radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: davecove@MICROSOFT.COM
Message-ID: <c=US%a=_%p=msft%l=LCH-02-MSG-961104171746Z-14060@INET-05-IMC.itg.microsoft.com>
Source record: 101036

Can someone educate me a bit by showing me the block diagram for a 9600bd FM data xmitter (2m) and rcvr (70cm). They should be able to take and provide FSK right to/from a TNC.

Am I making any sense? <g>

Dave Covert, KB5GOG

'Very funny Scottie... now beam down my clothes...'

2533. Re: ELECTRONICS TIMES publisher is sick?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Tim Hynde <tim_hynde@idecc.com>
Message-ID: <327E367D.318A@idecc.com>
Source record: 101037
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

>James Lee wrote:

> Mike Mercado or KM6NP, who publishes the Electronics Times, even
> installed transmitter just for the purpose of jamming KJ6TQ
> operations and periodically broadcast warning to KJ6TQ repeater's
> users.
>
> Ham radio operators pride themselves in being polite. Yeah right!

Well, there are still plenty of gentlemen operators left.

... and all that wide open space on 6m and 220 MHz ??...

2534. HB Amp output circuit ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: nv0y@horizon.hit.net
Message-ID: <55kmoe$adv@opal.southwind.net>
Source record: 101038

I built an amp with a 3-500Z. Bare-bones, no tuned input, pi out. Works good on all bands except 80m. Loads into a dummy load, but not into my inv vee. Ant is resonate and presents an swr of less than 2:1. Do I need to change coil/cap values?? Suggestions please.--Mike

2535. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55lh93$8f4@newsbf02.news.aol.com>
Source record: 101039

In article <327de9de.1099211@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

>
>Hi Tom, what timeing would you recommend for the close / open and how
>would the average ham go about achieving it?
>73, Jesse, W6KKT

As long as the antenna closes first, and opens last, you will be ok.

The amount of delay is unimportant, I'd make it enough to always guarantee a correct sequence, perhaps a minimum stagger of 10-20% of the slowest relay's response time.

73 Tom

2536. I need some 2.5 mH pie-wound RF chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <55lj3v$qk2@sf18.dseg.ti.com>
Source record: 101040

Hello, fellow home-brewers...

I need four (or more) pie-wound RF chokes for an 807 transmitter I'm
getting ready to build. They need to be 2.5 mH, with at least 100 mA
continuous current rating.

Got any of these you can sell me?

73 de KC5NG
--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

2537. Question for Dutch radio amateurs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: jeroens@sascha.esrac.ele.tue.nl
Message-ID: <slrn57skn4.r2o.jeroens@sascha.esrac.ele.tue.nl>
Source record: 101041

(This message is in both English and Dutch)

In short: I'm looking for the PLL PCB of a Bosch KF-161 transceiver. If you've got one, or know were I can get one, please contact me by email.

Thanks!

In het kort: ik ben op zoek naar de PLL print van een Bosch KF-161 zender/ontvanger (mobilofoon). Mocht je er een hebben of weten waar ik er een kan krijgen, stuur dan een email naar onderstaand adres.

Bedankt!

73's, PE1RIL.

--
Jeroen Steenblik - Computer Science Student - jeroens@esrac.ele.tue.nl

Q: What's the difference between Microsoft Windows and a virus?
A: Apart from the fact that viruses are supported by their authors, use optimized, small code and usually perform well, none.

2538. Re: Quadrifilar antenna article help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: gkennedy@axionet.com
Message-ID: <55l297$469@binky.axionet.com>
Source record: 101042

n2ucn@router.n2ucn.ampr.ORG wrote:

>Hi everyone. I saw a construction article for a quadrifilar antenna
>in some magazine in the recent past. I think it was QST.

Yup. QST, August 1996. Doesn't look like it would be too hard to
build.

****
* Geoff L. Kennedy ** Located on the WEsT Coast of *
* "Kennedy's Space Centre" 8-) ** Beautiful British Columbia ! *
* E-mail: gkennedy@axionet.com ** Coquitlam, BC, Canada *
****

2539. Re: mods 4 ext RX/TX IC2GXAT????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <327EF35C.2536@worldnet.att.net>
Source record: 101043

Chris,
Don't know if there, but try mods link from:
http://www.geocities.com/capecanaveral/3722
Woody

Chris Findley wrote:
> Anyone know where to find the info/docs for an extended RX and TX mod
> for the Icom 2GXAT handheld tranceiver???? I've already completed the
> "keyboard fix" for extended RX capability but I have need of the extended
> TX ability out of band. As far as I know there is no 'keyboard fix' for
> the TX mod.
>
> Thanks a mill.
> VE1UNI
> ag722@chebucto.ns.ca
> --

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2540. Re: 10GHZ 10 watt amp help needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: rex_allers@3mail.3com.com
Message-ID: <55lueg$gip@news.nad.3com.com>
Source record: 101044

In article <01bbc276$cdd46980$b8479fcf@ns.compunet.net>, chastain@compunet.net says...
>
>Hi all,
>
> I have a TWT 10Ghz Amp made by Hughs that I need to
> find a schematic for. I can't seem to find any info for
> Hughs on the web, so does anyone have any suggestions?
>
> Thanks, Rod (KD0XX)

What's the model? I may have some info. Also, let me know what you are after specifically (are you fixing a problem?, etc.). I got an amp at a flea market in the last year and was able to find a manual that I copied. The whole thing would be more than I want to copy again, but if it matches your unit I could copy the most important stuff for you.

- Rex, KK6MK

2541. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <327EF2D2.579D@worldnet.att.net>
Source record: 101045

I have used some 555 timers and a bit of TTL logic to sequence the
relays. Like Tom said, depends on the relay speed. I used about 100
msec. Long, but safe... Is just fine for PTT SSB and FM, break-in cw is
another matter. Woody

...snip...
>
> As long as the antenna closes first, and opens last, you will be ok.
>
> The amount of delay is unimportant, I'd make it enough to always guarantee
> a correct sequence, perhaps a minimum stagger of 10-20% of the slowest
> relay's response time.
>
> 73 Tom

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2542. Converting a rig to positive CW keying

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Monty Wilson <nospam@see.signature.part>
Message-ID: <E0D8J0.3K6@twisto.eng.hou.compaq.com>
Source record: 101046

I bought a CMOS memory keyer that has only a "direct" output; ie., can only key a positive voltage to ground. I was unable to use it to key my TS830S, a negative-voltage keyed transceiver. I built a two-transistor interface circuit similar to the grid-block output of the MFJ Econo Keyer, and this weekend installed it into the rig. It uses only parts available from Radio Shack and performs very well. If you can find a point in your rig where you can steal +12v or +9v it's a very easy mod. In the '830S it sits neatly on the pins of the key jack, and the +9V is right next door on the anti-vox control.

If anyone is interested, I can send a BMP file with the circuit and all the information.

My Drake TR-4C is out on loan. When it comes back home, it definitely gets one of these little boards. Now if I could just find that QST mod that gets rid of the AM/SSB grid block problem....

--
.....Monty.
mwilson @ flex.net (with spaces deleted)

2543. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov4.233950.23719@ke4zv.atl.ga.us>
Source record: 101047

In article <55jsmu$nqn@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>In article <measures-0111960833120001@port16.vcnet.com>,
>measures@mail.vcnet.com (R. L. Measures) writes:
>>Maybe some of the people who have installed lower Q suppressors should be
>>polled to see what their experiences are?
>
>If we poll people who wear copper bracelets, we'll find the majority will
>claim their health has improved. If they didn't believe, they wouldn't
>wear the bracelet. :-)

That attitude presupposes the conclusion. A survey could be useful if
it documents problems experienced before and after the suppressors
were added. If failures are significantly less after installation
of the suppressors, we have to conclude they are working, whatever
the mechanism. If failures are still happening at a statistically
similar rate after the suppressors are installed, then and only
then can we assume that the suppressors are faith healing quackery.

We can't determine if there is a statistically significant universe
for this problem unless a survey is done. I expect we'd need a
cumulative number of operating hours approaching 100,000 from a
survey before we'd begin to have any confidence in the correlation.
Science often has to depend on correlations when mechanisms are
poorly understood, or confounded by many other variables.

Correlation cannot prove causation, but no correlation at all
can flatly disprove a causitive linkage (and that's how the copper
bracelet theory was disproven). Thus this sort of survey is useful
for disproving a theory. If the correlation is strong, however, then
there is good reason to proceed down that path and try to determine
the exact causitive mechanisms involved (which may prove to be subtle).

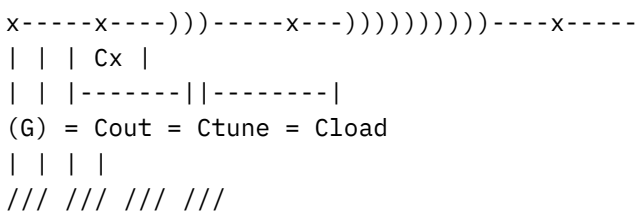
Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2544. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov4.224049.23559@ke4zv.atl.ga.us>
Source record: 101048

In article <measures-0211960255270001@port15.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>In article <55dbja$ahf@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) >wrote:
>> In article <measures-ya023180003110960903440001@news.west.net>, >> measures@mail.vcnet.com (R.L. Measures) writes:
>>
>> >Question: Am I talking about arcing the fixed-capacitors or arcing the >> >contacts?
>>
>> Yes, you said the contacts. My mistake.
>>
>> In any event, the most simple calculation would be the voltage across the >> shunt C of the plate tuning cap. We could easily calculate the amount of >> VHF current required to produce that voltage.
>>
>> Correct me if I'm wrong, but you say a VHF or UHF signal can cause all >> sorts of current (and hence voltage) to appear across the low reactance of >> the capacitor, and yet claim the HF signal current, appearing across a >> much higher reactance, can NOT cause this voltage to appear.
>>
>> That is a direct conflict with circuit theory.
>
>Initially, I was also puzzled by the seeming ease with which a VHF >oscillation can arc over a tune capacitor with a much higher HF peak >voltage rating than is required for the amplifier. However, capacitor >plates are arcing/melting too often to ignore. One possible explanation >is that VHF and especially UHF voltage is not like 60Hz voltage. I built >a high power amplifier for 432MHz, and I experienced some UHF arcing. >UHF's ability to arc large gaps was awesome. The sound, smell, and the >purplish-red color of the UHF arc is like something out of this world.
>
>According to aerodynamic theory, a bumblebee can not fly. However, >bumblebees in this neighborhood seem to manage a fairly good imitation.

Lets see if we can make some sense out of this. The output of a HF amp looks something like this:



Cout is tube output capacitance, Lx is the inductance of the plate lead, and Cx represents the intrawinding stray capacitance of Ltank. Ctune, Ltank, and Cload are the ordinary pi tank components resonant at the HF frequency. At HF, Lx and Cx are negligible and can be ignored (mostly anyway). Cout is effectively paralleled with Ctune.

At VHF, Cout and Lx form a L network. Or alternately, we can consider Cout, Lx, and Ctune as forming a pi tank with a very reactive load.

Note that the drawing assumes all the chassis ground points are actually common. In fact, there's a finite impedance between each one since they aren't at a single common point on the chassis. This can excite resonances in the output enclosure behaving as a cavity resonator. And if any of the component to chassis hardware is loose, very nasty things can happen because circuit topology is no longer what we think it is. We'll take a look at that later.

Ok, if we treat Cout and Lx as a L network, we find it is a step up network, so the voltage at the output end of Lx is high, but the network is shunted by a low reactance Ctune and is in series with a high reactance Ltank (if that reactance is very high, we can ignore it). Tom is saying that the very low reactance of Ctune (at VHF) is going to prevent high voltages appearing across it.

Now that's true, if Ctune has a reactance of lets say 1 ohm at VHF, it is going to take 1 amp of RF current through it to have 1 volt expressed across it. But we have thousands of driving volts to express across it thanks to the step up L network. Ohm's Law tells us the result is going to be a very high RF current flowing through Ctune. Of course the actual current will be limited by other circuit factors so we shouldn't expect air gap arcing across Ctune to occur at VHF.

Now, if we treat Cout, Lx, and Ctune as a pi tank resonant at VHF, the output impedance of the tank tapped across Ctune is still low, and Ltank presesnts a high impedance load, so while high currents may flow in Ctune, potentials shouldn't get high enough to cause air gap arcing.

Ctune's X may be low, but it may have considerable series R since it's a variable. If the series R is high, then the possibility of arcing exists if the series R is mainly on the chassis side of Ctune. In fact, it is usually the rotor which is connected to chassis, so the slip connection is on the low side. If spot heating occurs here due to the large circulating current, this resistance can increase (as well as the resistance of the mechanical connection to chassis). This can allow higher voltages to be expressed from the stator to chassis. Perhaps the voltage can become high enough to allow an arc. (This is somewhat unlikely, however.)

But now lets go back and think about the fact that the chassis connections are not really common at RF. For VHF, it is a finite portion of a wavelength back to the tube cathode, so we should expect to see some reactance there. That changes the network topology significantly.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2545. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Christopher Trask <ctrask@primenet.com>
Message-ID: <55m3tp$kkb@nnrp1.news.primenet.com>
Source record: 101049
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Michael Covington <mcovingt@ai.uga.edu> wrote:
: Maroof H. Choudhury (maroof@triton.kaifnet.com) wrote:
: : Most common PLL(like the NE564/565) application-notes/data-sheets say that
: : the PLL can be used for AM detection/demodulation. But I haven't seen any AM
: : demodulator using a PLL. Can anyone show a few examples of such ckts?
: : Thanks
: : Maroof

: See QST Magazine, July 1993.

Other good reference would be the EXAR and Philips databooks.

--
Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------oo0~(_)~0oo----------

2546. HTX-212 MODS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Raymond Ciaccio <rciaccio@pop.mhv.net>
Message-ID: <327E8F92.7C3B@pop.mhv.net>
Source record: 101050

NE1 know of any modifications to Radio Shack's HTX-212 mobile 2 meter
Rig? Any comment would be appreciated.

Thanx,
Ray Ciaccio N2TAN

2547. Re: Feedback wanted.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: bb840@scn.org
Message-ID: <E0D2G2.G1B@scn.org>
Source record: 101051

In a previous article, radkins@ix.netcom.com (Richard K. Adkins) says:

>
>Anyone out there have any feedback on the Ramsey kits? I just put
>together one of their QRP 80 meter receivers; it works OK (for what it
>is), but when I get that General class license in a few months I'll be
>wanting some better equipment. Any suggestions on which way to go (kit
>vs. ready-made, etc)? And where can I find info on kits? Ramsey is the
>only company I've found so far......
>Thanks....
>
Ten-Tec came out with a kit line about 1 year ago. Write them for their
T-KIT catalog. There address is in the latest QST.
--
Jim Aeschliman bb840@scn.org
Black Diamond, Washington KD7MK

2548. Re: Need hard to find parts!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.961104234234.13330B-100000@ban.libertel.montreal.qc.ca>
Source record: 101052

On Mon, 4 Nov 1996, T Fultz wrote:

> I'd like to learn to build some of my own gear. I've found some pretty
> nice projects in a copy of 'Solid State Design' but I don't know where
> to find some of the components. Since this copy is a 1978 copy, I'm
> sure some of the parts listed are going to be next to impossible to
> find.
> Some of these components are:
> Amidon T-50-6 cores
> Millen 22050 4-54pF variable caps
> Various Miller inductors
> and Especially coil stock of all 'shapes and sizes'
> (who has this stuff anymore)
>
> Basically, I'd like to experiment and I can't find anybody with parts
> anymore. I've been to a number of ham fests and they're just not around
> anymore.
> Please help...
> KE4RVB (Tim tfultz@awod.com)
>

The Amidon core can be had from Amidon directly. You should be able
to find their address in one of the ham magazines.

You can probably also get it from Dan's Small Parts. I don't have the
address handy, but he is on the WWW now, and you can find the site
by one of the search engines. He also has a selection of variable
capacitors. Probably you could find something suitable. Remember,
component substitution is the backbone of amateur radio. If you
can't find the exact capacitor, you can usually get away with something
else, if you understand things.

I don't know where to get prewound coils. The problem with a lot of
old articles is that they specify a manufacturer's part number, rather
than hard data like inductance etc. This means you'll have to find
out what the parts numbers mean before you can substitute. A tv
set will turn up plenty of small diameter coil forms, though the tuning
slugs are intended for a certain frequency range. Winding coils is
easy, once you have the basic data. The ARRL handbook should help
with the background.

Hope this helps for a start.

Michael VE2BVW

2549. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <327de9de.1099211@news.frazmtn.com>
Source record: 101053

On 4 Nov 1996 03:43:37 -0500, w8jitom@aol.com (W8JI Tom) wrote:

>In article <55gpdt$hg4@europa.winmail.com>, dom@shocking.com (Ron Angle)
>writes:
>
>>
>>I would appreciate input from anyone who has used separate relays for the
>
>>input and output on grounded grid linear amplfiers (as opposed to using a
>
>>single DPDT relay). Is there a problem if two separate relays do not
>close
>>simultaneously?
>
>Yes, the output relay MUST close first and release last, or you can ruin
>the bandswitch or other components (including the output relay).
>
>73 Tom

Hi Tom, what timeing would you recommend for the close / open and how
would the average ham go about achieving it?
73, Jesse, W6KKT

2550. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <55kvgc$q@hobbes.cc.uga.edu>
Source record: 101054
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Maroof H. Choudhury (maroof@triton.kaifnet.com) wrote:
: Most common PLL(like the NE564/565) application-notes/data-sheets say that
: the PLL can be used for AM detection/demodulation. But I haven't seen any AM
: demodulator using a PLL. Can anyone show a few examples of such ckts?
: Thanks
: Maroof

See QST Magazine, July 1993.

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless otherwise indicated, I am not
Athens, GA 30602-7415 U.S.A. speaking officially for the University.

2551. Re: ELECTRONICS TIMES publisher is sick?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: no6b@no6b.jpl.nasa.gov
Message-ID: <55lmo4$gn4@elroy.jpl.nasa.gov>
Source record: 101055
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

In <327E367D.318A@idecc.com>, Tim Hynde <tim_hynde@idecc.com> writes:
>>James Lee wrote:
>
>> Mike Mercado or KM6NP, who publishes the Electronics Times, even
>> installed transmitter just for the purpose of jamming KJ6TQ
>> operations and periodically broadcast warning to KJ6TQ repeater's
>> users.
>>
>> Ham radio operators pride themselves in being polite. Yeah right!
>
>Well, there are still plenty of gentlemen operators left.
>
>.... and all that wide open space on 6m and 220 MHz ??...

Excuse me, 'wide open space' on 222 MHz? Then why did the last 220 SMA meeting feature a hearing due to a denial of freq. coordination to a repeater on Blue Ridge, and why were there 2 freq. coordinators on 222 MHz in So. Cal. for a while? The 222 MHz band may not be used as much as 2 meters, but it's stuffed full of repeaters. There is some room on 6m, but it's awfully noisy.

I'm not sure we can blame Mike for the mess on 446.65. He is only a pawn of SCRRBA, which apparently decided that the frequency shall not have an 'open' repeater on it. The 'warning' transmitter cites references to SCRRBA coordination, but makes no mention of possible coordination of KJ6TQ by other freq. coordination entities, so it is not accurate to say that any other repeater on the freq. is uncoordinated.

Bob NO6B (KE6TZF)

2552. Feedback wanted.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: radkins@ix.netcom.com
Message-ID: <55jjus$38s@sjx-ixn10.ix.netcom.com>
Source record: 101056

Anyone out there have any feedback on the Ramsey kits? I just put together one of their QRP 80 meter receivers; it works OK (for what it is), but when I get that General class license in a few months I'll be wanting some better equipment. Any suggestions on which way to go (kit vs. ready-made, etc)? And where can I find info on kits? Ramsey is the only company I've found so far.....
Thanks....

2553. Terminals for Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Chris Dunn <chrisd@ccnet.com>
Message-ID: <327E8784.DB7@ccnet.com>
Source record: 101057

Hello...

I have designed a small terminal that talks to your TNC through a
RS-232 port. It uses a LCD display, standard keyboard and uses a
microcontroller. The unit is very small in size. With the keyboard and
LCD display detached, it can be mounted inside your car, so you send
messages or talk to others when you away.

If anyone is interested, please E-Mail me at chrisd@ccnet.com

-Chris Dunn
KE6MTO

2554. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov4.201952.23184@ke4zv.atl.ga.us>
Source record: 101058

In article <55gpdt$hg4@europa.winmail.com> dom@shocking.com (Ron Angle) writes:
>I would appreciate input from anyone who has used separate relays for the
>input and output on grounded grid linear amplfiers (as opposed to using a
>single DPDT relay). Is there a problem if two separate relays do not close
>simultaneously?

There sure is. The output relay should close first. You don't want
to apply drive to the amplifier before there is a load on it. One
way to insure this is to use a relay sequencer. Another is to just
use a faster relay for the output than the input. Vacuum relays
are usually faster than ordinary open frame relays, and are often
used for amplifier output switching.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2555. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: acatalan@pipeline.com
Message-ID: <55jeu0$i08@camel2.mindspring.com>
Source record: 101116

Stephen Wandling <stephenw@wimsey.com> wrote:

>I am interested in Homebrew. Homebrew anything. It's something that I
>can provide some helpful information on at times. Kits are not
>homebrew. My own take on QRP is that it's small, cheap, portable and
>doable. I've had this fantasy of camping on some mountain ridge, with
>my antenna strung in the alpine firs, snug in my sleeping bag, tapping
>away to someone sitting in their shack in town.

>Is there more than that?

You have found nirvana. Radio nirvana at least. How many find
that in ANYTHING these days..or have the focus to bother?
They could have used you on that flight that crashed in the Andes
(survival) where they tried to get that radio going.

I have plans to use the VCO output of a 2010 sony to make a
"buddy 2010 Xmitter". QRP naturally.
- Tony WW2W
p.s. - I have to post "looking for 2010 service manual 1st" - any
ideas/comments on this?

2556. Re: tube info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: provero@connix.com
Message-ID: <55jds3$jid@beast.connix.com>
Source record: 101117

In <19961103.115257.4223.0.dstiles@juno.com>, dstiles@juno.COM (Stiles D Daniel) writes:
>
>Does anyone have tube substitution information for the following two
>tubes?
>
>6AU6
>and a 6EA6
>

From Sams Tube Substitution Handbook #17 (1974 or so)

6AU6 -- Try 6AU6A, 6BA6, 7543, 6AW6, 6AG5, 6BC5
6BC5, 6CB6, 6CB6A, 6CE5, 6CF6,
6DE6, 6DK6

6EA6 -- No substitutes listed

P.J. "Josh" Rovero email: provero@connix.com

2557. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: emullins@ix.netcom.com
Message-ID: <55k0p6$fj4@dfw-ixnews10.ix.netcom.com>
Source record: 101118
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

In article <meric-01119614394300001@meric.arc.nasa.gov>
meric@feynman.arc.nasa.gov wrote:
>
> What you are missing is this: Suppose your supply
> voltage is Vcc, and you biased the collector at Vcc/2.
> So DC collector current is then Ic=Vcc/2Rc where Rc is the
> collector resistor.
>
> Now small signal transconductance, gm of the transistor is:
> gm=q Ic/kT, so if the voltage applied to base is v1, the change
> in the collector current is :
>
> ic= gm v1
>
> and
>
> collector voltage vc :
>
> vc= - Rc ic or if you combine all the eqs. above
>
> vc= -Rc q Ic/kT v1
>
> now if you replace Ic with Vcc/2Rc, the output voltage becomes
> independent of Rc!
>
> vc=-q Vcc/2kT v1, or the gain is: -q Vcc/2kT! no collector
> resistor dependence...
>
> Meric
> meric@feynman.arc.nasa.gov

Meric,

I agree with you, however some points NEED clarification.
If in your case you specified that the collector voltage was
held FIXED at Vcc/2, INDEPENDANT of Rc, then your
statements of gain being independant of Rc would be true.
But if this were the case you would have effectively
turned your collector resistor into a CURRENT SOURCE.
By that I mean changing the resistor value incrementally
has the effect of changing the collector current incrementally,
ie changing the operating point. Your original statement
did not include any of the important biasing details.

If the transistor is biased by forcing a particular BASE/EMITTER VOLTAGE, ie the collector current is relatively independant of Rc, then you have simply identified a case where your equations are correct. But the claim that gain is independant of Rc is NOT correct, and is misleading. As proof of concept I suggest that you now incrementally change the Rc value to Rc+r. No longer is the collector voltage equal to Vcc/2, and guess what, the magnitude of the gain is now gm*(Rc+r)! (yes I am ignoring Va effects here for simplification). By this I mean that the operating point is determined by a forced base/emitter voltage, perhaps by a simple voltage divider.

So as I would summarize, If the transistor is biased from a current source and the collector voltage is set by some sort of feedback mechanism, the gain (which is ALWAYS gm*R), of that stage is pretty constant ONLY if the Ic (gm) is inversely related to a change in R. gain=gmR gain=gmR gain=gmR.

I apologize in advance if I have overstated the obvious, however when I read your analysis of gain independant of Rc, I felt that some additional details should have been more explicitly stated to support your claims.

EM

2558. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmE0C32D.5yo@netcom.com>
Source record: 101119

acatalan@pipeline.com wrote:
: I have plans to use the VCO output of a 2010 sony to make a
: "buddy 2010 Xmitter". QRP naturally.
: - Tony WW2W

Keep us posted. That sounds like a neat little project--automatic TX muting and antenna switching would be nice too . . .

2559. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55k7pp$smp@newsbf02.news.aol.com>
Source record: 101120

In article <n7ws.200.004987D3@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) writes:

>
>Fools rush in...
>
>Gentlemen: Regarding the temperature rise in the grid structure, have you
>considered that the grid is very near the cathode and is running at an
>elevated temperature even without additional dissipation.
>
>Mind you, I don't have a clue as to the actual spacing or the cathode
>temperature in this tube. Just asking.
>
>73, Wes -- N7WS

Hi Wes,

If you read back through this mess you'll see I pointed that out early on. I just made the comment in passing, but it is an important effect.

Eimac does factor that into the grid dissipation rating they give, so there is no need for the designer to consider it. The assume in the real world of PA's that the operator has the heater on.

Of course, I wouldn't be amazed if someone said THAT wasn't true. ;-)'

73 Tom

2560. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: commquart@aol.com
Message-ID: <55k9ms$97@newsbf02.news.aol.com>
Source record: 101121

In article <55iuf7$aam@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:

>And yes, it will cause the gold to ball up, evaporate and even flake off.
>And yes, Eimac will confirm this.

Pardon my ignorance in this matter, but I am curious....
So what if the gold boils/sputters/leaves-for-Florida?? I assume the remaining grid structure is still metallic, and should still function?

Pete K1ZJH

2561. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55ka2a$cp@newsbf02.news.aol.com>
Source record: 101122

In article <measures-0311961215090001@port3.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
> I do not deserve credit for the vhf-uhf-parasitic/gold-sputtering
>theory. It originated at Eimac. I am only the messenger.

Hi Rich,

Eimac claims you are mistaken, and have distorted a letter written by someone assigned to answer customer service letters. Anyone with a first year physics book can see how unplausable that theory is, and Eimac even states the damage is excessive grid current caused, and the only case of that they had was in very large transmitting tubes for UHF, and the oscillation was microwave heating of the grid.

If we can move beyond that, I'd like to hear why you think a resistor makes a good fuse for a control grid. No big stories are necessary, just the facts about failure time (until the resistor opens) vs amount of overload.

I need help understanding that postulation. I've always understood electronic overloads are much faster than fuses (which are notoriously unreliable), and I've never seen anyone suggest using conventional resistors as fuses for delicate devices.

Unless you'd rather clarify the arcing tuning capacitor. That's another area that makes no sense.

73 Tom

2562. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55kabp$fu@newsbf02.news.aol.com>
Source record: 101123

In article <55gpdt$hg4@europa.winmail.com>, dom@shocking.com (Ron Angle) writes:

>
>I would appreciate input from anyone who has used separate relays for the

>input and output on grounded grid linear amplfiers (as opposed to using a

>single DPDT relay). Is there a problem if two separate relays do not close
>simultaneously?

Yes, the output relay MUST close first and release last, or you can ruin the bandswitch or other components (including the output relay).

73 Tom

2563. mods for kenwood tm241 2 meter ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: David Byington <n0xes@diamond.jcn1.com>
Message-ID: <01bbca21$b9a2b400$214abbce@localhost.jcn1.com>
Source record: 101124

Are there any mods for the kenwood TM241 2 meter riadio. if so post or
email n0xes@diamond.jcn1.com

2564. Tubes date needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <1996Nov04.111109.1895.53564@descn121.oen.siemens.de>
Source record: 101125

Hello,

please help me to find the datas of the following tubes:

6KG6 / EL509
and PL509

These tubes are cheap and used for a small short wave amplifier.

Please respond to the mailing list as well as to my private address.

vy 73, Guenter, DL4MEA=40DB0KCP.=23BAY.DEU.EU (AX.25)
dl4mea=40amsat.org (Internet)
http://www.scn.de/=7Ekoellner (WWW)

2565. SWR meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: modinaf@swsupp.ico.olivetti.COM
Message-ID: <199611041019.CAA02759@mail.ucsd.edu>
Source record: 101126

I am looking for best schematics of SWR meter for HF bands (1,8 to 30 Mhz)
Thanks

IK1VCF Fabrizio

2566. some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <habi.847111559@bauv111>
Source record: 101127
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

Who are the most important manufacturers of PIN diodes ?

Can you give me examples for a TR switch in the 100 W range at 150 MHz ?

Can a slow rectifier be a low cost replacement for a PIN diode ?

Many thanks.
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

2567. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: tomwagner@mindspring.com
Message-ID: <55kjg9$7ki@camel2.mindspring.com>
Source record: 101128

I tried Measure's lower Q suppressors. It didn't help my
SB-220's intermittant "arcing". I changed the
grid circuit to 6 wide ground straps, and that
seemed to help.

A couple of weeks ago the amp started arcing
at power on, every time. I finally traced it this
weekend to an undersized .001 bypass cap
in the hv supply circuit. Little pieces of the
1/4 in diameter cap were blown off the back.
(This cap looked too small to be original equip.)

Was that my problem all along? Only time
will tell.

Tom - N1MM

---
w8jitom@aol.com (W8JI Tom) wrote:

>In article <measures-01119608331200001@port16.vcnet.com>,
>measures@mail.vcnet.com (R. L. Measures) writes:

>>
>>Maybe some of the people who have installed lower Q suppressors should be
>>polled to see what their experiences are?

>If we poll people who wear copper bracelets, we'll find the majority will
>claim their health has improved. If they didn't believe, they wouldn't
>wear the bracelet. :-)

>73 Tom

Tom Wagner - N1MM

2568. Is there anybody who played with a MC1 3175

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Iwan Latev <latev@xs4all.nl>
Message-ID: <55knue$avv@news.xs4all.nl>
Source record: 101129

is there somebody who has build a xmitter with this ic please let me know
how you did this and what your experiences are.

many thanks in advance

iwan.

2569. Real Dogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961104131301.IAA29861@ladder01.news.aol.com>
Source record: 101130

Can anyone help me identify a source for ultrasonic transducers? I have neighbors with dogs that preclude my needs for an alarm clock, and trying to get the neighbors attention has been fruitless. I'd like to get the dogs attention with approx 20 KHz energy. I can generate the power, need transducer to couple it to the rest of the world. The radio shack unit (Rated on the outside of the box at 50 watts, on the inside at 25 watts, burns up with 15 watts continuous.
T'would be lovely to have a bark detector send them back into their respective homes.

W4ZCB

2570. @@@>> HOT COLLEGE BI-MALES!!! >PRIVATE< 1-900-825-6000 xt 9794

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: Str8.Man@Nice.Folks.com
Message-ID: <55kmti$a5n@juliana.sprynet.com>
Source record: 101131

HOT COLLEGE STR8, BI, AND GAY GUYS NEEDED FOR FRIENDS AND/OR
RELATIONSHIPS!

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2571. Need hard to find parts!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: T Fultz <tfultz@awod.com>
Message-ID: <327DFDC4.3D2F@awod.com>
Source record: 101132

I'd like to learn to build some of my own gear. I've found some pretty nice projects in a copy of 'Solid State Design' but I don't know where to find some of the components. Since this copy is a 1978 copy, I'm sure some of the parts listed are going to be next to impossible to find.
Some of these components are:
Amidon T-50-6 cores
Millen 22050 4-54pF variable caps
Various Miller inductors
and Especially coil stock of all 'shapes and sizes'
(who has this stuff anymore)

Basically, I'd like to experiment and I can't find anybody with parts anymore. I've been to a number of ham fests and they're just not around anymore.
Please help...
KE4RVB (Tim tfultz@awod.com)

2572. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55kaan$fp@newsbf02.news.aol.com>
Source record: 101133

In article <measures-0311960710440001@port5.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>As close as I can remember, the cathode to grid driving voltage for a
>3CX800A7 is around 40V RMS. 150mA times 40V is 6W. Does it seem likely
>that a steady 6W is going to raise the temperature of the grid structure
>to over 2000 degrees F?

My posts take a while to appear, the system I use is slow.

You don't seem to understand how to calculate grid dissipation Rich,
please read this carefully.

Grid dissipation is given simply (as is the anode dissipation at any given
instant of time using Epk*Ipk) by the grid to cathode voltage while the
grid is conducting.

When the output circuit is proper loaded in a gg amp, negative feedback
occurs. This feedback lowers the g/k voltage. In this condition, the
effective RMS grid voltage is lower.

If the PA is anode is underloaded (too high a load impedance presented),
negative feedback is removed and the g/k voltage and current soars. This
happens rapidly with small changes in load impedance with tubes like the
3CX800, and slower in low mu triodes. That's one reason why low mu triodes
are prefered in PA's with unstable loads.

So your voltage assumption, like so many others, does not hold true in
practice. It not only isn't the correct g/k voltage in the untuned
condition, it is wrong in a properly loaded PA.

The effective g/k RMS voltage of a single 3CX800 in a PA I actually
measured (as part of a routine design proceedure) was over 100 volts when
the stage was mistuned enough to allow 150 mA of grid current to flow at
full exciter power.

You seem to be ignoring several circuit parameters, like conduction angle
of the g/k path. It is less than 180 degrees, so the voltage is higher
that it seems at first glance because the peak current is also much higher
than the meter indicates.

Please read the copy of correspondence from Eimac that I posted, they also
claim (as I do) that the damage is commonly and most likely from improper
load or loading of the PA.

73 Tom,

2573. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0411960742190001@port26.vcnet.com>
Source record: 101134

In article <55ka2a$cp@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:

> In article <measures-0311961215090001@port3.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >
> > I do not deserve credit for the vhf-uhf-parasitic/gold-sputtering
> >theory. It originated at Eimac. I am only the messenger.
>
> Eimac claims you are mistaken, and have distorted a letter written by
> someone assigned to answer customer service letters.

Who at Eimac currently claims that I was mistaken and that I have engaged in distorting a letter? Is this person perhaps one of the 6 participants in the 5500-word critique of yours truly in the Sept., 1994 *QST*---the critique for which I was not allowed the courtesy of a rebuttal?

The person at Eimac who wrote the letter I allegedly distorted was Willis B. Foote, Eimac's Chief Specifications Engineer in the Power Grid Division. The letter in question can be read at:
http://www.vcnet.com/measures/EimacF.html
Photocopies of the letter are available via snailmail. E-mail me if you want one.

BTW, Tom, I am still waiting for an answer to the question I asked on 3 Nov.:
> >Tom: What is the rated grid-dissipation for the 3CX800A7?

I noticed that you said you were having problems with your news server. I participate in another newsgroup, and this appears to be SOP for AOL, as well as Compuswerve. Perhaps it's time to start looking for a local, ISP?

---When this debate started , Tom, you insisted that no personal attacks be used.---
---
e-mail copy to Mr. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

2574. Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-04 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961104.122329.4783.0.d.nordquest@juno.com>
Source record: 101135

Hi Gang,
Wonder if you could clarify a point or two about filters. I'm modelling a filter for a DDS which should let frequencies up to 16Mhz through and stop those above 24Mhz.
Using FDS.EXE, I've synthesized innumerable filters, which I've then modelled in PSpice. The specs don't seem to coincide exactly with the modelling. Anyway, I'm going to need a 7-pole elliptical filter with about 60dB of attenuation. The passband voltage with my present model changes from about 1.1 to 1.7 volts. In the stopband it goes down to about 1.2mV or lower, according to PSpice. Figuring power delivered to a 50 ohm load, that's 50-some dB of attenuation, I assume.

My first question is whether this theoretical performance sounds reasonable?
The second is what zeroes are in filter modelling and, particularly, what order the elements corresponding to the zeroes should be placed in a filter. FDS lists the zeroes in the order 1,3,2. I assume they are the series-parallel capacitor/inductor elements across the top of the filter and that they are numbered 1,3,2 from left to right.
Am I right?

Thanks!
Dave KE9ED

2575. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: browns@balan.eng.ohio-state.edu
Message-ID: <55o7k8$5fl@charm.magnus.acs.ohio-state.edu>
Source record: 100986

>In article <Pine.GSO.3.95.961026171057.21688A-100000@spork.callamer.com> Clifford
Buttschardt <cbuttsch@slonet.org> writes:
>>Tom, almost all of us are insane to put up with soldering these very small
>>connectors. Unless you can find a tip that is small enough to fit an
>>existing soldering iron, the next best solution is simply to wrap copper
>>wire of small diameter around your existing iron. The last turn is
>>extended forward far enough to solder but not block your view.

In article <1996Oct27.050108.13746@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>That's a crude field expedient technique at best.
>
>Here's an expedient tip that'll work better. Take a piece of 1 inch
>diameter CRS and chuck it in the lathe. Turn the end down to 50 mils...
>
>Now you can heat the iron over a gas stove and use it to solder your
>connections. Return it to the stove between joints and keep it well
>tinned.

What do you use to tin CRS?

--
Steve Brown, N8HFI browns@er4.eng.ohio-state.edu
http://er4www.eng.ohio-state.edu/~browns
Chief Engineer, The Ohio State University Radio Observatory ("Big Ear")

2576. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55o9bn$p32@newsbf02.news.aol.com>
Source record: 100987

In article <55k9ms$97@newsbf02.news.aol.com>, commquart@aol.com
(CommQuart) writes:

>
>Pardon my ignorance in this matter, but I am curious....
>So what if the gold boils/sputters/leaves-for-Florida?? I assume
>the remaining grid structure is still metallic, and should still
>function?
>
>Pete K1ZJH

It poisons the cathode, and also can lower voltage breakdown if it gets in
the wrong area.
73 Tom

2577. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55o9n5$p5q@newsbf02.news.aol.com>
Source record: 100988

Hi Tom,

In article <55kjg9$7ki@camel2.mindspring.com>, tomwagner@mindspring.com (Tom Wagner) writes:

>I tried Measure's lower Q suppressors. It didn't help my
>SB-220's intermittant "arcing". I changed the
>grid circuit to 6 wide ground straps, and that
>*seemed* to help.

The SB-220's largest single design defect is the grid chokes and small caps from the grid to ground. The parallel L/C combinations causes a parallel resonant circuit form the grid to chassis, while the ESR and inductive reactance of the leads of the bypass caps LOWER the self-neutralizing frequency of the 3-500Z's.

All of this is bad news.

The SB-220 can oscillate at VLF, not VHF, because of this IF the load impedance is correct. That involves a load that resonates the plate choke, via the blocking cap, at VLF. Removing the chokes and grounding the grid improves several parameters of the PA.

In article <FUwccBAOkNfyEwY7@ifwtech.demon.co.uk>, "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> writes:

>Such conditions do not exist in a normal vacuum tube. If there is a
>transient effect that sends the tube into violent conduction, it's much
>more likely to be due to a release of a micro-pocket of trapped gas, or
>a flake of material falling off one of the electrodes. It doesn't seem
>to be necessary to invoke cosmic rays to explain this.

That is absolutely true Ian, while I don't know much about quantum or nuclear physics I do understand tubes and their behavior, having designed PA's commercially for over 20 years.

Nearly everything offered to support parasitics flys in the face of science.

Let me give a clear example.

Rich theorizes the parasitic causes large anode currents, yet very special conditions are necessary to do this.

1.) The tube is simple a variable resistance load that "tugs" the rest of the circuit and gets it going. If the impedance of the resonant load is low, the current will be high and voltage low. If the impedanbce of the resonat load is high, the voltage will be high and the current low.

Maximum power is converted (the PA is a dc to RF converter) from dc to RF when the tubes dynamic operating impedance conjugately matches the load impedance.

2.) The cathode current of a tube is limited at a specific saturation current. If we tried to intentionally draw the amount of current Rich claims happen via an emission process, we couldn't do it. Not even with thousands of volts of positive grid bias!

You gas theory agrees with the facts surrounding the failures, Eimac supports that, it has been my experience that gas is the number one thing causing catastropic arcs.

If a resistor is placed in series with the grid, it reduces the intensity of these discharges by increasing path resistance. But that is the wrong location. A resistor in the grid to chassis path allows the grid to go very positive in respect to the cathode during an arc, and a large pulse to pass along to the cathode as a secondary arc path.

The correct approach is to ground the grid, and insert the resistor in the dc anode supply line. In that case the energy of the arc to the grid is reduced, and the grid is grounded preventing the grid cathode voltage from soaring.

This is a case where one of Measure's suggestions can help one problem but create another.

>Jumping across to the other branch of this discussion that deals with
>gold sputtering, I don't see how anybody - not even Eimac - can say that
>sputtering effects "must have been" caused by vhf parasitic oscillation.
>That kind of hindsight does not exist.

That's correct Ian. All we know is it was overheated. We don't know if it was from dc or microwave energy.

>Another piece of evidence, that doesn't fit in with intermittent vhf
>parasitics being the cause of the sputtering problem in HF amps, is that
>the 8877 and 3CX800 can be used all the way up to 432MHz, at and above
>their rated maximum power. Yes, there have been a few tubes
>catastrophically destroyed, but what'ya gonna blame for that - shf
>parasitics?

Bingo, that was another point I made for years.

Article Unavailable

2578. microwave device ID ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: shiso@ici.net
Message-ID: <shiso-0511961634350001@pmfr1ip11.ici.net>
Source record: 100989

Greetings: Can someone ID, provide general specs or interest in the following? -Waveline type 30693 wave guide dummyload. Also -Waveline, type30687, unit part of wave guide, has "N" connector. Thanks in advance. Bruce KD1MW shiso@ici.net

2579. Re: Tubes date needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Mandy Wright <Mandy@the-symposium.demon.co.uk>
Message-ID: <847152895.10986.0@the-symposium.demon.co.uk>
Source record: 100990

In article <1996Nov04.111109.1895.53564@descn121.oen.siemens.de>,
"Koellner, Guenter" <guenter.koellner@oen.siemens.DE> writes
>
>Hello,
>
>please help me to find the datas of the following tubes:
>
> 6KG6 / EL509
>and PL509
>
>These tubes are cheap and used for a small short wave amplifier.
>
>Please respond to the mailing list as well as to my private address.
>
>vy 73, Guenter, DL4MEA=40DB0KCP.=23BAY.DEU.EU (AX.25)
> dl4mea=40amsat.org (Internet)
> http://www.scn.de/=7Ekoellner (W

PL509 tv line output heater V=40 I=0.3
anode V=160 I=1.2 peak (40 w)
screen V=160 I=0.045 (9 w)
dis W 40
Tim Wright | RF Engineer
West Sussex |
UK |

Turnpike evaluation. For information, see http://www.turnpike.com/

2580. BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Bob Smith <bsmith@msn.com>
Message-ID: <01bbcb72$93899c00$01a447cc@desktop>
Source record: 100991
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Can someone kindly point me to a tutorial on the Bird 43 watt meter. Just got one used without a manual. They look very simple to use.

I do have a RF Sampler fitted - what range out output does this have? - would hate to blow my frequency meter or o-scope.!

Thanks a million for reading.

--
>>>>
Bob Smith N3FTU
Atlanta, GA

2581. Re: I need some 2.5 mH pie-wound RF chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55ojro$sb9@newsbf02.news.aol.com>
Source record: 100992

In article <55lj3v$qk2@sf18.dseg.ti.com>, kc5ng@dlep1.itg.ti.com (Mustang Maniac) writes:

>I need four (or more) pie-wound RF chokes for an 807 transmitter I'm
>getting ready to build. They need to be 2.5 mH, with at least 100 mA
>continuous current rating.
>
>Got any of these you can sell me?
>
>73 de KC5NG

Try Mouser Electronics. If you are going to put one in the anode, voltage rating is important. You will be much better off with a little less inductance for the anode choke, and higher breakdown voltage.

73 Tom

2582. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55ola0$suc@newsbf02.news.aol.com>
Source record: 100993

In article <55m4vm$tf2@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>I think we have to assume, given what we know about real components,
>that the tuning capacitor has long since gone series resonant and
>probably appears, at VHF as a rather high value of inductive
>reactance.

Not at all Fred.

There are two self-resonant points of the Oren Elliot 250 pF capacitor used in the AL80B withing the range of my 1-1000 MHz Impedance analyzer.

With the cap open, the series resonant point is 489.1 Mhz where it looks like .23 ohms j0 and another where at 570.74 MHz where it measures 14.1 ohms j 0.

These points move to 170.4 and 289.9 MHz when the cap is meshed. I can find no anti resonant impedance in the range of 1 to 1000 MHz.

You'd be in radio hell trying to drive that cap with RF at VHF or UHF and make it arc.

>I don't believe we can assume that the anode circuit
>provides much loading for VHF.

We don't need to assume anything. We can measure it. And it is very low (<300 ohms scalar) over the range of 50 to 1 GHz in the 80B.

>And if the VHF frequencies are, by and
>large, unloaded, it doesn't take much gain to make the circuit
>unstable. We're dependent, I think, on keeping VHF out of the grid to
>cathode circuit to keep circuit stability.

The plate impednce is low, except in crummy tubes like 811A's, 572B's, 450TH's, 833A's, and so on. They have long thin anode leads. They also have long thin crummy grid connections. If you look at amplifiers designed with those tubes, you will see large parasitic inductances are required along with higher values of resistance. That's because the loading resistance has to across an appreciable portion of the inductive path from anode to RF bypass (the tuning cap). Since the lead inside the tube is so long, the inductance outside the tube the resistor is across needs to be larger.

Since the grid lead is so long, the frequency of oscillation is lower. That forces us to apply damping at a lower frequency. Looks at the size of the inductor in an 811 amp compared to a 3-500Z (not the Heathkit 220,

they screw up the grids with the series caps). There is typically a 5:1 ratio between them in suppressor inductance.

73 Tom

2583. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55olgo$t0p@newsbf02.news.aol.com>
Source record: 100994

Hi Rich,

This has nothing to do with theory, but I'll comment anyway.

In article <measures-ya023180000511960423000001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

>> To answer your question regarding the 3CX800A7, this tube uses a grid
made
>> from material which has a high melting point (Molybdenum or Tungsten)
>> plated with gold. If one over drives this tube or operates it at high
>> grid current due to improper loading or failure in the matching network
or
>> load, then it is likely that the temperature of the grid will quickly,
>> within seconds, become high enough to vaporize the gold. This may be
what
>> happened to the 8874 tubes that Measures returned to Eimac a long time
>> back
>
>That's not what the tube engineer who disassembled and inspected the two,
>8875, s/n G8AD-241 and s/n F8VD-4283, tubes told Mr. Foote, according to
>Mr. Foote.

Let me see if I follow this. Someone else opened the tubes and told Foote
the damage was caused something other than excessive current. Next Foote
told you what that person told him verbally, and now you are telling us.

I wonder who the source engineer was and what were his exact words were.
Do you have a letter from him?

>> and Bill Foote, then responsible for writing letters related to
>> returned products, wrote something about a microwave oscillation that
we
>> saw IN ANOTHER PRODUCT, maybe he did not make that distinction, but to
>> this day Measures believes that the incidence of failures with gold
>> evaporated from grids are entirely due to parasitic oscillations, and
>> tries to hold this letter from Mr. Foote as evidence. This is bunk. I
>> trust that is what you are discussing with Measures? May I suggest
that
>> you make your life more enjoyable, do something else than arguing with
>> Measures.

>My conversation with Willis B. Foote in Feb. 1986 had nothing to do with
>microwave oscillation in a high power UHF-TV amplifier klystron.

It wasn't a klystron Rich. Did I ever say it was? It was a power grid
triode.

>I have not stated that parasitic oscillation is the only means of
removing
>gold from the grid.

You have stated:

1.) That a tube grid can not be damaged from fundamental frequency
excitation.

2.) That electronic protection should be removed

3.) That resistors make good fuses, and fuses are alos good for protecting
grids.

4.) That skin effect causes gold to leave before the base metal

5.) That gold only leaves when it boils

All of which are untrue.

>However, when gold sputtering takes place at the same
>time that tune capacitor arcing takes place, in an amplifier that was
tuned
>up correctly, an atypical event probably took place.

Now let's see if I follow this, if the capaciator arcs at the same time
the tube fails, it is an atypical event taking place. Perhaps. But let's
examine that.

We know that it is virtually impossible for the capacitor to be driven by
enough VHF or UHF current to flash over, that's easy to prove. We know the
grid can be damaged by any frequency from dc to light that causes
excessive heating, and the heating is electron bombardment on the grid and
not I^2 R losses in the grid.

What happens in an unprotected PA?

If the PA is underloaded and excitaion remains at a high level, several
things go on. The tube continues to "tug" the tank circuit in
syncronization with the resonant frequency. The tank can swing freely
negative (below zero or the chassis reference) since nothing loads it in
that direction. The longer the time the anode of the tube spends negative,
the shorter the conduction angle of the anode is.

When the tank goes positive, the tube is also well on its' way to cutoff.
The tube is cut off very hard because the light anode loading removed most
of the negative feedback. The tank is free to overshoot in the positive
direction because the tube is cut off and there is little load on the
tank.

Tank voltage soars, limited only by losses in the system at the
fundamental frequency. The peak to peak voltage swing can be several times
the dc anode supply voltage.

Article Unavailable

2584. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55olo4$t35@newsbf02.news.aol.com>
Source record: 100995

In article <327EF2D2.579D@worldnet.att.net>, Woody White
<woody.white@worldnet.att.net> writes:

>I have used some 555 timers and a bit of TTL logic to sequence the
>relays. Like Tom said, depends on the relay speed. I used about 100
>msec. Long, but safe... Is just fine for PTT SSB and FM, break-in cw is
>another matter. Woody

A diode across the coil will slow the release time. A cap across the coil
with a series r will slow the attack time.

I use a parallel cap acoss the coil and a series diode/resistor on the
input relay, along with a diode across the output relay in one case.

73 Tom

2585. Simple PL Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Mitch Muerle <mitchm@powernet.net>
Message-ID: <327FD18A.3F0A@powernet.net>
Source record: 100996

Hi and thank you for reading.

I'd like the plans to make a simple PL Decoder to open an HT repeater
reciever, nothing fancy, but stable.

Thanks and 73 de KB7PDF Mitch

email mitchm@powernet.net

2586. Take a break, huh?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: jpbross@students.wisc.edu
Message-ID: <jpbross-0511961806210001@f180-050.net.wisc.edu>
Source record: 100997

I am conducting this survey to gather data on buying and consumption patterns of Americans. It should take about five minutes to complete. The data will be used in a research paper I am writing for an English class, the purpose of which is to organize data from a number of different sources into a coherent whole. Please respond by 7:00 p.m. on Wednesday, November 6th, 1996. When appropriate, check one or more options that apply. Thank you for your time.

1. Age:

2. Gender:

3. Where do you live? (city,state)

4. Education Level: Highschool or lower_____
College or university_____
Graduate school or higher_____

5. Occupation: Student_____
Other(please specify)_____

6. Marital Status: Married___
Single___
Divorced___

7. Household Income: One main income___
Two incomes_____
Other (loans, PT job, parents, investments, etc.-please specify)_____
8. Do you drink alcoholic beverages? Yes___ No____ (If "No", go to number 20)

9. About how often do you drink? 1 to 2 days a month____
1 to 2 days a week_____
More than twice a week_____
Almost every day_____

10. About how much do you spend on alcohol per week?
$0-$5_____
5-10_____
10-20_____
more than $20_____

11. Do you usually drink at: Home_____ Bars_____ Parties_____

12. Do you believe that the amount of money you spend on alcohol is:
About average_____
Above average_____

Below average_____

13. Is your usual drink a: Domestic beer(Miller, Budweiser,etc.)_____
Imported beer_____
Microbrewed beer_____
Mixed drink_____

14. About how long have you been drinking?
under 5 years_____
5 -10 years_____
10-20 years_____
over 20 years_____

15. When you go to a bar, what usually determines where you go?
Drink Specials_____
Atmosphere_____
Habit_____
Food _____
Friends choice_____
Quality of Service/
Drinks/etc._____
Don't go to bars_____

16. What usually determines what you drink? Price___
Flavor____
Quality____
Mood_____
Preference____

17. Since you began drinking, do you feel your consumption of alcohol has:
Not changed_____
Increased_____
Decreased_____

18. Have you ever brewed your own beer? Yes___ No___

19. When you go out, do you usually go to: Bars_____
Brew pubs_____
Sports bars_____
Other_____

20. Is your favorite drink a: Domestic Beer____
Imported Beer_____
Microbrewed Beer_____
Mixed Drink_____

21. When you shop for food, are you more likely to buy: Meat___ or
Vegetables____

22. Are you a vegetarian, vegan, or the like? Yes___ No___

23. Are you more likely to shop at a:
Grocery Store_____ or Health Foods Store_____

24. Do you feel your overall health to be: Average_____
Above average_____
Below average_____

25. Over the past few years, do you feel that the food you buy and consume has been: Healthier_____
Less healthy___
No change_____

26. When you think of quality, as it pertains to things you buy and/or consume, what do you think of?

--
please reply to jpbross@students.wisc.edu

2587. Re: BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-0511961913080001@tom-dunn.caltech.edu>
Source record: 100998
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

> Can someone kindly point me to a tutorial on the Bird 43 watt meter. Just
> got one used without a manual. They look very simple to use.
>
> I do have a RF Sampler fitted - what range out output does this have? -
> would hate to blow my frequency meter or o-scope.!
>
> Thanks a million for reading.
>

> Bob Smith N3FTU
> Atlanta, GA

Bob: If you have the Bird model 4430 with interal sample port coming out
the side. The specs from Bird catalog are "RF coupling -53db from 512MHz
to 10Mhz, decreasing to -70db between 10MHz and 2MHZ". If you have the
sampler that bolts in series with the coupler model 4275 (20-1000MHz) or
model 4273 (1.5-30MHz) the coupling is adjustable from -35db to -70db,
with quite a bit of roll off(less coupling) as you go lower in frequency.
73 Tom WB6IQD dunnt@starbase1.caltech.edu

2588. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55p0j5$356@newsbf02.news.aol.com>
Source record: 100999

Hi Jesse,

First of all, I never said the nichrome was harmful. It is a less than desirable way to do the job, but anything that gets the job done is OK by me.

The things I object to (concerning parasitics) is this:

Everything gets blamed on them. Tank caps arcing, tube failures, bandswitch failures, relays arcing WHILE THE AMP IS ON STANDBY, meter failures, diode failures, and so on. That's pure bunk, and we are threading our way through that.

Every failure has a cause, and they are generally easy to determine. It would be nice to have one thing that causes all the problems in the world, we all love simple one cause explainations.

In article <327f63ff.1482030@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:
>I installed the low Q suppressors as precautionary measure, in two
>Henry, one Heathkit SB220, and a 4-1000 amp. The change that I
>noticed was the amplifiers seemed to tune "smoother", elimination of
>the random rf "popping", and had about a 0.5db loss of power on 10
>meters.

Esoteric testimony always includes works like "seemed". Another person posted he used nichrome in his 220, and still had problems. Perhaps we should destroy all the textbooks, and go by public poll? Then we won't learn anything.

The 220 has one major design defect. The grid chokes (I already posted this) WERE an engineering mistake. Look back and you'll find it. That mistake is an interesting topic all on its' own.

>Will I take them out because of the recent negative
>threads as to their use posted in this group and written in QST?

That's a disappointing comment. Everyone has a chance to look at the facts here. Just because a few outlandish claims are being taken apart technically this should be viewed as negative.

All the data I've given can be verified. This is science, and simple theory. We are just getting into the real reason WHY an amplifier arcs. Once that's all covered, IF we can stay on track, you can decide what to do because you'll know exactly why failures happen. None of it is strange, and all of it has very good easy to understand reasons.

Personally, I think we are covering things pretty well. If something doesn't make sense pipe up. I can't argue feelings or personal opinion, but with over $100k of RF test equipment and dozens of PA's here I sure can measure things. If you have a $169 MFJ 259 you can measure the same things with less accuracy.

Let's stay with theory, measurements, and documents. Otherwise we'll never get to the real problems.

73 Tom

2589. Re: Take a break, huh?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: jpbross@students.wisc.edu
Message-ID: <jpbross-0511962220040001@f209-183.net.wisc.edu>
Source record: 101000

In article <32804F4C.428A@worldnet.att.net>, Woody White
<woody.white@worldnet.att.net> wrote:

> Could this possibly be posted to the WRONG homebrew group ;-)
> _Woody_
Possibly, but I don't really give a shit. Seems that you may be good at
WAISTING your time, so WASTE some time and fill out my damn survey.

--
please reply to jpbross@students.wisc.edu

2590. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0511962317180001@port44.vcnet.com>
Source record: 101001

In article <55ndfp$jpm@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:

> Hi Rich,
>
> In article <measures-0411960742190001@port26.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >Who at Eimac currently claims that I was mistaken and that I have engaged
> >in distorting a letter?
>
> Actually it isn't just one person, it's the entire staff.

Tom: What are the names of the people at Eimac who allegedly said this.
---
e-mail copy to Mr. Rauch.

--
--Rich-- ag6k, 805.386.3734

2591. Re: CB to 10 Meter Conversions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961105200032.200C-100000@primeline.net>
Source record: 101002

On Tue, 5 Nov 1996, Robert Watson wrote:

#
#I recently picked up an older solid-state 23 channel SSB citizens-band
#radio, and wish to locate some information on converting it to 10 meter
#activity. Is there possibly any of this information on the Net, or do I
#look elsewhere?
#
#Thanks es 3
#
#Bob/KJ7BO
#rmwatson@eskimo.com
#
#P.S. The model is 985-6060, it is called a Pinto-23B, and was manufactured
#for JC Penneys in the late 1960's or early 1970's.

It might be a bit expensive,being that it is a crystal synthesized rig.

You might be able to build a VFO for it.

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

2592. Re: SWR meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Mandy Wright <Mandy@the-symposium.demon.co.uk>
Message-ID: <847152897.10986.1@the-symposium.demon.co.uk>
Source record: 101003

In article <199611041019.CAA02759@mail.ucsd.edu>, Fabrizio MODINA
<modinaf@swsupp.ico.olivetti.COM> writes
>I am looking for best schematics of SWR meter for HF bands (1,8 to 30 Mhz)
>Thanks
>
>IK1VCF Fabrizio
>
Almost any Ham book, *go on treat yourself*. Buy yourself a BIRD 43,
I did!
Tim Wright | RF Engineer
West Sussex |
UK |

Turnpike evaluation. For information, see http://www.turnpike.com/

2593. 6 meter Tube amplifier 4 sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Joe Leikhim <Jleikhim@nettally.com>
Message-ID: <328001CB.513@nettally.com>
Source record: 101004

If you are looking for some push pull power for six meters I have got it for you. This is a commercial amplifier with two 4X125 tubes in push pull. These will run class AB1. I have the amplifier chassis only no power supply. $150

--
Joe Leikhim
Jleikhim@nettally.com
"tv dinner by the pool,
i'm so glad i finished school"-F.Zappa 1967

2594. Re: Real Dogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Joe Leikhim <Jleikhim@nettally.com>
Message-ID: <328000BC.76DD@nettally.com>
Source record: 101005

johnsonhe@aol.com wrote:
>
> Can anyone help me identify a source for ultrasonic transducers? I have
> neighbors with dogs that preclude my needs for an alarm clock, and trying
> to get the neighbors attention has been fruitless. I'd like to get the
> dogs attention with approx 20 KHz energy.

Check some audio speaker catalogs for a tweeter manufactured by
Motorola. These small black plastic horns contain a piezo element and
are good for a few watts. put a few in parallel to dissipate the power.

--
Joe Leikhim
Jleikhim@nettally.com
"tv dinner by the pool,
i'm so glad i finished school"-F.Zappa 1967

2595. Re: 2 meter/440 amp project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Shawn Baclerzak <n9osk@ods.ods.net>
Message-ID: <32801ACE.7BBC@ods.ods.net>
Source record: 101006

Earl Morse wrote:
>
> Looking to do a club project. A 2 meter or 440 amplifier (or both?)
> seems to be a popular choice. Criteria are simplicity, frugality, and
> ease of construction and operation. Anybody point me in the right
> direction for a cookbooked design for an FM amp in the 1-5 watt in/10-25
> watt out category.
>
> Earl N5TU
> kz8e@bangate.compaq.com

If there is enough intrest, I will post a small article in this news group regarding how to build a UHF/VHF amp from pre-existing mobile radios that could yeild 25-150watts with only 500mw-2watts drive (depending on amp module). All that would be needed to make units fully functional for amateur use is a T/R Switch. I have built several of these units for my repeater and have tested them on a spectrum analyzer and have come out looking great. The only rule applies is a bad signal in will give you a very strong bad signal out. The cleaner the signal going in will give you best results...If there is intrest please reply with e-mail and I will come up with a posting...

thanks 73 de n9osk - Shawn S-O-S Electronics Corporation.

n9osk@ods.ods.net

2596. Re: Bi-polar Proms

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <32800A23.2931@cam.org>
Source record: 101007

Alex Szopko wrote:
>
> Hi everybody!
>
> I have a problem again.What is the difference between an E-PROM and a
>
> BI-POLAR PROM ? Can you program a BI-POLAR PROM on an E-PROM programer,
>
> as far as I know E-PROM is erasable and the BI-POLAR PROM is not.
>
> Is that the only difference?

Hi Alex,

Bipolar PROMs are generally TTL or ECL. They are programmed by
fusing Ni-Cr links organized generally in a matrix (or mask
programmable at factory if you buy by 10,000 :) They are very
fast in the 5 to 50 ns range generally.

EPROMs and EEPROMs are most of the time CMOS and programmed by
charging/discharging small "capacitors" inside. They are erased
by exposition to UV (EPROM) EEPROM are Electrically erasable...
If you make a mistake you erase and redo.

Programming is different in Voltage and timing. Small Bipolars
can be programmed by hand (switch bank for address, for data and
push button to ...program) if you know how much Voltage and current
is needed to fuse the link. If you make a mistake the PROM is finished!

I have seen some PC cards which could program common EPROMs but
it is expensive for a one shot operation. Some dealers do the
programming for a small fee (10$) if you can bring the binary
file to do it (generally Intel Hex format).

If you go to my page, there are some Electronic Links to most
manufacturers and other info on components etc. You may even
find the spec sheet for your PROM/EPROMs

Good luck with your project :)

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

2597. Diodes: Everything you wanted to know

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <32800C42.310A@cam.org>
Source record: 101008

All your questions about all type of diodes from the trival
to the sublime in one FAQ document:

http://www.avtechpulse.com/faq.html#lv.1-ge

Picture is 35Kv/50A "rectifier"
http://www.avtechpulse.com/images/diode.jpg

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

2598. searching down converter UHF > 28

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Moreno Poli <p.mor@mercury.tread.it>
Message-ID: <327E86D3.157F@mercury.tread.it>
Source record: 101059

i'm searching a down converter or transverer kit o schema
from UHF-shf to 28 mhz

73 de IW1DRD Moreno

2599. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: John Siegel <JohnASiegel@worldnet.att.net>
Message-ID: <327E8918.FE8@worldnet.att.net>
Source record: 101060

Woody White wrote:
>
> I have used some 555 timers and a bit of TTL logic to sequence the
> relays. Like Tom said, depends on the relay speed. I used about 100
> msec. Long, but safe... Is just fine for PTT SSB and FM, break-in cw is
> another matter. Woody
>
> ...snip...
> >
> > As long as the antenna closes first, and opens last, you will be ok.
> >
> > The amount of delay is unimportant, I'd make it enough to always guarantee
> > a correct sequence, perhaps a minimum stagger of 10-20% of the slowest
> > relay's response time.
> >
> > 73 Tom
>
> --
> de Woody (WB4QXE) - woody.white@worldnet.att.net
> Electron Microscopist/Microanalysist,
> Ham radio "homebrewer", shade tree mechanic,
> '90 Nissan 240SX, wish still had my Mcycle too!
> http://www.geocities.com/capecanaveral/3722
> .Since the idea is to not hot switch the relays there is another solution as well. I use a pair of DowKey relays on my 2M amplifier (~300 watts)with no controlled sequencing within the pair (i.e. their colis are in parallel). However, the pair is sequenced relative to the receive preamp and driver PTT so that RF drive is not applied until both relays have had time to close.As long as the time is longer than the slower relay it doesn't really matter whether the input or output relay closes first. BTW I am using the ARR commercial sequencer board, modified with an interlock that prevents transmitting unless the preamp is out of the line.
73 John K4BNC

2600. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <55m316$4ej$1@news3.microserve.net>
Source record: 101061
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

There are many, Hewlett Packard 5082-3201, 5082-3202
5082-3203, 5082-3204 are all rated for 120watts when
used as a series 50ohm switch. They are useable from
T10Mhz to 8 Ghz and can be purchased from Penstock at
408-745-8100. The ARRL UHF/Microwave Project Manual
has a lot of info on PIN diode switches.

PIN diodes are special in the fact that they are
a diode with a intrinsic layer at the junction (PIN =
P Material + Intrinsic Layer + N Material). They
are very close to being equal to a pure resistor at
RF frequencies (low L & C) and exhibit very low
resistances (<1 ohm) when forward biased but very
high resistance when reverse biased (> 10K ohm).

To learn more about PIN Diodes contact HP and
request (or you might have to buy) their GaAs &
Silicon Products Designer' Catalog.

Hope this helped!

73 Steven Kerns N3FTI
skerns@mail.talon.net

In article <habi.847111559@bauv111>, claude@bauv.unibw-muenchen.de says...
>
>Who are the most important manufacturers of PIN diodes ?
>
>Can you give me examples for a TR switch in the 100 W range at 150 MHz ?
>
>Can a slow rectifier be a low cost replacement for a PIN diode ?
>
>Many thanks.
>--
>Claude
>(claude@bauv106.bauv.unibw-muenchen.de)
>The opinions expressed above represent those of the writer
>and not necessarily those of her employer.

2601. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <55m4vm$tf2@library.airnews.net>
Source record: 101062

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>Now that's true, if Ctune has a reactance of lets say 1 ohm at
>VHF
...
> the chassis connections are not really common at...VHF, it is a finite
>portion of a wavelength back to the tube cathode, so we should
>expect to see some reactance there. That changes the network
>topology significantly.

I think we have to assume, given what we know about real components, that the tuning capacitor has long since gone series resonant and probably appears, at VHF as a rather high value of inductive reactance. I don't believe we can assume that the anode circuit provides much loading for VHF. And if the VHF frequencies are, by and large, unloaded, it doesn't take much gain to make the circuit unstable. We're dependent, I think, on keeping VHF out of the grid to cathode circuit to keep circuit stability.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2602. Bi-polar Proms

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: vk7cs@vision.NET.AU
Message-ID: <199611050123.MAA16751@saturn.vision.net.au>
Source record: 101063

Hi everybody!

I have a problem again.What is the difference between an E-PROM and a

BI-POLAR PROM ? Can you program a BI-POLAR PROM on an E-PROM programer,

as far as I know E-PROM is erasable and the BI-POLAR PROM is not.

Is that the only difference?

Please help

73's Alex VK7CS

2603. Re: info on 1.2 gig pre amp 20 db or more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: forsberg@cts.com
Message-ID: <327eb817.4039282@news2.cts.com>
Source record: 101064

"Bill Frovik" <n0mnb@minn.net> wrote:

>need info on a good pre amp for 1.2 gig atv.. other than that dam radio
>shack
>one..
>thanks
> n0mnb
>bill
PC Electronics sells the one from Downeast Electronics and it sells for $100. I use it and it seems to do a good job.

Bruce WB6IZG

2604. Re: 10GHZ 10 watt amp help needed!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: hbrown@voicenet.com
Message-ID: <55mfqi$8u3@news1.voicenet.com>
Source record: 101065

rex_allers@3mail.3com.com (Rex Allers) wrote:

You will find Hughes on the web, but it's unlikely that you will find anything on their TWTS's. Tell us what the full model number is and it's likely that someone will be able to help.

73, Harry, W3IIT

2605. GRT-12 Antenna Coupler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: W3BV <agray@voicenet.com>
Message-ID: <327EE083.2CA0@voicenet.com>
Source record: 101066

Does anyone know where I can get a schematic/manual on a surplus automatic antenna coupler unit with the following markings:

"Chassis Electrical Group CH-498/GRT-12, Part #3610433, Republic Electronics Ind., Inc.- Antenna Coupler Group OA-4514/GRT-12 [Part 3600039] AF30 (635) 24927" ?

Thanks in advance for the help. Alan, W3BV agray@voicenet.com

2606. homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: dann@f6.com.au
Message-ID: <55mnmq$qv7@wabbit.its.uow.edu.au>
Source record: 101067

I would like to build a weather radar for a thesis project using my computer
for signal processing and display, does anyone have any suggestions about
where to start, or what specific type of radar I should build!!

Thanks in advance.
Dan.

2607. NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: maroof@triton.kaifnet.com
Message-ID: <55mr2q$a1o@post.servtech.com>
Source record: 101068
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics

Can anybody suggest a simple design of a narow band frequency
modulator for Citizen's band?

2608. CB to 10 Meter Conversions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: rmwatson@eskimo.com
Message-ID: <E0E5Bo.F8w@eskimo.com>
Source record: 101069

I recently picked up an older solid-state 23 channel SSB citizens-band radio, and wish to locate some information on converting it to 10 meter activity. Is there possibly any of this information on the Net, or do I look elsewhere?

Thanks es 3

Bob/KJ7BO
rmwatson@eskimo.com

P.S. The model is 985-6060, it is called a Pinto-23B, and was manufactured for JC Penneys in the late 1960's or early 1970's.

2609. Re: 6-meter CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Erik Skovgaard <Erik.Skovgaard@bc.sympatico.ca>
Message-ID: <01bbcad3$a538e4a0$14c56cce@default>
Source record: 101070

Craig,

The best deal is the Ten-Tec 20m/6m transverter. I tried building a few of the other kits, but this one has by far the best receive section.

73 and 66 de VE7MDL ....Erik.

CraigIvey <craigivey@aol.com> wrote in article <55j6lc$dm3@newsbf02.news.aol.com>...
> Is there a kit around that I can build for 6-meter CW? If so, where can I
> get it and how much?
>
> Please reply via e-mail.
>
> Thanks,
>
> Craig
> KC5UMA
>

2610. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55ndfp$jpm@newsbf02.news.aol.com>
Source record: 101071

Hi Rich,

In article <measures-04119607421900001@port26.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Who at Eimac currently claims that I was mistaken and that I have engaged
>in distorting a letter?

Actually it isn't just one person, it's the entire staff. A better
question might be can you give the name of one person in Varian
engineering supporting your claims?

>Is this person perhaps one of the 6 participants
>in the 5500-word critique of yours truly in the Sept., 1994 *QST*---the
>critique for which I was not allowed the courtesy of a rebuttal?

Since your very first article, Varian (Eimac) and perhaps a dozen other
individual people have asked and communicated to QST that the claims made
were incorrect.
If QST is guilty of anything, they are guilty of not sending your material
out for technical review, or allowing others to challenge your claims. You
had page after page of featured article space to spread technical nonsense
around, until now whenever a simple problem comes up it's blamed on a
parasitic.

You lay blame on "6 participants", yet those six were selected from a
large stack of letters. Even at that, your articles were sent out to a
large number of brand new non-participants and they supported the letters
of disagreement.

Please don't think for one minute six people "just don't like you". You're
a talanted writer, and a likeable guy with good word command. It's just
that many of the theories you developed are not accurate. It's technical
disagreement, nothing more...nothing less. Anyone makes these kinds of
mistakes when they work alone, that's always a problem without outside
collaboration or review.

I think magazines should check articles out and help authors and readers
before things get published, not after the fact. But what's done is done.
I'd rather have seen a moderated discussion of the issue, but it wasn't in
the cards. Finger pointing does nothing constructive, QST made a mistake
(by not checking out stuff before publication), and that's that.

> The person at Eimac who wrote the letter I allegedly distorted was
Willis
>B. Foote, Eimac's Chief Specifications Engineer in the Power Grid
>Division. The letter in question can be read at:

>http://www.vcnet.com/measures/EimacF.html

Rich, I miss something when I read the letter. Here's what I understand:

1.) It says YOUR letter about your theory on parasitics was interesting.

2.) It said the tubes were badly overheated inside. "Apparently the result of an oscillation".

3.) It says if the grid is overheated, gold vaporizes off and ruins the tube.

The only time it mentions parasitics is when it thanks YOU for the interesting letter about parasitics.

I don't understand how it says "Parasitics damage grids of tubes, but fundamental RF excitation does not." Can tell me what I missed?

>BTW, Tom, I am still waiting for an answer to the question I asked on 3 Nov.:
>> >Tom: What is the rated grid-dissipation for the 3CX800A7?

4 watts.

73 Tom

2611. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: chalpm@hqlab.ico.olivetti.COM
Message-ID: <199611051254.EAA01893@mail.ucsd.edu>
Source record: 101072

My Sony ICF-SW 7600 radio (Italian version) covers the following frequency range 150-285 KHz step 3 KHz, 531-1602 KHz step 9-10 KHz selectable, 3850-26100 KHz step 5 KHz, 88-108 MHz FM step 50 KHz.

The American version of the same radio covers the LF,MF and HF frequencies with the range 150-29995 KHz. I would liKE to obtain the same HF frequency range as that available on the American version but the frequencies 1602 - 3850 KHz and 26100 - 29995 KHz are not receivable on the Italian version!

The radio is controlled by CPU, it has a PLL utility, is equipped with a keyboard and can store 10 items in memory. The receiever is 48055 and 455 KHz double version and demodulates AM and SSB.

At power on the CPU checks the jumper configuration (LW, step 9-10 KHz in MW, SW, FM). Setting the LW jumper to OFF extends the frequency range from 285 to 531 KHz, while setting the FM jumper to OFF extends the FM range from 76 to 88 MHz step 100 KHz. Setting the SW jumper to ON or OFF has no effect, the frequency range remains 3850-26100 KHz in both cases.

* Does anybody have the ICF-SW 7600 schematics?

* Does anybody know how to extend the frequency range from 1602 to 3850 KHz and 26100 to 29995 KHz?

Please send your reply to my e-mail address, as detailed below.

Thanks.

Chalp Maurizio Olivetti (Italy)

e-mail address: chalpm@hqlab.ico.olivetti.com

2612. Noise-Cancelling mic.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: "Richard Gunn;G7UDG" <rg5az@herts.ac.uk>
Message-ID: <Pine.SUN.3.91.961105123821.22155A-100000@altair.herts.ac.uk>
Source record: 101073

Can anyone pls help?? I am looking for a **small** noise-cancelling mic.
to be used inside a (motorbike) crash-helmet. Where may I obtain one of
these from and for how much (UK!!!)

Also, some form of PTT that is cheap - not the one I would like to get
(the one the Police use on their bikes!) - but a cheap alternative!!!

Many thanks,

==
_ G7UDG Internet: r.s.gunn@herts.ac.uk <-- University
|_)
| \ichard Internet: rgunn@digibank.demon.co.uk <-- Home

Please reply to university as main address (mail read daily where possible)
Home addresses get read on most weekends, and during holidays
==

2613. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000511960423000001@news.west.net>
Source record: 101074

... ...
> Subj: 3CX800A7
> Date: 96-10-31 13:21:43 EST
> From: xxx@eimac.cpii.com
> To: W8JItom@aol.com
>
> Hi, Tom. I hear you are in conversation with Rich Measures.
> To answer your question regarding the 3CX800A7, this tube uses a grid made
> from material which has a high melting point (Molybdenum or Tungsten)
> plated with gold. If one over drives this tube or operates it at high
> grid current due to improper loading or failure in the matching network or
> load, then it is likely that the temperature of the grid will quickly,
> within seconds, become high enough to vaporize the gold. This may be what
> happened to the 8874 tubes that Measures returned to Eimac a long time
> back

That's not what the tube engineer who disassembled and inspected the two,
8875, s/n G8AD-241 and s/n F8VD-4283, tubes told Mr. Foote, according to
Mr. Foote.

> and Bill Foote, then responsible for writing letters related to
> returned products, wrote something about a microwave oscillation that we
> saw IN ANOTHER PRODUCT, maybe he did not make that distinction, but to
> this day Measures believes that the incidence of failures with gold
> evaporated from grids are entirely due to parasitic oscillations, and
> tries to hold this letter from Mr. Foote as evidence. This is bunk. I
> trust that is what you are discussing with Measures? May I suggest that
> you make your life more enjoyable, do something else than arguing with
> Measures.
>
Hmmmmmm. An UNSIGNED letter, offered as evidence. Very curious, me
thinks. Who wrote the unsigned letter, Tom?

My conversation with Willis B. Foote in Feb. 1986 had nothing to do with
microwave oscillation in a high power UHF-TV amplifier klystron. Foote did
not work in the klystron div. He was the chief specifications engineer in
power grid. The 8877 is a power grid amplifier tube. The 8877 is not a
klystron tube.

I have not stated that parasitic oscillation is the only means of removing
gold from the grid. However, when gold sputtering takes place at the same
time that tune capacitor arcing takes place, in an amplifier that was tuned
up correctly, an atypical event probably took place.

Tom---Have you answered the question I asked you about the inductance of
the Matsushita film resistors we use in our parasitic suppressor retrofit

kits? Have you answered my question about the rated grid-dissipation for the 3CX800A7?

---

e-mail copy to Mr. Tom Rauch

--

--Rich--

ag6k, 805.386.3734

2614. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0511960631290001@port27.vcnet.com>
Source record: 101075

In article <1996Nov4.224049.23559@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> In article <measures-0211960255270001@port15.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
snip...
> >
> >Initially, I was also puzzled by the seeming ease with which a VHF
> >oscillation can arc over a tune capacitor with a much higher HF peak
> >voltage rating than is required for the amplifier. However, capacitor
> >plates are arcing/melting too often to ignore.
snip..
snip....
> But now lets go back and think about the fact that the chassis
> connections are not really common at RF. For VHF, it is a finite
> portion of a wavelength back to the tube cathode, so we should
> expect to see some reactance there. That changes the network
> topology significantly.
>
> Gary

Interesting analysis, Gary. There are so many variables at VHF, it's mind boggling.
I remain convinced that the energy involved is probably well above HF. The simultaneous occurance of an extreme grid current pulse indicates that the amplifier tube is virtually unloaded during the event. Therefore, the amplifier tube is most likely producing substantive amounts of energy that can not pass through the (low pass) HF tank circuit. Another factor is the colour of the arc. I have seen HF arcs before. This is different. However, analysis is compounded by the intermittency factor.

Part of the answer may be that we are assuming that the tune C has no series-L and only an 1 ohm or so of reactance at VHF. However, in a 922, the tune capacitor has roughly 20 ohms of reactance at the frequency of the apparent VHF oscillation. In a SB-220, the tune C has roughly 25 ohms of reactance at the frequency of the apparent VHF oscillation. RE: series-L in the tune-C: Many people assume that wide, flat conductors have zero inductance. However, this is not true. Even superconductors have inductance.

In a previous post, I broached the subject of the possiblity of developing high potentials from a 120v 60Hz source, using only one capacitor in series with one inductor.

Does anybody remember the WW2 radar transmission-lines that used copper
'insulators'?
---
e-mail copy to Mr. Coffman

--
--Rich-- ag6k, 805.386.3734

2615. Re: homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Walter Rawle <walter_rawle@ena-east.ericsson.se>
Message-ID: <327F71F9.6C49@ena-east.ericsson.se>
Source record: 101076

Daniel S Nixon wrote:
>
> I would like to build a weather radar for a thesis project using my computer
> for signal processing and display, does anyone have any suggestions about
> where to start, or what specific type of radar I should build!!
>
> Thanks in advance.
> Dan.Dan:
The majority of wx radars work at 5 Ghz, so your first task will be to
assemble the necessary RF parts:
1. Antenna - prime focus parabolic reflector antenna with dual
polarization feed and an orthomode transduce
2. Tx - a simple magnetron with suffice for your activities. This will
provide you with a rough pulse transmitter - the spectrum wont be pretty
but it will work
3. Rx - you will probably get by with a single mixer diode front end with
a Gunn LO, the IF output frequency will depend in large measure on how
fast your DSP board runs

A word of advice: this is a big project. If there is a C band weather
radar at your local airport or met station, you may want to make a visit
and start asking lots of questions

walter rawle VE1AWS/W4

2616. Re: CB to 10 Meter Conversions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Monty Wilson <nospam@see.signature.part>
Message-ID: <E0EKEt.76K@twisto.eng.hou.compaq.com>
Source record: 101077

rmwatson@eskimo.com (Robert Watson) wrote:
>
>I recently picked up an older solid-state 23 channel SSB citizens-band
>radio, and wish to locate some information on converting it to 10 meter
>activity. Is there possibly any of this information on the Net, or do I
>look elsewhere?...
>P.S. The model is 985-6060, it is called a Pinto-23B, and was manufactured
>for JC Penneys in the late 1960's or early 1970's.
>

Sounds like an old crystal-plexed rig. I've never converted that particular model, but in general the crystal-plex conversions are simpler and have better odds of success, but are more expensive because you must replace four or six crystals versus the one or two for the PLL rigs. One good resource is the CB-series Sams Photofact, available at your library. Look up the model in the Photofact index, also at the library, and you'll find the Photofact CB-series issue number that contains all the drawings and schematics for your radio. There are old "73" and QST articles from the 1977-1980 time frame that help with these conversions, but I don't have the issue dates handy. Anyone have these?

For a top-notch SSB rig, there are just a few things to be done. The first (at least I do it first) is the frequency conversion itself. The other various conversion things to be done to a radio vary depending on the particular type of rig, the original operating mode (AM or AM/SSB), the desired 10m or 12m operating mode (AM, FM, SSB, CW, combinations), and other desired features, but first we must see if the rig will go to the new frequency.

Once the new crystals are in place, with a voltmeter, oscope (need not be a calibrated scope; a Heath cheapie will do), a scanner (to verify frequencies by listening to harmonics of the desired oscillator frequencies) and a package of those plastic tuning tools, go through the transmitter strip and the receiver strip, as described in the magazine articles, bring the radio up or down in frequency.

Now for an SSB rig you want to do two things that I know of. The clarifier must be "opened" so it slides +/- 6 kHz instead of the stock +/- 1 kHz, and it also must be made to vary the transmit frequency as well as the receive frequency. This may still leave "holes" in the frequency coverage, depending on the crystal plan you've selected, but it will bring you very close to 100% coverage of the desired band.

The "opening" of the clarifier is accomplished by changing values of capacitance, and possibly adding a small amount of inductance, in the clarifier circuit. The change from RIT to RIT/XIT is accomplished by

disabling whatever method the rig used to prevent the clarifier from
swinging the oscillator when in transmit mode. The most difficult are
the ones where the clarifier swings an oscillator that doesn't even run
in transmit mode, but I think those are the exception rather than the rule.

Good luck, and have fun on the upcoming cycle.
--
.........Monty.
mwilson @ flex.net (with spaces deleted)

2617. Looking for 600 MHz 100-200 watt amplifier (pulsed)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <327f4ac0.23919559@news.santafe.edu>
Source record: 101078
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.component

I'm looking for a manufacturer of a 600 MHz amplifier with about 150 W output. Operation will be drive pulsed at 0.5% duty factor up to 100 usec pulse width. I'd like to start with 50 mW in, but the low power end up to a few hundred mW is not a problem.

Jim Potter

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

2618. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0511960733370001@port20.vcnet.com>
Source record: 101079

In article <55m4vm$tf2@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) wrote:

> gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
snip...

> I think we have to assume, given what we know about real components,
> that the tuning capacitor has long since gone series resonant and
> probably appears, at VHF as a rather high value of inductive
> reactance. I don't believe we can assume that the anode circuit
> provides much loading for VHF. And if the VHF frequencies are, by and
> large, unloaded, it doesn't take much gain to make the circuit
> unstable. We're dependent, I think, on keeping VHF out of the grid to
> cathode circuit to keep circuit stability.
>
>
> Fred

I agree, Fred. The VHF loading is probably light.
VHF-loading in the anode circuit should be a function of the R in the series of anode circuit conductors between the anode and the tune-C. In order to visualize this, it is helpful to measure the L of each conductor and then to convert the series-L-R-circuit to an equivalent parallel circuit between the anode and chassis-ground. . This way it's easier to see that as series-R increases, parallel-R decreases. Since the voltage gain of a triode is basically mu multiplied by the parallel-R, the bottom-line is that increasing series-R in the path of the VHF-resonant anode circuit, lowers the VHF gain of the amplifier tube. Does increasing series-R sound like it would decrease or increase the ability of the amplifier tube to oscillate at VHF?
---
e-mail copy to Mr. J. Fred Riley

--
--Rich-- ag6k, 805.386.3734

2619. RE: searching down converter UHF > 28

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Dave_Covert@msn.com
Message-ID: <00001fee+00001da9@msn.com>
Source record: 101080

Down East Microwave has such kits I think...

Phone: 908/996-3584
Fax: 908/996-3702

73,
Dave KB5GOG

2620. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <327f63ff.1482030@news.frazmtn.com>
Source record: 101081

On 3 Nov 1996 23:50:38 -0500, w8jitom@aol.com (W8JI Tom) wrote:

>In article <measures-0111960833120001@port16.vcnet.com>,
>measures@mail.vcnet.com (R. L. Measures) writes:
>
>>
>>Maybe some of the people who have installed lower Q suppressors should be
>>polled to see what their experiences are?
>
>If we poll people who wear copper bracelets, we'll find the majority will
>claim their health has improved. If they didn't believe, they wouldn't
>wear the bracelet. :-)
>
>73 Tom
Hi Tom, at the moment I'm not wearing copper bracelets (perhaps in
the future?). After reading the articles in QST (by Richard Measures)
I installed the low Q suppressors as precautionary measure, in two
Henry, one Heathkit SB220, and a 4-1000 amp. The change that I
noticed was the amplifiers seemed to tune "smoother", elimination of
the random rf "popping", and had about a 0.5db loss of power on 10
meters. I have talked with many, many hams on the air who have also
installed the low Q suppressors (i'm surprised I'm the only one on
this group who will admit using them), As of this date, I have not
heard or talked with anyone who has used, or is using these suppresors
that has had a negative experience due to their installation, myself
included. So, have they helped? I don't know! I havn't had any
related problems with the various amplifiers that use these
suppressors. Will I take them out because of the recent negative
threads as to their use posted in this group and written in QST? No.
Will I throw away my wonderful book Reflections (by Walter Maxwell)
because QST and a FEW of its board members disagree with some ot it's
content? NO! Will you pay for the repair of my linear should it
develope a BANG, BANG if I eliminate those low Q suppressors that
don't work (I'm drinking your "snake oil")?
Respectfully, Jesse, W6KKT

2621. FS/trade: Lab-grade test equipment for your next project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: af104@detroit.freenet.org
Message-ID: <55nj85$oa0@lex.zippo.com>
Source record: 101082

Please forgive the intrusion of this "FS/Trade" post, but hopefully
it might be of value to someone looking for test equipment for his
homebrewing.

I would consider any amateur gear trades.

The following lab-grade test equipment is manufactured by
LEADER Corporation:

*** Leader LS1020 20 mhz scope

For details, see page 12 of Tuckers latest Test
and Measurement Equipment Catalog. They sell it new for
$525. Buy mine used for $175. 20 mhz, 2 channels, very
light.

*** Leader 27A Audio Generator

Covers 10 HZ through 1 Mhz. Sine / Square wave outputs. $45

*** Leader LSG-16 RF Signal Generator

100 khz - 300 mhz. 1 khz internal modulator. Also accepts/tests
your crystal for crystal controlled output. $65

Also have Elenco-Precision 0-30 Volt, .5 Amp adjustable power
supply. Separate voltage and current meters continuously monitor
output. Current limiter with overload indicator. $20

No books. Good condition, but some corporate ID info painted on.
Prices include freight to lower 48 (slightly more west coast /
mountains).

Jeff, Near Detroit
WB5KZW
(810) 661-0202

2622. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <h$$lmSAzE2fyEwu0@ifwtech.demon.co.uk>
Source record: 101083

Woody White wrote:
>I have used some 555 timers and a bit of TTL logic to sequence the
>relays. Like Tom said, depends on the relay speed. I used about 100
>msec. Long, but safe... Is just fine for PTT SSB and FM, break-in cw is
>another matter.

I use two multi-pole relays, one of normal 'fast' speed and another one RC-slugged to give slow make, slow break. Various make/break contacts on the two relays are interlinked to give the switching delays. 100ms sounds about right - long enough so that the two relays go noticeably "ker-lick".

The most important thing is that the coax relay contacts have plenty of time to switch over AND FINISH BOUNCING before you hit them with high-power RF. Allow extra time in case a relay might stick occasionally before starting to move. On returning from TX to RX, allow time for the RF power to disappear before moving the coax relays.

This system works by leaving enough time for the necessary things to happen, so isn't as reliable as a system that's fully interlocked. OTOH (FWIW, YMMV etc) after 10 years I'm still running a full kW at 432MHz through the same "500W" coax relay, and it has never blown a GasFET in the preamp.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

2623. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Brooke <brooke@pacific.net>
Message-ID: <327F7FC0.36E2@pacific.net>
Source record: 101084
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

Claude Frantz wrote:

Claude:

There are two types of diodes: those that store charge (such as PIN,
varactor, SRD,
some schottkies that are made inproperly under large forward bias)
and those that do not (such as schottky, tunnel). For use at 150 MHz
you need a diode that has a long lifetime (stores a lot of charge).
>
> Who are the most important manufacturers of PIN diodes ?
Try MA-COM and UNITRODE

2624. Small Signal Amplifier Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-05 00:00:00 UTC
From: Designers Forum <designerforum@earthlink.net>
Message-ID: <01a8edc0$4d409520$52672399@tricia>
Source record: 101085

At one time in my schedule, amplifier design for the hearing impaired was very interesting, some of the concerns included topics generally talked about now in the news group. I would like to jump in and suggest a high gain amplifier. Vowels you know au dominate the lower frequency spectrum <1000 Hz . The consonants that we most need are the upper frequencies 3000 Hz or >. For those persons hearing impaired be aware of those so called tunable telephones which give you gain, etc. Some do not. One is the XL-30 telephone. deficient by anywhere from 5 to 10 dB gain as advertised. These devices have the electret type, and some very clever earphone designs with very flat coil diaphragms. If anyone has a characterization type document I would like to know and help make it more public. I am currently building a site to include diagrams and such info. The amplifier design I am working on uses a biased internal line Operational amplifier BA3516. Has anyone seen this? its a quad split voltage I think. I will have the schematic on my site soon. If anyone is interested to pursue this jump right in. As I was looking at the questions here, the one about how much will a transistor amplify. If you have some documentation on the semiconductor, set up a small circuit and characterize the input load and the output load DC, and AC signal. Use a resistor and spread the values yes even for relating to an inductive load.

2625. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkE0GspJ.Fn3@netcom.com>
Source record: 100936
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Phil (pmetcalf@xyplex.com) wrote:
: About the simplest NBFM modulator that you can build is a variable
: capacitance modulator using a varactor diode as the active component.
: When properly biased, this device will give you a frequency swing of up to
: 7.5khz deviation (on some) which you can easily control to the desired
: 5khz. The device is installed at the oscillator tuning circuit and causes
: an increased/decreased capacitance in that tuning circuit which
: effectively changes the frequency of the oscillator with respect to the
: audio signal that is riding on top of the bias voltage.

Can anyone here spell "nonlinear", or "distortion"??

2626. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Tim Dicus <timothyd@gnt.net>
Message-ID: <32806A0F.6489@gnt.net>
Source record: 100937
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Maroof H. Choudhury wrote:
>
> Most common PLL(like the NE564/565) application-notes/data-sheets say that
> the PLL can be used for AM detection/demodulation. But I haven't seen any AM
> demodulator using a PLL. Can anyone show a few examples of such ckts?
> Thanks
>
> Maroof

I found a schematic using a NE568 as an AM detector. It is in National
Semiconductor's data book. I have an older version, but I would imagine
it is in the new version too.

It is too complex to be entering into my computer, so I'm not doing that.

If you can't locate it anywhere else, send me an e-letter and I'll fax it
to you.

--
Tim Dicus
Destin, Florida
e-mail timothyd@gnt.net

2627. Q: Xenex XV2x Compiler for DSK?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: tmahanna@zipnet.net
Message-ID: <55r0d4$jk6@zip1.zipnet.net>
Source record: 100938

Hi:
Has anyone tried Xenex's XV2x or XV5x compilers for the TI 2x, 5x
DSP's? Sounds like an interesting product. A DOS based Signal Processing
Package for TI's 2x, 5x DSPs. Midnight engineering had an article on it
(Nov. issue, I think). Cost $99. Anyone?

-Tom

2628. Help Identify Components

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Richard Ibbotson <"100116,113"@compuserve.com>
Message-ID: <328176C8.5C4B@compuserve.com>
Source record: 100939

Can anyone help identify some components bought at UK Hamfest ?

GaAs FET NEC 32184A-1.0 I can't find these at the NEC site or the CEL site on the web. Does anyone have a spec ?

RF Power Amp Module MX20-1 Nice black lump on copper heatsink, six pins.

I also got a "small" sheet of Rogers Duroid. When I told someone I wanted to process using photo etch resist, they told me the developer (sodium hydroxide) would damage it. Is this true ? Is there an alternative process ?

Richard Ibbotson
Reading U.K.

2629. 2 meter/440 amp project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Earl Morse <kz8e@bangate.compaq.com>
Message-ID: <3280BA73.3E3D@bangate.compaq.com>
Source record: 100940

Looking to do a club project. A 2 meter or 440 amplifier (or both?) seems to be a popular choice. Criteria are simplicity, frugality, and ease of construction and operation. Anybody point me in the right direction for a cookbooked design for an FM amp in the 1-5 watt in/10-25 watt out category.

Earl N5TU
kz8e@bangate.compaq.com

2630. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Jim <jvpoll@dallas.net>
Message-ID: <328125C6.4A68@dallas.net>
Source record: 100941
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Steve Work wrote:
>
> Phil (pmetcalf@xyplex.com) wrote:
> : About the simplest NBFM modulator that you can build is a variable
> : capacitance modulator using a varactor diode as the active
component.
> : When properly biased, this device will give you a frequency swing
of up to
> : 7.5khz deviation (on some) which you can easily control to the
desired
> : 5khz. The device is installed at the oscillator tuning circuit and
causes
> : an increased/decreased capacitance in that tuning circuit which
> : effectively changes the frequency of the oscillator with respect to
the
> : audio signal that is riding on top of the bias voltage.
>
> Can anyone here spell "nonlinear", or "distortion"??

N O N L I N E A R

I'll skip the other ...

Seriously, Steve, whats' the problem ... many commercial radios have
been
built using this technique, and, believe me, the distortion will occur
much earlier in the simple deviation limiting circuits employed before
the NBFM modulator (been there, done that ...).

Jim

2631. Re: homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Joe Carey <jcarey@qualcomm.com>
Message-ID: <32813A84.5A54@qualcomm.com>
Source record: 100942

Daniel S Nixon wrote:
>
> I would like to build a weather radar for a thesis project in a couple
> of years time using a PC for signal processing and display. Does anyone
> have any suggestions on where to start or where to find information that
> would be useful for such a project?

Geez, this is tough.

I did wind profiling radars for my research in Grad School, and it wasn't
the kind of thing I'd try for a simple thesis. Doing original research
might qualify for a PhD. thesis.

I would recommend keeping the frequency as low as possible. You can get
a good wind echo at 50 MHz (big antenna) or 900 MHz (more reasonable antenna).
You need an awful lot of power (10 KW peak pulse at 50MHz, if I remember
right). At 900 MHz you can get an echo off the wind, or off rain drops.
Really sophisticated processing allows you to distinguish them simultaneously.

Lots of books on Radars. Try Skolnik "Radar Handbook", try Levanon
"Radar Principles", try Kingsley and Quegan "Understanding Radar Systems."
Then start reading the published papers in the Journal of the American
Meteorological Society and the like.

I doubt a Gunnplexer from a microwave oven will work. As I recall,
it has too much phase noise for coherent detection.

You're first task is to decide what you want to measure, then
spec the system. For my radars class in grad school simply specifying
the system was the final class project. It took three of us a couple
of weeks just to nail down the specifications.

If at all possible, try to avoid having a steerable antenna. One
fixed antenna beam considerably simplifies things.

Good Luck,

Joe

2632. Re: 2 meter/440 amp project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32815DE4.50DB@ipass.net>
Source record: 100943

Earl Morse wrote:
>
> Looking to do a club project. A 2 meter or 440 amplifier (or both?)
> seems to be a popular choice. Criteria are simplicity, frugality, and
> ease of construction and operation. Anybody point me in the right
> direction for a cookbooked design for an FM amp in the 1-5 watt in/10-25
> watt out category.

Earl,
Radio Amateurs Handbook has one in it I built about 3 years ago... about
$40.00 for parts, I could squeeze 50 watts out.

Later,
Dave

--
==========
David Cooley AKA N5XMT cooldave@ipass.net
http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==========

2633. Re: Take a break, huh?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Madjid VE2GMI <mboukri@cam.org>
Message-ID: <32814F20.5DFC@cam.org>
Source record: 100944

Mike Stansberry wrote:
>
> Jeff Bross (jpbross@students.wisc.edu) wrote:
> : In article <32804F4C.428A@worldnet.att.net>, Woody White
> : <woody.white@worldnet.att.net> wrote:
>
> : > Could this possibly be posted to the WRONG homebrew group ;-)
> : > _Woody_
> : Possibly, but I don't really give a shit. Seems that you may be good at
> : WAISTING your time, so WASTE some time and fill out my damn survey.
>
> Go Away.

Those Winsconsin students really need an education !!!
What a terrible way to ask for collaboration.

Madjid, VE2GMI

2634. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0611962142080001@port30.vcnet.com>
Source record: 100945

In article <measures-0211960255270001@port15.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) wrote:

> In article <55dbja$ahf@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
> wrote:
>
> > In article <measures-ya023180003110960903440001@news.west.net>,
> > measures@mail.vcnet.com (R.L. Measures) writes:
snip,,,,

> Here's an AC theory question, Tom. Do think it is possible to take
> 120V/60Hz and make 10,000V/60Hz with one capacitor and one inductor?

I received a request via e-mail to provide a solution to this problem. I
am going to use values of C and L that will produce just over 10,000VAC
just in case anybody decides to build one. Assuming a frequency of 60Hz,
connect a capacitor that has +j99 ohms of reactance (28uF) in series with
an inductor tht has -j100 ohms of reactance (0.26H). The net reactance is
-1 ohm. With 120Vrms applied, a current of 120v/1 ohm=120A flows through
the series L and C. The voltage across the capacitor is 120A*99 ohms =
11,880Vrms. The voltage across the inductor is 120A*100 ohms =
12,000Vrms. In actual practice, the ESR in the L and C would reduce the
current somewhat, depending on the Q of the components used.
.....Don't try this at home, kids, without your parents
permission.

--
--Rich-- ag6k, 805.386.3734

2635. 70cm PLL projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <55qt5t$388@freenet-news.carleton.ca>
Source record: 100946

Could anyone provide some references to recent construction articles
pertaining to 70cm or UHF PLL oscillators?

Any tips would be appreciated.

tnx de va3rr/aa8lu

2636. Re: NEED mod for adi 2 meter radio !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Madjid VE2GMI <mboukri@cam.org>
Message-ID: <32814BD4.50BD@cam.org>
Source record: 100947

MrFuji@anon.penet.net wrote:

Why would anyone answer you sir, you are asking a question
via an anonymous remailer.

Wakarimaska Fuji San? kokko arimasen!

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri

2637. homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Daniel S Nixon <dann@f6.com.au>
Message-ID: <327FD3ED.5466@f6.com.au>
Source record: 101009

I would like to build a weather radar for a thesis project in a couple of years time using a PC for signal processing and display. Does anyone have any suggestions on where to start or where to find information that would be useful for such a project?

Thanks in advance,

Dan.

2638. Re: Take a break, huh?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <32804F4C.428A@worldnet.att.net>
Source record: 101010

Could this possibly be posted to the WRONG homebrew group ;-)
Woody

Jeff Bross wrote:

> 8. Do you drink alcoholic beverages? Yes___ No____ (If ï¿½Noï¿½, go to number 20)
>
> 9. About how often do you drink? 1 to 2 days a month____
> 1 to 2 days a week_____
> More than twice a week______
> Almost every day_______
>
> 10. About how much do you spend on alcohol per week?
> $0-$5______

> please reply to jpbross@students.wisc.edu

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2639. Folded Dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: thom@newshost.li.net
Message-ID: <55osve$ope@linet06.li.net>
Source record: 101011

Hi and thanks in advance for your help,

I was wondering if it is possible to use 400 ohm ladder line for a
folded dipole...not as the feedline but rather as the dipole itself.

It would seem that by shorting the ends and feeding it in the center that
it would be quite easy...what am I missing?

Thanks again
Tom
WB2QDG

thom@li.net

2640. FS: Kenwood TM733 Dual band mobile

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: n7unh@ix.netcom.com
Message-ID: <55oti4$7t9@dfw-ixnews3.ix.netcom.com>
Source record: 101012
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.swap

Hello and thanx for reading this message.

I have a mint condition Kenwood TM 733 2m/440 dual band
50/35 watts, with detachable face.

Included is the $100.00 separation kit, external duplexer, external
speaker, and mobile antena (dual band), new $15.00 packet data cable
(1200/9600 bps capable), original box, and manual.
I still have the registration card in the box.

I am asking $550.00 obo. I am a very motivated seller, and this would
make a great Christmas gift!

REPLY ONLY TO MY E-MAIL ADDRESS: n7unh@juno.com
OR
Telephone (803)695-3624

Thank you
Tim N7unh/4

2641. Re: Bi-polar Proms

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: delords@ibm.net
Message-ID: <55p08j$17ia$1@news-s01.ca.us.ibm.net>
Source record: 101013

Bi-polar proms are a one time shot. They are programed by blowing fuses within
the memory array. Eproms put a charge on a floating gate and can be erased
by UV light and reprogrammed. The bi-polar were faster in the old days by a factor
of 10 to 20 . More recent Eproms have narrowed that gap.

In <199611050123.MAA16751@saturn.vision.net.au>, vk7cs@vision.NET.AU (Alex Szopko) writes:
>Hi everybody!
>
>I have a problem again.What is the difference between an E-PROM and a
>
>BI-POLAR PROM ? Can you program a BI-POLAR PROM on an E-PROM programer,
>
>as far as I know E-PROM is erasable and the BI-POLAR PROM is not.
>
>Is that the only difference?
>
>Please help
>
> 73's Alex VK7CS

2642. wtb: knight kit walkie talkie and shortwave

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: bwilder@reallink.com
Message-ID: <dXiKXV5y7GA.132@news.reallink.com>
Source record: 101014

can anyone help me find a pair of knight-kit c-100 walkie talkies from
the early 60's??? they were blue three transistor 100mw units.

also looking for a knight "span master" 4 band short wave receiver
from
the same time period.

thanks
bobby
wb5wur

2643. DTMF Decoding Software available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <19961106034900.WAA17222@ladder01.news.aol.com>
Source record: 101015

Hi,

Please check out my window's DTMF decoding software at:

http://home.aol.com/pdrunen

If you can not connect to the site, please reply with e-mail address and I will upload it to you!

PDRUNEN@aol.com

DTMF stands for Dual Tone Mult-Frequency and they are the tones you hear when you dial on a telephone. These analog signals are turned into binary signals a computer can understand and displayed on the computer screen.

2644. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <55p410$vrr@library.airnews.net>
Source record: 101016

w8jitom@aol.com (W8JI Tom) wrote:

>There are two self-resonant points of the Oren Elliot 250 pF capacitor
>used in the AL80B

I guess my point, apparently not well made, was that the reactance appearing at the anode was high at VHF not because of the physical capacitor itself. Rather, the topology of the amplifier usually involves significant series reactance in the connections to and from the capacitor. The net effect would be to place a fairly high impedance at the anode at VHF.

This is a triumph of supposition over science since I've not measured any of my amplifiers to see just what the value is. I'm just extrapolating from what I've seen in large HF amplifiers. When we don't use vacuum variables (where it's easier to control the lead inductance) the net series reactance of the tuning capacitor connection can be quite high at VHF.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM
70661.236@COMPUSERVE.COM

2645. Re: BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: rhys@ix.netcom.com
Message-ID: <55p372$1dc@sjx-ixn7.ix.netcom.com>
Source record: 101017
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

dunnt@starbase1.caltech.edu (Tom Dunn) wrote:

>> Can someone kindly point me to a tutorial on the Bird 43 watt meter. Just
>> got one used without a manual. They look very simple to use.
>>
>> I do have a RF Sampler fitted - what range out output does this have? -
>> would hate to blow my frequency meter or o-scope.!
>>
>> Thanks a million for reading.
>>

>> Bob Smith N3FTU
>> Atlanta, GA

>Bob: If you have the Bird model 4430 with interal sample port coming out
>the side. The specs from Bird catalog are "RF coupling -53db from 512MHz
>to 10Mhz, decreasing to -70db between 10MHz and 2MHZ". If you have the
>sampler that bolts in series with the coupler model 4275 (20-1000MHz) or
>model 4273 (1.5-30MHz) the coupling is adjustable from -35db to -70db,
>with quite a bit of roll off(less coupling) as you go lower in frequency.
>73 Tom WB6IQD dunnt@starbase1.caltech.edu

Howdy Bob --

Bird takes their customer service seriously. They're a great
corporation. Just give them a call in Solon (Cleveland) Ohio and
request an operator's manual. They will very likely send you one
cheaply or free -- just make sure to have the model number.

BTW you won't hurt your scope or counter just plug it in and go to
town.

2646. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: rhys@ix.netcom.com
Message-ID: <55p3p9$4mv@dfw-ixnews12.ix.netcom.com>
Source record: 101018

Gary --

Howdy. I'm just a bystander passing through your post but I'm blown away. What an elegant explanation. Thanks for the info and the patience to impart it.... The web at its best.

2647. Re: Soldering small connections

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: rhys@ix.netcom.com
Message-ID: <55p3vm$4mv@dfw-ixnews12.ix.netcom.com>
Source record: 101019

Gary --

Howdy. I'm just a bystander passing through your soldering small connections post but I'm blown away. What an elegant explanation. Thanks for the info and the patience to impart it.... The web at its best.

2648. Satellite Receiver FOR SALE ****CHEAP****

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: newsat@ix.netcom.com
Message-ID: <55p3lq$hhu@sjx-ixn6.ix.netcom.com>
Source record: 101020
Cross-posted to: rec.radio.amateur.homebrew,rec.video.marketplace,

USED

Toshiba TRX 80 with VC2+ $275
Panasonic 4500 with VC2+ $275
Chaparral feedhorn $ 20
Norsat 35-40 degree LNB $ 20
Von Weise 24" actuator $ 25
VC2+ descrambler $150

Receiver/VC2+/feedhorn/LNB/actuator/new 7.5' Perfect 10 mesh dish

Complete system for only $500

E-mail reply please

Thanks, Maura

2649. Re: QRP homebrew list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <55p2qd$28i@news1.mnsinc.com>
Source record: 101021

TOTALLY brilliant idea! I wish I had thought of it back when
I still had my ICF-2010!

acatalan@pipeline.com whistled a happy tune like:

|>Stephen Wandling <stephenw@wimsey.com> wrote:

|>>I am interested in Homebrew. Homebrew anything. It's something that I
|>>can provide some helpful information on at times. Kits are not
|>>homebrew. My own take on QRP is that it's small, cheap, portable and
|>>doable. I've had this fantasy of camping on some mountain ridge, with
|>>my antenna strung in the alpine firs, snug in my sleeping bag, tapping
|>>away to someone sitting in their shack in town.

|>>Is there more than that?
|>----------

|>You have found nirvana. Radio nirvana at least. How many find
|>that in ANYTHING these days..or have the focus to bother?
|>They could have used you on that flight that crashed in the Andes
|>(survival) where they tried to get that radio going.

|>I have plans to use the VCO output of a 2010 sony to make a
|>"buddy 2010 Xmitter". QRP naturally.
|> - Tony WW2W
|>p.s. - I have to post "looking for 2010 service manual 1st" - any
|>ideas/comments on this?

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

2650. Re: ELECTRONICS TIMES publisher is sick?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: jnavarr3@BitSmart.Com
Message-ID: <55pem2$40l@zook.lafn.org>
Source record: 101022
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

I leave in Eagle Rock and always used the MARS repeater using high
power mobile rig. Lately I can't even make a call. You people are the
ones who are suppose to go to 222 MHz because those people got their
first. I too got intimimated with that QST, gave a call to one of MARS
people, it's phony. I wouldn't even give a damn to SCARA or whoever in
that Santiago Peak group. Oh well, Mr. Dengler, KE6TZF is Sunset Ridge
Repeater group. You're one of those people jamming. I was wondering
may be you people are getting a lot high power RF's being radiated
right in your head like those guys at 147.435? If you've been using
MARS 446.650, would this mess will make you happy? I should say 73 but
don't which is appropriate this time. May be KJ6TQ would no better...
(=:
:DE KE6FPK
In article <55lmo4$gn4@elroy.jpl.nasa.gov>, no6b@no6b.jpl.nasa.gov
says...
>
>In <327E367D.318A@idecc.com>, Tim Hynde <tim_hynde@idecc.com> writes:
>>>James Lee wrote:
>>
>>> Mike Mercado or KM6NP, who publishes the Electronics Times, even
>>> installed transmitter just for the purpose of jamming KJ6TQ
>>> operations and periodically broadcast warning to KJ6TQ repeater's
>>> users.
>>>
>>> Ham radio operators pride themselves in being polite. Yeah right!
>>
>>Well, there are still plenty of gentlemen operators left.
>>
>>.... and all that wide open space on 6m and 220 MHz ??...
>
>Excuse me, 'wide open space' on 222 MHz? Then why did the last 220
SMA meeting
>feature a hearing due to a denial of freq. coordination to a repeater
on Blue
>Ridge, and why were there 2 freq. coordinators on 222 MHz in So. Cal.
for a
>while? The 222 MHz band may not be used as much as 2 meters, but it's
stuffed
>full of repeaters. There is some room on 6m, but it's awfully noisy.
>
>I'm not sure we can blame Mike for the mess on 446.65. He is only a
pawn of

>SCRRBA, which apparently decided that the frequency shall not have an
'open'
>repeater on it. The 'warning' transmitter cites references to SCRRBA
>coordination, but makes no mention of possible coordination of KJ6TQ
by other
>freq. coordination entities, so it is not accurate to say that any
other
>repeater on the freq. is uncoordinated.
>
>Bob NO6B (KE6TZF)
>

KE6TZF SUNSET RIDGE REPEATER GROUP LIC ISU 15-MAY-1995
CLUB P. O. BOX 412 LIC EXP 15-MAY-2005
WALNUT CA 91788-0412 LST UPD 15-MAY-1995
NO6B DENGLER, ROBERT J IS RESPONSIBLE

NO6B DENGLER, ROBERT J LIC ISU 27-OCT-1987
EXTRA 10946 KANE AVE LIC EXP 27-OCT-1997
DOB 4-JUL-1963 WHITTIER CA 90604 LST UPD 27-OCT-1987
(PREVIOUSLY WA6ZGQ, ADVANCED)

2651. to

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0611960107520001@port27.vcnet.com>
Source record: 101023

In article <55olgo$t0p@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:

> Hi Rich,
>
> This has nothing to do with theory, but I'll comment anyway.
>
snip...
> Let me see if I follow this. Someone else opened the tubes and told Foote
> the damage was caused something other than excessive current.

No. The tube engineer reportedly told Foote that the damage was caused by excess grid current.

>Next Foote
> told you what that person told him verbally, and now you are telling us.

Yes. Judge Lance Ito would never allow it to be entered as evidence.

> I wonder who the source engineer was and what were his exact words were.
> Do you have a letter from him?
...no letter. The tube engineer reportedly tested the tubes and found them to be leaky. Next he cut off the anodes in a lathe so he could see the insides. He reported his findings to Mr. Foote. I confirmed the theory by inspecting the insides of kaput tubes with a microscope. Have you looked at the insides of kaput tubes with a microscope, Tom?

> You have stated:
>
> 1.) That a tube grid can not be damaged from fundamental frequency
> excitation.

Not true. In "Parasitics Revisited" I stated that grid to cathode shorts can result from over excitation at the operating frequency. A photo of a thusly damaged tube is shown. The grid to cathode shorts were caused by flakes of emissive coating being stripped off the cathode by more than twice the rated drive being applied. No evidence of gold sputtering is present. For comparison, another tube is shown with evidence of gold sputtering damage.

> 2.) That electronic protection should be removed

If the existing grid-protect switch transistor is shorted and the tube is kaput, would you conclude that the grid protection circuit worked properly, Tom?

> 3.) That resistors make good fuses, and fuses are alos good for protecting
> grids.

Not all types of resistors make good fuses. If a 0.5w-rated resistor was
in series with a 4w rated grid, which would you expect to fail first?

> 4.) That skin effect causes gold to leave before the base metal

Yes, but only if the gold is elevated above 2000 degrees F.

> 5.) That gold only leaves when it boils

Not necessarily. Water can evaporate without boiling. In a vacuum, gold
just begins to evaporate at 2000 degrees F. At atmospheric pressure it
takes more than 3500 degrees F to evaporate gold.

> All of which are untrue.

I don't think so.
>
> >However, when gold sputtering takes place at the same
> >time that tune capacitor arcing takes place, in an amplifier that was
> tuned
> >up correctly, an atypical event probably took place.
>
> Now let's see if I follow this, if the capaciator arcs at the same time
> the tube fails, ...snip.

No. The tube oscillates at VHF. Since the VHF energy is blocked by the
HF tank, there is virtually no VHF load, which results in high grid
current. If a VHF arc forms in the anode circuit, the arc presents a low
Z load to the anode, and the grid current decreases.

> If the PA is underloaded and excitaion remains at a high level, several
> things go on.

Some amplifiers appear to sustain VHF parasitic oscillations when they are
correctly loaded.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2652. Re: Need hard to find parts!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <55po10$6oi@newsbf02.news.aol.com>
Source record: 101024

I certainly enjoy the fact that you would like to build some HF gear.
It is the most rewarding aspect of this hobby.

The book"Solid State Design" is a great book for builders.

My copy is about to fall apart from use and age.

Carl
N9EFJ

2653. PCB Designing at high Frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: c9323097@alinga.newcastle.edu.au
Message-ID: <55pmfd$gl2@seagoon.newcastle.edu.au>
Source record: 101025

hi!

I'm a naive newbie and i would really appreciate it if someone could direct me to, say, a WWW page or a FAQ on designing electronic circuits that involve high frequency RF applications (i.e greater than 200,300Mhz up to the 2Ghz Range)

I've heard that a tequnique called "strip lining" is used. Can anyone explain that to me (I'm probably making an idiot of myself asking these questions)

I know that circuits dont abey "normal" laws when there are high frequency RF signals involved, adn since i only know about the "normal" rules I'm completely i the dark when it comes to designing for higher frequency RF.

Thanks very much in advance,

alan ford

2654. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0611960218410001@port21.vcnet.com>
Source record: 101026

In article <55ola0$suc@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <55m4vm$tf2@library.airnews.net>, jfriley@iadfw.net (J. Fred
> Riley) writes:
>
> >
> >I think we have to assume, given what we know about real components,
> >that the tuning capacitor has long since gone series resonant and
> >probably appears, at VHF as a rather high value of inductive
> >reactance.
>
> Not at all Fred.
>
> There are two self-resonant points of the Oren Elliot 250 pF capacitor
> used in the AL80B withing the range of my 1-1000 MHz Impedance analyzer.
>
> With the cap open, the series resonant point is 489.1 Mhz where it looks
> like .23 ohms j0 and another where at 570.74 MHz where it measures 14.1
> ohms j 0.
>
> These points move to 170.4 and 289.9 MHz when the cap is meshed. I can
> find no anti resonant impedance in the range of 1 to 1000 MHz.
>
> You'd be in radio hell trying to drive that cap with RF at VHF or UHF and
> make it arc.
>
We agree on this one, Tom. I have never heard of a tune cap arcing in an
AL-80. Congrats to Denny Haad. However, I have heard about a number of
bandswitch arcs in AL80s. According to QST's Paul Pagel, N1FB, Tom Rauch
received some telephone calls from Ameritron owners regarding this problem
shortly after "Parasitics Revisited" showed a photograph of a similar,
parasitic-arced bandswitch (p.33 10/90 QST). A ham in San Diego told me
he went through two bandswitches in his AL80. There should be no reason
for bandswitch arcing. The measured breakdown of the AL80's bandswitch is
Much higher than the anode supply voltage.
During Operation Desert Storm, I received a letter from a ham/serviceman
who was running an AL80 at a MARS station somewhere in the Arabian
desert. He said that he was seeing intermittent bandswitch arcing. After
lower Q suppressors were installed, the bandswitch arcing reportedly
stopped, despite the dusty environment.
---
e-mail copy to Mr. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

2655. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: codyspc@aol.com
Message-ID: <55pt0c$7c2@newsbf02.news.aol.com>
Source record: 101027

In article <55mr2q$a1o@post.servtech.com>, maroof@triton.kaifnet.com
(Maroof H. Choudhury) writes:

>Can anybody suggest a simple design of a narow band frequency
>modulator for Citizen's band?
>
>

Check out the Op-Amp cookbooks and Linear Series manuals for the
following...

AN612, and TA7320P...These are quite popular in CB radios. NTE and ECG
don't have much, Motorola will have more info for you - and you can search
for their website for this info. NEC, National Semiconductor and TI also
have websites - I don't know if they would have much information for you.

TA7320P is often used as a low level modulator mixer/combiner for SSB and
AM/FM use. It has also been used as a demodulator for IF derivatives in
some radios.

AN612 is used for filtering the voice into a unity gain voltage
regulator/buffer for mixing into a precise frequency for use in band pass
crystal lattice networks for AM/FM/SSB before being passed on to the
TA7320P for final processing and mixing to get the derived frequency
selection from a standard reference and the, now-modulated, IF frequency
of audio.

Linear series reference manuals are for the pinouts and Op-Amp cookbooks
may have a schematic or two to help develop your idea from. Or cannabalize
old radio manuals for engineering schematics to help you figure out the
idea.

Good luck! Happy hunting!

:+> Andy <+:

2656. Re: homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Walter Rawle <walter_rawle@ena-east.ericsson.se>
Message-ID: <3280AEA1.3186@ena-east.ericsson.se>
Source record: 101028

David Copperhead wrote:
>
> I once saw an article on converting your microwave oven to a radar
> system...think it was in RF Design Magazine...can't remember what
> issue though.

Microwave ovens operate at 2450 Mhz. At this longer wavelength,
hydrometeor radar cross section decreases, see for example, Balanis -
Advanced Engineering Electromagnetics. Further, the oven may be pressed
into service for a transmitter. You still need a receiver and antenna

walter rawle VE1AWS/w4

2657. Re: PCB Designing at high Frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Walter Rawle <walter_rawle@ena-east.ericsson.se>
Message-ID: <3280B3A7.4463@ena-east.ericsson.se>
Source record: 101029

Ford A R wrote:
>
> hi!
>
> I'm a naive newbie and i would really appreciate it if someone could
> direct me to, say, a WWW page or a FAQ on designing electronic circuits
> that involve high frequency RF applications (i.e greater than 200,300Mhz
> up to the 2Ghz Range)
>
> I've heard that a tequnique called "strip lining" is used. Can anyone
> explain that to me (I'm probably making an idiot of myself asking these
> questions)
>
> I know that circuits dont abey "normal" laws when there are high frequency
> RF signals involved, adn since i only know about the "normal" rules I'm
> completely i the dark when it comes to designing for higher frequency RF.
>
> Thanks very much in advance,
>
> alan ford

Alan:
At high frequencies, all PCB interconnects are modelled as transmission lines, specifically - microstrip transmission lines - hence the reference to strip lining. A microstrip transmission line is a flat ribbon conductor on a ground plane backed dielectric material. At frequencies below 1 Ghz microstrip line is relatively well behaved - there are well known equations which you can use to calculate the transmission line parameters - these parameters are derived from what is referred to as the quasi static approximation. Above 1 Ghz microstrip lines radiate, so precisely evaluating their behaviour is more difficult.
For multi layer boards, where the interconnects are embedded between layers, the transmission lines are striplines. A stripline is a ribbon sandwiched in a dielectric material with ground plane both top and bottom.
There are a number of good textbooks available for microstrip and stripline design. Pozar's "Microwave Engineeering" or Collin's "Fundamentals of Microwave Engineering" both have good illustrationsand design equations. Also, microwave CAD software can be used to evaluate the effects of the interconnects.
A good data point: .110 inch ribbon on 0.016 inch FR4 = 50 ohm transmission line
From a circuit perspective, the length of the interconnect will change the observed terminal impedance of the connected components. In the

frequency domain, impedance mismatch will result in a reduction in transferred power, the establishment of standing wave patterns on the interconnects with resulting coupling and radiation. In the time domain, multiple reflections will distort the transmitted waveforms, among other things.
I hope this short primer is helpful. email me if you have further questions

walter rawle VE1AWS/w4

2658. Re: homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: "James R. Chastain" <chastain@compunet.net>
Message-ID: <01bbcbf3$df68cf20$de479fcf@ns.compunet.net>
Source record: 101030

Hi,
If you find out anything, I would apreciate hearing it too.
I have several 10GHZ gunplexers and a 10 WATT
TWT amp that would do great for this.

Thanks and God Bless,
Rod

Daniel S Nixon <dann@f6.com.au> wrote in article
<327FD3ED.5466@f6.com.au>...
> I would like to build a weather radar for a thesis project in a couple
> of years time using a PC for signal processing and display. Does anyone
> have any suggestions on where to start or where to find information that
> would be useful for such a project?
>
> Thanks in advance,
>
> Dan.
>

2659. Re: Take a break, huh?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <55q55m$68b@nonews.col.hp.com>
Source record: 101031

Jeff Bross (jpbross@students.wisc.edu) wrote:
: In article <32804F4C.428A@worldnet.att.net>, Woody White
: <woody.white@worldnet.att.net> wrote:

: > Could this possibly be posted to the WRONG homebrew group ;-)
: > _Woody_
: Possibly, but I don't really give a shit. Seems that you may be good at
: WAISTING your time, so WASTE some time and fill out my damn survey.

Go Away.

2660. need info on ICOM FL-223 filters(9 MHz)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <55ovon$8ed@oskgw.osk.sony.co.jp>
Source record: 101032

Hi:
I bought an FL-223 narrow ssb filter for my Icom IC -706.
I am disappointed with it's performance. Either it has poor
attenuation or there is too much blow by on the
PCB.
I took it out of my rig and measured it at work.
It is suppose to be 1.8 kHz wide at - 6 dB.
I measured it on an HP -4194A gain phase analyzer.
I had the termination impedance set at 2.2kohms for the filter
and I measured 2100 Hz for the -6 dB bandwidth. Furthermore the
absolute stop band attenuation was only 45 dB peak on the top side and
55 db peak on the lower side.

I am wondering if anyone knows of either a better 9.0115 MHz filter
that can be used in place of the FL-223 or if there is a simple way
of cascading the stock filter with the optional narrow filter or
if anyone has been successful in making a homebrew ladder filter
replacement.

Peter

2661. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000611960745570001@news.west.net>
Source record: 101033

In article <55p0j5$356@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:

> Hi Jesse,
>
> First of all, I never said the nichrome was harmful. It is a less than
> desirable way to do the job, but anything that gets the job done is OK by
> me.
snip.......

The main difference between VHF-parasitic oscillation suppressors made with nichrome and those made with silver-plated copper is the resultant Q in the anode's VHF-resonant circuit. The differerence in Q can be seen with a dipmeter. Silver-plated copper suppressors produce a sharper dip than nichrome suppressors.

Tom: Are you saying that higher VHF-Q provides better VHF dampening than lower VHF-Q?

The lossy parasitic suppressor inductor is nothing new, Tom. F. E. Handy told us about it in the 1926 and 1927 *Radio Amateurs Handbook*.
---
e-mail copy to Mr. C. Tom Rauch

--
--Rich--
ag6k, 805.386.3734

2662. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000611960804000001@news.west.net>
Source record: 101034

In article <32776DBF.4618@arrl.org>, Zack Lau <zlau@arrl.org> wrote:

snip....

> Being a "single frequency area problem", what do you think about using
> inductive resistors in a clever design?

snip...

The resistance-wire VHF parasitic-suppressor inductor, recommended by Mr. F. E. Handy in the 1926 Edition of the *Radio Amateur's Handbook* sounds like the very design you are suggesting, Zack. I believe it's clever. Dipmeter tests of relative VHF-Q confirm that the idea of using resistive VHF oscillation suppressor-coils is valid. Mr. Handy said:
"The combination of both resistance and inductance is very effective in limiting parasitic oscillations to a negligible value.".

Apparently, Mr. Rauch does not agree.
---
e-mail copy to Mr. Zack Lau

--
--Rich--
ag6k, 805.386.3734

2663. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-06 00:00:00 UTC
From: Phil <pmetcalf@xyplex.com>
Message-ID: <55qj1a$mbl@cronkite.xyplex.com>
Source record: 101035
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics

About the simplest NBFM modulator that you can build is a variable capacitance modulator using a varactor diode as the active component. When properly biased, this device will give you a frequency swing of up to 7.5khz deviation (on some) which you can easily control to the desired 5khz. The device is installed at the oscillator tuning circuit and causes an increased/decreased capacitance in that tuning circuit which effectively changes the frequency of the oscillator with respect to the audio signal that is riding on top of the bias voltage.

Whew! Now! Demodulating is another problem!

Hope this shed some insight! -> Phil

2664. Re: Help Identify Components

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <55r8q2$n3i@vixen.cso.uiuc.edu>
Source record: 100948

In a previous article, "100116,113"@compuserve.com (Richard Ibbotson) says:

>
>I also got a "small" sheet of Rogers Duroid. When I told someone I wanted
>to process using photo etch resist, they told me the developer (sodium
>hydroxide) would damage it. Is this true ? Is there an alternative
>process ?
>
>Richard Ibbotson
>Reading U.K.
>

I haven't heard of that but could give it a try with some small scraps of Duroid I have. If you're really concerned, you can maybe print your circuit on an oversized piece of board and trim the edges (Duroid cuts easily with a knife or scissors). That way the edges which are exposed to the NaOH can be trimmed off if contaminated. (I assume you're using double-clad board?)

I have been using the DATAK photoresist/developer commonly available in the USA. It is a negative-acting photoresist very similar to Kodak KPR. The developer for it definitely does not harm Duroid 5870 or 5880.

Zack W9SZ

--

2665. Re: Simple PL Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: critta66@shadow.net
Message-ID: <32813706.93138686@news>
Source record: 100949

Ramsey has a kit to decode PL tones,,, call 1800-446-2295

On Tue, 05 Nov 1996 15:45:14 -0700, Mitch Muerle <mitchm@powernet.net>
wrote:

>Hi and thank you for reading.
>
>I'd like the plans to make a simple PL Decoder to open an HT repeater
>reciever, nothing fancy, but stable.
>
>Thanks and 73 de KB7PDF Mitch
>
>email mitchm@powernet.net

2666. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: tunedin@arcos.org
Message-ID: <55remb$9ik_002@ppp22.arcos.org>
Source record: 100950
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
"James S. Kaplan" <kg7fu@combined.com> wrote:
>ARRL lawyer to sue member
>
>The following is a copy of a message I received today from
>ARRL General Counsel Christopher D. Imlay N3AKD:
>
>
>To: James S. Kaplan, KG7FU
>Copies: Mary Lou Brown, NM7N
> Terry Baun
> John Poray
>Date: July 16, 1996
>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
>**
>
> Jim, I have just finished reading your article in the July,
>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
>my clients, the American Radio Relay League, Inc. and the Society
>of Broadcast Engineers, Inc. should cooperate in certain government
>relations projects, specifically spectrum protection. You note that
>I serve as the General Counsel for both organizations. You then
>jump from that argument to the following, which I quote:
>
> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
> perhaps both ARRL and SBE should be seeking more
> effective counsel. No offense Chris, but we have work to
> do. We should not only be sending a message to the FCC
> and Congress, but to other radio industries.
>
> (emphasis in original)
>
>It is not useful for me to educate you on the subject of your
>article to correct the errors in it, and I do not intend to do so.
>What I do intend, however, is for you to print a retraction, in
>unambiguous terms, in a form acceptable to me, and to furnish to
>me, in writing, an assurance that such will be printed in the next
>Chapter Newsletter for Chapter 124. Failing that, I am going to sue
>you in the District of Columbia for libel.
>
> I have no intention of allowing you to falsely allege that I
>have a conflict of interest in representing two of my best clients,

>especially in an SBE publication. You are not entitled to damage my
>reputation as a lawyer, which you have done in your article, or to
>infer (without any basis at all) that I have violated the canons of
>ethics governing attorneys, by which I govern my actions.
>
> I will await your response.
>
>Chris Imlay, N3AKD
>
Great response! People need to express their thoughts and opinions without the threat of legal action!

Dave
tunedin@arcos.org

2667. Down East Microwave on the WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <55rpov$il0$3@news3.microserve.net>
Source record: 100951

If you are interested in VHF/UHF & SHF construction projects
check out Down East Microwave's homepage at:

http://www.downeastmicrowave.com

73 Steven Kerns N3FTI

2668. Re: homebrew radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <55rpb8$il0$1@news3.microserve.net>
Source record: 100952

In the Proceedings of Microwave Update 91, Ken Britain WA5VJB presents
information on a 10Ghz "Cheap Doppler RADAR" (pages 314-318). I
think it is still in print from the ARRL. Check the ARRLs web site..

73 Steven Kerns N3FTI

In article <55mnmq$qv7@wabbit.its.uow.edu.au>, dann@f6.com.au says...
>
>I would like to build a weather radar for a thesis project using my computer
>for signal processing and display, does anyone have any suggestions about
>where to start, or what specific type of radar I should build!!
>
>Thanks in advance.
>Dan.

2669. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: rapp@tiac.net
Message-ID: <328258f1.6223240@news.tiac.net>
Source record: 100953
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

tunedin@arcos.org (.) wrote (with possible editing):

>In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> "James S. Kaplan" <kg7fu@combined.com> wrote:
>>ARRL lawyer to sue member
>>
>>The following is a copy of a message I received today from
>>ARRL General Counsel Christopher D. Imlay N3AKD:
>>
>>
>>To: James S. Kaplan, KG7FU
>>Copies: Mary Lou Brown, NM7N
>> Terry Baun
>> John Poray
>>Date: July 16, 1996
>>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
>>**
>>
>> Jim, I have just finished reading your article in the July,
>>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
>>my clients, the American Radio Relay League, Inc. and the Society
>>of Broadcast Engineers, Inc. should cooperate in certain government
>>relations projects, specifically spectrum protection. You note that
>>I serve as the General Counsel for both organizations. You then
>>jump from that argument to the following, which I quote:
>>
>> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
>> perhaps both ARRL and SBE should be seeking more
>> effective counsel. No offense Chris, but we have work to
>> do. We should not only be sending a message to the FCC
>> and Congress, but to other radio industries.
>>
>> (emphasis in original)
>>
>>It is not useful for me to educate you on the subject of your
>>article to correct the errors in it, and I do not intend to do so.
>>What I do intend, however, is for you to print a retraction, in
>>unambiguous terms, in a form acceptable to me, and to furnish to
>>me, in writing, an assurance that such will be printed in the next
>>Chapter Newsletter for Chapter 124. Failing that, I am going to sue
>>you in the District of Columbia for libel.
>>
>> I have no intention of allowing you to falsely allege that I

>>have a conflict of interest in representing two of my best clients,
>>especially in an SBE publication. You are not entitled to damage my
>>reputation as a lawyer, which you have done in your article, or to
>>infer (without any basis at all) that I have violated the canons of
>>ethics governing attorneys, by which I govern my actions.
>>
>> I will await your response.
>>
>>Chris Imlay, N3AKD
>>
>Great response! People need to express their thoughts and opinions without the threat
>of legal action!
>
>Dave
>tunedin@arcos.org

Imagine that - a lawyer concerned about his reputation! As if they
had any. Give him a break, Imlay - get a life.

L. M. Rappaport

2670. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: stevec@rain.org
Message-ID: <55s29c$ij9@news2.snfc21.pacbell.net>
Source record: 100954
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Damned lawyers - Typical attitude. I doubt that his livelihood depends on a few crummy dollars a year from the wireheads (ARRL/SBE). He'd be much better off just ignoring a few comments in a newletter with a tiny circulation.

stevech@pacbell.net

Stevech@pacbell.net If Computers Are The Answer...
WB6CSZ What Was The Question?

2671. Re: 70cm PLL projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <55rpkp$il0$2@news3.microserve.net>
Source record: 100955

Check out the Proceedings of Microwave Update '89, avaliable from
the ARRL (check out their web page). Pages 179 - 184 describe a
500Mhz to 1Ghz circuit that could be modified (or mixed) to get
you to the 70cm band.

73 Steven Kerns N3FTI

In article <55qt5t$388@freenet-news.carleton.ca>, ae517@FreeNet.Carleton.CA
says...
>
>
>Could anyone provide some references to recent construction articles
>pertaining to 70cm or UHF PLL oscillators?
>
>Any tips would be appreciated.
>
>tnx de va3rr/aa8lu

2672. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55s91g$kvl@newsbf02.news.aol.com>
Source record: 100956

In a message dated 96-11-06 11:20:03 EST, you write:

>We agree on this one, Tom. I have never heard of a tune cap arcing in an
>AL-80. Congrats to Denny Haad.

Denny did the AL80 that was run for less than 100 units and phased out.
The revamped 80, 80A, 80B were under my engineering supervision.

> However, I have heard about a number of
>bandswitch arcs in AL80s. According to QST's Paul Pagel, N1FB, Tom
Rauch
>received some telephone calls from Ameritron owners regarding this
problem
>shortly after "Parasitics Revisited" showed a photograph of a similar,
>parasitic-arced bandswitch (p.33 10/90 QST). A ham in San Diego told me
>he went through two bandswitches in his AL80. There should be no reason
>for bandswitch arcing. The measured breakdown of the AL80's bandswitch
is
>Much higher than the anode supply voltage

True so far as HV, but another false conclusion so far as RF. The voltage
breakdown can be exceeded by RF. The RF voltage in a tank can soar to
several times the HV supply when the tank is underloaded. Surely you know
that.

It is impratical to design a tank that would withstand improper loading.
The normal design process involves selecting components rated at the
highest anticipated voltage under maximum line voltage, humidity,
pressure, and operating errors expected.

Traditionally the variable capacitor is selected as the limiting device,
although I sometimes (almost exclusively now) design in a spark gap from
the tube end of the tank to chassis. The bandswitch should ALWAYS have a
much higher voltage breakdown rating than the cap or gap, because any arc
in the switch will ruin it.

Unfortunatly the voltage breakdown of the air capacitors (hence my
inclusion of a gap) varies quite a bit with the alignment and finish of
the plates. The bandswitch also varies somewhat due to burrs and sharp
edges that occasionally appear.

The failure rate of the bandswitch in the AL80 series has declined almost
to zero. In my latest design refinement, the AL80B, switch failures occur
in approximately 2/10 % of total units sold. The next level higher switch
would add $140 to the cost of every PA, to benefit 2/10% of the users.
Customers would pay $120,000 a year to reduce the total yearly failure
cost of the entire customer base by perhaps $100-200. Once the less than

perfect switch is replace, the problem disappears anyway. Nichrome is not needed, although it can help by LOWERING the operating Q of the tank on the higher bands.

Even a real estate lady couldn't sell a bigger bandswitch deal like that.

Incidentally, one design I did for Heath (the SB1000) underwent two changes that cause increased switch failures. One was they left off an ANTI-corona washer on the 160 meter padding cap contact (the absolute highest voltage part of the switch). The other is they omitted specs on the transformer that would have limited the no-load voltage (secondary ESR specs and the buck-boost primary).

The bandswitch failure rate in the SB-1000 was almost 8%, compared to 3/10% in the AL80A and 2/10% in the AL80B. The combination of pointed connections by kit builders, no corona ring, and the looser transformer voltage caused that large change!

By the way, the AL-80B wafer fit the entire SB series of PA's, and offer improved voltage ratings when properly installed. They fit most Dentrons, and GREATLY improve the voltage of those switches while reducing the number of wafers and wires needed.

Please let me know if you find any disagreement with anything I've said, so I can clarify it.

73 Tom

2673. Re: Wanted: MC145170 designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Tibor Bece <btibi@hutch.com.au>
Message-ID: <3282A3B1.E9F@hutch.com.au>
Source record: 100957

David Covert wrote:
>
> ... MC145170....
>

Electronics Australia, January 97:

YAPLL-V and YAPLL-U - universal PLL modules using the MC145170 and
MC145191, suitable for external DDS generated reference

I'd say you have just enough time to subscribe...

Regards,
Tibor

2674. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55sag3$lmi@newsbf02.news.aol.com>
Source record: 100958

In article <55p410$vrr@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>This is a triumph of supposition over science since I've not measured
>any of my amplifiers to see just what the value is. I'm just
>extrapolating from what I've seen in large HF amplifiers. When we
>don't use vacuum variables (where it's easier to control the lead
>inductance) the net series reactance of the tuning capacitor
>connection can be quite high at VHF.
>
>
>Fred

The bulk of the reactance has to be in the suppressor with its' shunt resistance, unless the designer used some long leads.

Even so the contention was the capacitor arced from parasitics, but that is impossible with it's low reactance and the values in the PA I measured.

The AL-80B is in the low hundreds of ohms and is slightly capacitive at the anode at 175 MHz, and drops to zero J at 127MHz and again at 110 MHz where the resistor in the suppressor dominates. Below 80 MHz the tank C postion starts to have a major effect.

The transmission loss through the tube (measured on a Wiltron Network analyzer) is minimum at 81.05 (-70 dB), and maximum at 156.21 MHz (-24.2 dB), it dips again at 243.83 MHz to -28.9 dB.

Removing all suppression I can't get this particular PA to oscillate, probably because it has a new socket design that grounds each grid pin directly to a foil shield with zero length. The older PA's with ceramic sockets oscillated about 100 -120 MHz if the suppressor was removed.

In any event, if the impedance was as high as assumed the nichrome woul have no effect either unless it was a large fraction of a wavelength long! With high series reactance, the nichrome path would be an open circuit, and the distributed resistance would have no effect. There would be little current and almost no I^2 R loss.

So if the conventional suppression didn't work, neither would the nichrome.

Things aren't as bleak as described, as anyone with a RF Network analyzer, an RF Impedance Analyzer, or even a lowly MHF-259 can view. If they were, the amplifier would have more problems than suppression, it would have horrid VHF TVI. You can bet harmonic or parasitic radiation from the anode would get out !!!

73 Tom

2675. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <55saia$lo3@newsbf02.news.aol.com>
Source record: 100959

Hi Rich,
In article <measures-06119601075200001@port27.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>> the damage was caused something other than excessive current.
>No. The tube engineer reportedly told Foote that the damage was caused
by
>excess grid current.

Here's what you posted:
In article <measures-ya023180002710961614530001@news.west.net>
> When I was talking to an Eimac engineer in February, 1986, about
>suppressing unwanted oscillations, he said that even though they (Eimac)
>discovered that the reason for gold-sputtering damage in 8877s was an
>oscillation condition, there were no Eimac Engineering Bulletins on the
>subject.

In article <measures-0411960742190001@port26.vcnet.com>
> The person at Eimac who wrote the letter I allegedly distorted was
Willis
>B. Foote, Eimac's Chief Specifications Engineer in the Power Grid
>Division. The letter in question can be read at:
>http://www.vcnet.com/measures/EimacF.html

In article <measures-0211960617270001@port28.vcnet.com>
> Good points, Gary. The energy just isn't there from that to boil and
>evaporate gold. // I was looking at an 8877 grid structure this
>morning. My best educated guess is that it would take between 500W and
>700W to raise the 8877 grid structure to a temperature of 2000 degrees..

From the above, and you comments on skin effect, I understood you to say
fundamental RF drive just couldn't damage the grid. Most people do not
have 500/700 watt exciters. In January 1994 QST on page 31 you state "I've
never found a grid damaged by excessive HF grid current." also "Thus
complex electronic grid-protection circuits are unnecessary."

I now understand you to say Eimac told you excessive grid current was the
cause. Are you still maintaining that it takes 500 watts to damage a grid
Eimac rates at only a few watts? If it really takes 500 watts, why isn't
the 8877 grid rated at 500 watts? Is the 8877 grid as large as the anode
in a 3-500Z? Will it stand that temperature?

Are you saying the ONLY a parasitic can supply enough current to damage a
grid?

>> I wonder who the source engineer was and what were his exact words
were.

>> Do you have a letter from him?
>...no letter. The tube engineer reportedly tested the tubes and found
>them to be leaky. Next he cut off the anodes in a lathe so he could see
>the insides. He reported his findings to Mr. Foote. I confirmed the
>theory by inspecting the insides of kaput tubes with a microscope.

So all we really know is the tubes were overheated? That's all he found?

>> 1.) That a tube grid can not be damaged from fundamental frequency
>> excitation.
>
>Not true. In "Parasitics Revisited" I stated that grid to cathode shorts
>can result from over excitation at the operating frequency. A photo of a
>thusly damaged tube is shown. The grid to cathode shorts were caused by
>flakes of emissive coating being stripped off the cathode by more than
>twice the rated drive being applied. No evidence of gold sputtering is
>present. For comparison, another tube is shown with evidence of gold
>sputtering damage.

OK, let me repeat this to be sure I understand. You postulate the Cathode can be damaged by as little as twice the rated drive power, but the lower thermal mass Grid can not be damaged by as much as 5- 20 times the rated dissipation.

An 8877 can be operated in a pulse application delivering tens of kilowatts to a load with kilowatts of drive and amperes of peak grid current without failure or damage. Yet a few watts of extra drive will overheat the catode and not the small fragile grid. That is a series of conflicting statements.

>> 2.) That electronic protection should be removed
>
> If the existing grid-protect switch transistor is shorted and the tube
is
>kaput, would you conclude that the grid protection circuit worked
>properly, Tom?

I would conclude the tube likely arced, and destroyed the protect circuit. I would conclude the PA needs more ESR in the dc supply to the anode, and better transcient protection of the overload protection device.

I would improve the PA protection, not remove its' protection.

>Not all types of resistors make good fuses. If a 0.5w-rated resistor was
>in series with a 4w rated grid, which would you expect to fail first?

Ohms law doesn't work that way Rich. Dissipation divides according to the ratio of the resistances. You also assme the thermal lag and overload time capability is the same for each device, and that overload results in immediate destruction and an open circuit.

All of that is untrue. More than that:

Even very small resistors can dissipate hundreds (and in cases thousands) of watts before failure. They have voltage ratings, and voltage rating and duty cycle sets the dissipation limits. If they open, they can still sustain an arc. The normal process of a carbon (semi-conductor) based resistor failure is the resistor ages down in resistance, reducing the protection right when you need it.

A resistor with high enough resistance to heat itself up and low enough thermal mass to fail open is called a "fuse". They use metallic elements because metal ages up in resistance with current overload, not down. The open circuit time for even special very fast fuses is in seconds. Since you claim damage is done in milliseconds or less, what good could a fuse do if you example of damage time is correct? A resistor would do even less good.

>> 4.) That skin effect causes gold to leave before the base metal
>
>Yes, but only if the gold is elevated above 2000 degrees F.

No. The heating is not caused by skin effect.The gold is on the surface, it is heated by kinetic energy. The very fact it is being struck by electrons makes gold leave the grid. Gold will disappear even if it isn't melted, let alone heated to the boiling point.

>> 5.) That gold only leaves when it boils
>
>Not necessarily. Water can evaporate without boiling. In a vacuum, gold
>just begins to evaporate at 2000 degrees F. At atmospheric pressure it
>takes more than 3500 degrees F to evaporate gold.

I see. I suppose this means water starts to evaporate at 212 degrees F at sea level. If we put an open bucket of water in a cold garage, it will still be there in spring.

The physics in your statement is incorrect. We do not need to boil something for it to evaporate. We do not even need to "melt" it.

A solid will evaporate if kinetic energy of any individual atom is sufficent to break the electrical bonds holding it in place. An electron imparting energy to the atom is an ideal source of this "evaporation".

>No. The tube oscillates at VHF. Since the VHF energy is blocked by the
>HF tank, there is virtually no VHF load, which results in high grid
>current.

But when the grid draws current, it's impedance rapidly drops. That reduces the current to equibrium, unless the feedback path is very low impedance. If the feedback path was a low impedance, the thing would oscillate all the time. So the non-oscillation until the right condition contradicts the conclusion reached that power will suddenly become many kilowatts.

>If a VHF arc forms in the anode circuit, the arc presents a low
>Z load to the anode, and the grid current decreases.

If the anode draws more current, the VHF path in the anode ALSO becomes a lower impedance and feedback is reduced.

Rich, these oscillation claims appear to be just guesses. Everything attributed to them can be explained by other much more likely causes. It's a long path from the alleged statement by Foote to this point, especially since much of the parasitic damage theory is in direct conflict to circuit analysis and physics.

The facts are:
If the load is momentarily shorted (perhaps by an antenna system failure or a loading capacitor arc) or momentary excessive overdrive (I've measured rigs like the TS940 delivering up to 300 watts of RF pulse at the operating frequency when the ALC fails to follow the envelope) tank tuning capacitor and bandswitch voltage will soar. The tube can arc, or the tank tuning cap or bandswitch can arc.

Article Unavailable

2676. Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Steve Simpson <Steve@chubs.demon.co.uk>
Message-ID: <EZ6q$hAL3cgyEwQM@chubs.demon.co.uk>
Source record: 100960
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

I would like to experiment with A/D and D/A audio over radio. I have an excellent Babani book on the subject but all the circuits seem to have parallel outputs. I would like some sort of modem type chip that will take the parallel signal and turn it into a data stream for TX in a narrow bandwidth. Also visa versa. Is this cheaply possible using say cellular phone type circuits or am I asking the impossible.

Maybe there is a chip that does the whole thing (audio to data stream and back).

Can anyone point me in the right direction please?

Please reply via E-mail.

Regards
--
Steve "Chubby" Simpson
Web Author/Night Club D.J.
Steve@chubs.demon.co.uk
G7NAY@GB7MSW.#33.GBR.EU
HTTP://www.chubs.demon.co.uk

2677. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: jeroen@psas01.cern.ch
Message-ID: <E0I46G.Ft9@news.cern.ch>
Source record: 100961
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

In article <55r90p$jd2@news.doit.wisc.edu>,
Melissa & Jim <mgkepner@facstaff.wisc.edu> wrote:
>Brooke <brooke@pacific.net> wrote:
>
>>There are two types of diodes: those that store charge (such as PIN,
>>varactor, SRD,
>>some schottkies that are made inproperly under large forward bias)
>>and those that do not (such as schottky, tunnel). For use at 150 MHz
>>you need a diode that has a long lifetime (stores a lot of charge).
>
>Isn't it just the other way around? I thought large storage led to
>long recovery times which led to low frequency.
>

This PIN diode is used as an RF switch, not a rectifier. It's
forward biased to close the switch. Now, even though the level of
RF voltage may be such that the diode is reverse biased for part of
the RF period, you don't want the diode to block. Hence, the
storage time must be (much) greater than half an RF period.

Another key spec of PIN diodes used as RF switches is the junction
capacitance in the off-state, which should be suitably low.

Jeroen Belleman
Jeroen.Belleman@cern.ch

2678. SSTV, FAX, RTTY, CW and more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <3281F2CC.304E@concentric.net>
Source record: 100962

Check out the HamComm adapter, under $20 and does it all.

http://www.cris.com/~n9zle/hc.html

Also it works with EZSSTV

Bruce mailto:n9zle@juno.com

2679. Re: Folded Dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: <>
Message-ID: <3282533A.6CB0@hagagymnasiet.norrkoping.se>
Source record: 100963

> I was wondering if it is possible to use 400 ohm ladder line for a
> folded dipole...not as the feedline but rather as the dipole itself.
> It would seem that by shorting the ends and feeding it in the center that it would be quite easy...what am I missing?

It will work fine, provided the ladder line will stand the stress when
you tighten it between the end points. I would try to relieve that stress
by using a center support, however.

73 de Lennart SM5DFF

2680. Would like to build Vacuum Tube Receiver - Help!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Keith Stevenson <kstevenson@bfsec.bt.co.uk>
Message-ID: <01bbccb4$200ca5e0$13a29284@alfonzo.bfsec.bt.co.uk>
Source record: 100964

Hi and thanks for reading this.

I have built several ic and transistorised projects in the passed and I have a small collection of Heathkit, Trio and some other obscure valved RX/TX and test equipment. I would like to learn some more about the insides of these magical radios that glow in the dark.

Can anyone suggest a simple circuit using readily available/manufacturable parts?

I have access to PCB manufacture facilities, test equipment, quite a lot of old (working) assorted valves and a lot of entheusiasm. Oh yes and a 1957 ARRL Handbook that I came across might come in handy too!!

I`ll look forward to any replies,

Thanks,

Keith Stevenson.
GI0SSA

2681. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: rogerjb@ibm.net
Message-ID: <55st91$31ie$3@news-s01.ca.us.ibm.net>
Source record: 100965
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In <328258f1.6223240@news.tiac.net>, rapp@tiac.net (L. M. Rappaport) writes:
>
>Imagine that - a lawyer concerned about his reputation! As if they
>had any. Give him a break, Imlay - get a life.
>
>L. M. Rappaport
>

Alas, it is arrogance of that sort that gives the profession a bad name among the public. Pretty unfortunate.

Roger J. Buffington
W6VZV
rogerjb@ibm.net

USC Law School, Class of '97

"I want to die peacefully, in my sleep, like my Grandfather."
"Not screaming, and in terror, like his passengers."

2682. Advantage Instruments Corp (Carson City) HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfE0IBFq.FsF@netcom.com>
Source record: 100966

I'm having difficulty getting ahold of the folks that build the spectrum analyzer scope adapter SA500ADP. Anyway, it turns out the manual was published by "Advantage Instruments Corporation" in Carson City NV. Calls to their number yield a non-descript phone message and calls are never returned. Is anyone using this scope adapter product? Have you installed the tracking generator? Have you been able to get any help from the factory? Do you know of a distributor for their products?

I'm still trying to get the tracking generator element installed and the documentation is not accurate.

Thanx for any leads/tips/help!

73 Dave WB0GAZ dgf@netcom.com

~

2683. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0711960758010001@port18.vcnet.com>
Source record: 100967

In article <55s91g$kvl@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In a message dated 96-11-06 11:20:03 EST, you write:
>
> >We agree on this one, Tom. I have never heard of a tune cap arcing in an
> >AL-80. Congrats to Denny Haad.
>
> Denny did the AL80 that was run for less than 100 units and phased out.
> The revamped 80, 80A, 80B were under my engineering supervision.

Was the tune capacitor changed substantively between the 80 and the 80A/B?

> > However, I have heard about a number of
> >bandswitch arcs in AL80s. According to QST's Paul Pagel, N1FB, Tom
> Rauch
> >received some telephone calls from Ameritron owners regarding this
> problem
> >shortly after "Parasitics Revisited" showed a photograph of a similar,
> >parasitic-arced bandswitch (p.33 10/90 QST). A ham in San Diego told me
> >he went through two bandswitches in his AL80. There should be no reason
> >for bandswitch arcing. The measured breakdown of the AL80... bandswitch
> is
> >Much higher than the anode supply voltage
>
> True so far as HV, but another false conclusion so far as RF. The voltage
> breakdown can be exceeded by RF. The RF voltage in a tank can soar to
> several times the HV supply when the tank is underloaded. Surely you know
> that. ...snip...

No.
However, I do know that in a 3-500Z g-g amplifier that uses a 3000V anode supply, the negative-going change in anode voltage during the conduction cycle of the 3-500Z is about 2700vp (volts peak), which coincides with the peak in anode current. At this peak, the anode to (grounded)grid voltage is about 300v. {3000v minus 300v = 2700v} When the amplifier is underloaded, the tube saturates, and the anode to grid voltage (at the anode current peak) is about 150v. In other words, the negative-going change in anode voltage is about 2850vp. It's a long way from 2850vp to the 5500v or more needed to arc the bandswitch.

Therein lies the heart of the problem. Manufacturers of amplifiers tend to assume they understand everything about amplifier theory, and that all of their customers are drooling idiots.
I get phone calls from people who experienced mysterious bandswitch arcing problems in amplifiers that were tuned up correctly. Kenwood, whose

922 bandswtich arcing problems are Much more common than is the case in the AL80..., used to tell customers that bandswitch arcing was caused by rapidly switching the bandswitch while transmitting. Yeah, right.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2684. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: "news.primenet.com" <dannyh@primenet.com>
Message-ID: <01bbccca$ec017840$db06f5cc@primenet.primenet.com>
Source record: 100968
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

L. M. Rappaport <rapp@tiac.net> wrote in article
<328258f1.6223240@news.tiac.net>...
> tunedin@arcos.org (.) wrote (with possible editing):
>
> >In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> > "James S. Kaplan" <kg7fu@combined.com> wrote:
> >>ARRL lawyer to sue member
> >>
> >>The following is a copy of a message I received today from
> >>ARRL General Counsel Christopher D. Imlay N3AKD:
> >>
> >>
> >>To: James S. Kaplan, KG7FU
> >>Copies: Mary Lou Brown, NM7N
> >> Terry Baun
> >> John Poray
> >>Date: July 16, 1996
> >>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
> >>**********
> >>
> >> Jim, I have just finished reading your article in the July,
> >>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
> >>my clients, the American Radio Relay League, Inc. and the Society
> >>of Broadcast Engineers, Inc. should cooperate in certain government
> >>relations projects, specifically spectrum protection. You note that
> >>I serve as the General Counsel for both organizations. You then
> >>jump from that argument to the following, which I quote:
> >>
> >> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
> >> perhaps both ARRL and SBE should be seeking more
> >> effective counsel. No offense Chris, but we have work to
> >> do. We should not only be sending a message to the FCC
> >> and Congress, but to other radio industries.
> >>
> >> (emphasis in original)
> >>
> >>It is not useful for me to educate you on the subject of your
> >>article to correct the errors in it, and I do not intend to do so.
> >>What I do intend, however, is for you to print a retraction, in
> >>unambiguous terms, in a form acceptable to me, and to furnish to
> >>me, in writing, an assurance that such will be printed in the next
> >>Chapter Newsletter for Chapter 124. Failing that, I am going to sue

> >>you in the District of Columbia for libel.
> >>
> >> I have no intention of allowing you to falsely allege that I
> >>have a conflict of interest in representing two of my best clients,
> >>especially in an SBE publication. You are not entitled to damage my
> >>reputation as a lawyer, which you have done in your article, or to
> >>infer (without any basis at all) that I have violated the canons of
> >>ethics governing attorneys, by which I govern my actions.
> >>
> >> I will await your response.
> >>
> >>Chris Imlay, N3AKD
> >>
> >Great response! People need to express their thoughts and opinions
without the threat
> >of legal action!
> >
> >Dave
> >tunedin@arcos.org
>
> Imagine that - a lawyer concerned about his reputation! As if they
> had any. Give him a break, Imlay - get a life.
>
> L. M. Rappaport
>
>
And they wonder why the trade has such a lousy reputation and is the scorn
of jokes!

2685. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Len SantaMaria <lenny@slip.net>
Message-ID: <32821C04.40C9@slip.net>
Source record: 100969
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Kent Winrich wrote:
>
> L. M. Rappaport wrote:
> >
> > tunedin@arcos.org (.) wrote (with possible editing):
> >
> > >In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> > > "James S. Kaplan" <kg7fu@combined.com> wrote:
> > >>ARRL lawyer to sue member
> > >>
> > >>The following is a copy of a message I received today from
> > >>ARRL General Counsel Christopher D. Imlay N3AKD:
> > >>
> > >>
> > >>To: James S. Kaplan, KG7FU
> > >>Copies: Mary Lou Brown, NM7N
> > >> Terry Baun
> > >> John Poray
> > >>Date: July 16, 1996
> > >>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
> > >>**
> > >>
> > >> Jim, I have just finished reading your article in the July,
> > >>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
> > >>my clients, the American Radio Relay League, Inc. and the Society
> > >>of Broadcast Engineers, Inc. should cooperate in certain government
> > >>relations projects, specifically spectrum protection. You note that
> > >>I serve as the General Counsel for both organizations. You then
> > >>jump from that argument to the following, which I quote:
> > >>
> > >> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
> > >> perhaps both ARRL and SBE should be seeking more
> > >> effective counsel. No offense Chris, but we have work to
> > >> do. We should not only be sending a message to the FCC
> > >> and Congress, but to other radio industries.
> > >>
> > >> (emphasis in original)
> > >>
> > >>It is not useful for me to educate you on the subject of your
> > >>article to correct the errors in it, and I do not intend to do so.
> > >>What I do intend, however, is for you to print a retraction, in
> > >>unambiguous terms, in a form acceptable to me, and to furnish to

> > >>me, in writing, an assurance that such will be printed in the next
> > >>Chapter Newsletter for Chapter 124. Failing that, I am going to sue
> > >>you in the District of Columbia for libel.
> > >>
> > >> I have no intention of allowing you to falsely allege that I
> > >>have a conflict of interest in representing two of my best clients,
> > >>especially in an SBE publication. You are not entitled to damage my
> > >>reputation as a lawyer, which you have done in your article, or to
> > >>infer (without any basis at all) that I have violated the canons of
> > >>ethics governing attorneys, by which I govern my actions.
> > >>
> > >> I will await your response.
> > >>
> > >>Chris Imlay, N3AKD
> > >>
> > >Great response! People need to express their thoughts and opinions without the threat
> > >of legal action!
> > >
> > >Dave
> > >tunedin@arcos.org
>
> I noticed that Chris did not include his email so we could write to him
> with a few opinions!
>
> Kent, NI9U

I think www.switchboard.com is a wonderful thing. (see below)

Imlay, Christphr D...2140 Edgeware St...Silver Spring, MD 20905-4215
Phone: (301)236-5629

2686. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0711960908130001@port19.vcnet.com>
Source record: 100970

In article <55saia$lo3@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:
...snip.......
> I now understand you to say Eimac told you excessive grid current was the
> cause.

Tom: You still do not seem to understand that the engineer said that the
excessive grid current was apparently the result of an oscillation far
above the operating frequency.

> Are you still maintaining that it takes 500 watts to damage a grid
> Eimac rates at only a few watts? ....snip........

Tom: I was talking about the 8877 grid. The rated grid dissipation is
25w. Since there is no numerical definition of 'few', I suppose 25 will
do. The answer is yes.
I have a disassembled, kaput 8877 that has substantive gold-sputtering
damage to the grid. . I estimate that it would take at least 500w to
elevate the grid to the 2000 degrees F necessary to initiate gold
evaporation in a vacuum. However, boiling gold would require even more
heat. The burst gold bubbles on the surface of the grid indiczte that
boiling probably took place. The plethora of microscopic gold melt-balls
on the surface of cathode tell me where the gold went when it left the
grid. This failure reportedly occured in an amplifier that had been tuned
up correctly.
----
e-mail copy to Mr. C. Tom Rauch, W8JI

--
--Rich-- ag6k, 805.386.3734

2687. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0711960919510001@port19.vcnet.com>
Source record: 100971

In article <55sag3$lmi@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <55p410$vrr@library.airnews.net>, jfriley@iadfw.net (J. Fred
> Riley) writes:
>
> >This is a triumph of supposition over science ...snip......

The top scientists and top engineers said it was safe to launch Shuttle
Mission 25. One lowly less-educated engineer was the lone holdout.

> The AL-80B is in the low hundreds of ohms and is slightly capacitive at
> the anode at 175 MHz, and drops to zero J at 127MHz and again at 110 MHz.

Tom: What is the anode's resonant frequency in the AL80B?
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2688. Need 4cx250x amplifier schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: gamrunr@aol.com
Message-ID: <19961107174101.MAA05633@ladder01.news.aol.com>
Source record: 100972

I need schematics for amplifiers using the 4cx250 tubes, any number of tubes... Any help would be greatly appreciated

Thanks in advance.

Rob

2689. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: mgkepner@facstaff.wisc.edu
Message-ID: <55r90p$jd2@news.doit.wisc.edu>
Source record: 100973
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

Brooke <brooke@pacific.net> wrote:

>Claude Frantz wrote:

>Claude:

>There are two types of diodes: those that store charge (such as PIN,
>varactor, SRD,
>some schottkies that are made inproperly under large forward bias)
>and those that do not (such as schottky, tunnel). For use at 150 MHz
>you need a diode that has a long lifetime (stores a lot of charge).

Isn't it just the other way around? I thought large storage led to
long recovery times which led to low frequency.

Jim

Melissa Kepner Jim Adney
mgkepner@facstaff.wisc.edu jim.adney@mpcug.com
Laura Kepner-Adney
Madison, Wisconsin

2690. Re: BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3282C239.5D0F@worldnet.att.net>
Source record: 100974
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Bob Smith wrote:
>
> Can someone kindly point me to a tutorial on the Bird 43 watt meter. Just
> got one used without a manual. They look very simple to use.
>
> I do have a RF Sampler fitted - what range out output does this have? -
> would hate to blow my frequency meter or o-scope.!
>
> Thanks a million for reading.
>
> --
> >>>>
> Bob Smith N3FTU
> Atlanta, GA

altavoz: Many slugs and $$$thousands of dollars later ......
WHY NOT BUY AN MFJ249/209 ?

______End of text from altavoz__________

2691. Re: Bi-polar Proms

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961107161033.11361A-100000@primeline.net>
Source record: 100975

On 5 Nov 1996, Alex Szopko wrote:

#Hi everybody!
#
#I have a problem again.What is the difference between an E-PROM and a
#
#BI-POLAR PROM ? Can you program a BI-POLAR PROM on an E-PROM programer,
#
#as far as I know E-PROM is erasable and the BI-POLAR PROM is not.
#
#Is that the only difference?
#
#Please help
#
73's Alex VK7CS

There are two types of prom, one is esentially an EPROM without the
window,and the other actually has fusible elements. The former
can be programmed as an EPROM, the latter needs more current to open
the fusible elements.

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

2692. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istE0I9rn.2L4@netcom.com>
Source record: 100976
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <3281F7F9.44FA@execpc.com> Kent Winrich <kwin@execpc.com> writes:
[Revival of this old blather...]

-I noticed that Chris did not include his email so we could write to him
-with a few opinions!

I don't know why someone just brought this thread back; it made the rounds
back in the summer (and I thought got bashed to death...)

Try calling the League; I'm sure they have Chris's address. It might be
cimlay@arrl.org, but I haven't tried that one.
/mike

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

2693. Re: Need 4cx250x amplifier schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <55th33$ts4@newsgate.sps.mot.com>
Source record: 100977

The older Bill Orr handbooks featured a number of these.
One design featured a 4CX250 driving a much larger final...
took a 0.7-watt input on the 4CX250.

Also, there was an intriguing article in Ham Radio magazine
on a non-forced-air cooled 4CX250 "QRP" amp, but I don't have the
reference for this article. You could use that schematic
with forced-air cooling and a higher Ep for a bigger bang.

N6OTQ

2694. International Ham E-Mail list

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: TRIUS_GmbH@msn.com
Message-ID: <00001fee+00001dc9@msn.com>
Source record: 100978

Hi from Dl8FCS!!!

Need E-Mail addresses from HAM's world wide for my personal Ham Homepage.

You can find the list under

http://ourworld.compuserve.com/homepages/jodasoft/hammail.htm

My E-Mail address is: jodasoft@aol.com

TKS es vy 73 de DL8FCS, OP OLLI :-)

2695. Wanted : Diagrams of 23 Cm ATV Receivers (Home Brew)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Jerome Grimminck <fright@knoware.nl>
Message-ID: <328234E6.F40@knoware.nl>
Source record: 100979

Hi Om ...

I'am looking for some good schematics for an Home Brew 23 Cm ATV
receiver.
The most important is that it has an narrow bandwith (15 Mhz)
I dont want to use any sat receivers but want to build it on my own.

If you have / know something please let me know.

--
==*=

2696. Re: Wanted: MC145170 designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Dave_Covert@msn.com
Message-ID: <00001fee+00001dcd@msn.com>
Source record: 100980

Who makes the YAPLL-x modules? Or are they a project from the mag?

dave kb5gog

2697. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Kent Winrich <kwin@execpc.com>
Message-ID: <3281F7F9.44FA@execpc.com>
Source record: 100981
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

L. M. Rappaport wrote:
>
> tunedin@arcos.org (.) wrote (with possible editing):
>
> >In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> > "James S. Kaplan" <kg7fu@combined.com> wrote:
> >>ARRL lawyer to sue member
> >>
> >>The following is a copy of a message I received today from
> >>ARRL General Counsel Christopher D. Imlay N3AKD:
> >>
> >>
> >>To: James S. Kaplan, KG7FU
> >>Copies: Mary Lou Brown, NM7N
> >> Terry Baun
> >> John Poray
> >>Date: July 16, 1996
> >>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
> >>**********
> >>
> >> Jim, I have just finished reading your article in the July,
> >>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
> >>my clients, the American Radio Relay League, Inc. and the Society
> >>of Broadcast Engineers, Inc. should cooperate in certain government
> >>relations projects, specifically spectrum protection. You note that
> >>I serve as the General Counsel for both organizations. You then
> >>jump from that argument to the following, which I quote:
> >>
> >> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
> >> perhaps both ARRL and SBE should be seeking more
> >> effective counsel. No offense Chris, but we have work to
> >> do. We should not only be sending a message to the FCC
> >> and Congress, but to other radio industries.
> >>
> >> (emphasis in original)
> >>
> >>It is not useful for me to educate you on the subject of your
> >>article to correct the errors in it, and I do not intend to do so.
> >>What I do intend, however, is for you to print a retraction, in
> >>unambiguous terms, in a form acceptable to me, and to furnish to
> >>me, in writing, an assurance that such will be printed in the next
> >>Chapter Newsletter for Chapter 124. Failing that, I am going to sue

> >>you in the District of Columbia for libel.
> >>
> >> I have no intention of allowing you to falsely allege that I
> >>have a conflict of interest in representing two of my best clients,
> >>especially in an SBE publication. You are not entitled to damage my
> >>reputation as a lawyer, which you have done in your article, or to
> >>infer (without any basis at all) that I have violated the canons of
> >>ethics governing attorneys, by which I govern my actions.
> >>
> >> I will await your response.
> >>
> >>Chris Imlay, N3AKD
> >>
> >Great response! People need to express their thoughts and opinions without the threat
> >of legal action!
> >
> >Dave
> >tunedin@arcos.org

I noticed that Chris did not include his email so we could write to him
with a few opinions!

Kent, NI9U

2698. Re: info on 1.2 gig pre amp 20 db or more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-07 00:00:00 UTC
From: Bill Harwood <harwood@sirius.chinalake.navy.mil>
Message-ID: <328234B7.6D93@sirius.chinalake.navy.mil>
Source record: 100982

Bruce W. Forsberg wrote:
>
> "Bill Frovik" <n0mnb@minn.net> wrote:
>
> >need info on a good pre amp for 1.2 gig atv.. other than that dam radio
> >shack
> >one..
> >thanks
> > n0mnb
> >bill
> PC Electronics sells the one from Downeast Electronics and it sells for $100. I
> use it and it seems to do a good job.
>
> Bruce WB6IZG

I am very pleased with the way the one on my 1.2 GHz repeater works.
They are a little cheaperif you buy them direct from Down East

Bill Harwood
AB6DY

2699. transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: ngaggiolir@etrurianet.it
Message-ID: <ngaggiolir-0811960102210001@slip3.etrurianet.it>
Source record: 100886

Hello,I need transverters(RX & TX) from 28 MHz to 144,432,1296 and upper
frequencies;I am interested in KITs and ready devices:someone can help me?
Thank you,
IK5WQO Riccardo

2700. Re: HTX-212 MODS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <55ue0f$3h6@news.onramp.net>
Source record: 100887

Have you ever been on a Snipe hunt, just ask NE1

73

2701. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: W8JITom@aol.com
Message-ID: <19961108054700.AAA19292@ladder01.news.aol.com>
Source record: 100888

Hi Rich,
In a message dated 96-11-07 12:03:17 EST, you write:

>> Denny did the AL80 that was run for less than 100 units and phased out.
>> The revamped 80, 80A, 80B were under my engineering supervision.
>
>Was the tune capacitor changed substantively between the 80 and the
80A/B?

NO.

And then I wrote the RF tank voltage can exceed the dc supply voltage by
several times when the PA is unloaded. I said:
>> breakdown can be exceeded by RF. The RF voltage in a tank can soar to
>> several times the HV supply when the tank is underloaded. Surely you
know
>> that. ...snip...
And Rich says:

>NO
> However, I do know that in a 3-500Z g-g amplifier that uses a 3000V
anode
>supply, the negative-going change in anode voltage during the conduction
>cycle of the 3-500Z is about 2700vp (volts peak), which coincides with
the
>peak in anode current. At this peak, the anode to (grounded)grid voltage
>is about 300v. {3000v minus 300v = 2700v} When the amplifier is
>underloaded, the tube saturates, and the anode to grid voltage (at the
>anode current peak) is about 150v. In other words, the negative-going
>change in anode voltage is about 2850vp. It's a long way from 2850vp to
>the 5500v or more needed to arc the bandswitch.

Your analysis is seriously flawed Rich, as it was with the skin effect and
gold, the photons, and the mechanisms surround oscillation. Let me explian
why. If you have spice you can model the PA, or with a small FET you can
breadboad it. S59A measured his SB-220 and got the same values I did
measuring one here, but let me use your example.

You overlooked a VERY simple fact. When the anode is pulled low (into
current saturation) nothing prevents the *anode* from moving lower than
the chassis or catode. If the tank, or any other external inluence would
ever try to drive the anode low, it is very easy to do (at that moment in
time). The tube is a time varying resistance, not a source. BUT IT IS A
RESISTANCE IN SERIES WITH AN INTERNAL DIODE. If the flywheel action of the
high Q tank tries to force the tank lower than zero (or even lower than
the Rp/RL divider determines), nothing stops it. Away it goes.

When the anode is negative, the tube stays cut off no matter how hard the grid cathode path is turned on. It is impossible to "turn on" the anode path when the tube has this momentary negative anode to cathode voltage.

The tank overshoot holds the anode negative, and the grid starts moving the other way (towards the direction of cut-off). When the tank starts allowing the anode to move positive, it is not loaded by the time varying anode resistance. Tube resistance, at that moment of time, is higher than the value required to match the tank (at any given moment of time the dynamic resistance of the anode has to match the E/I of the tank for maximum energy transfer. The tube loads or pulls on the tank with it's resistance, it does NOT source voltage or current).

When the tank voltage reaches it's peak, the tube is cut-off by the grid cathode bias. The tube anode will overshoot (now the grid holds the plate resistance off) and the HV at the anode will greatly exceed the supply voltage.

The tank circuit voltage can exceed the supply by a very large amount if the tank Q is high and the tank is underloaded.

> Therein lies the heart of the problem. Manufacturers of amplifiers tend
>to assume they understand everything about amplifier theory, and that all
>of their customers are drooling idiots.

Sooner or later, I knew this would turn into a manufacturers condemnation.

I suspect most manufacturers don't think customers are "drooling idiots", but they probably thing people that pretend to be knowledgeable and give customers bad advice are, hi.

If I can prove my statement, that the peak tank voltage can exceed the supply voltage by significant amounts is correct, will you appologize for your accusation of manufacturers thinking customers are idiots? Will you admit your basic knowledge of PA operation is flawed?

2702. Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Giovanni Mazzola <it9xxs@exit.it>
Message-ID: <01bbcd49$574d21c0$1318a6c2@mazzola>
Source record: 100889

I'm trying to design a diplexer to be connected between the mixer (SBL-1) and
the IF output (29 MHz) of a 6m transverter I'm going to design.

I was looking around for some literature (or software tool, better) about this
subject, but it seems it isnot a popular matter.

Any help about diplexers ? Please do not confuse it with a "duplexer", a diplexer being a particular filter that allows passing of a frequency and closing of all the others to 50 ohms (sorry for a so bad explanation... HI).

It is a very interesting subject, in my opinion.

Thanks in advance.

Giovanni, IT9XXS
it9xxs@freenet.hut.fi

2703. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0811960008130001@port17.vcnet.com>
Source record: 100890

In article <19961108034000.WAA16515@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> Hi Rich,
>
> In article <measures-0711960908130001@port19.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
> >
> >Tom: You still do not seem to understand that the engineer said that the
> >excessive grid current was apparently the result of an oscillation far
> >above the operating frequency.
>
> Rich, first of all the Foote letter plainly says no such thing. ...snip...

You are confusing the letter with the telephone conversation.
---
e-mail copy to Mr. C. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

2704. Q: Had anybody test the manchester Modem ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: krause@rd.itt-sc.de
Message-ID: <55v5mt$gm8@belchen.freinet.de>
Source record: 100891

Salve,

I have found at http://lois.kud-fp.si/hamradio/packet.html a packet model called "Manchester Modem' from S53MV

had anybody build such a modem ??????

Joerg

2705. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0811960359040001@port23.vcnet.com>
Source record: 100892

In article <19961108054700.AAA19292@ladder01.news.aol.com>,
W8JITom@aol.com wrote:

> If I can prove my statement, that the peak tank voltage can exceed the
> supply voltage by significant amounts is correct, ... snip...

The idea that the tank can drive the anode to high voltages is not
logical. The engine is the amplifier tube. The tank is the flywheel.

In a previous post, did you claim that the peak anode voltage produced by
a mistuned tank could exceed several times the anode supply voltage?
---
e-mail copy to Mr. Rauch.

--
--Rich-- ag6k, 805.386.3734

2706. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: W8JITom@aol.com
Message-ID: <19961108054700.AAA19265@ladder01.news.aol.com>
Source record: 100893

In article <55p410$vrr@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>I guess my point, apparently not well made, was that the reactance >appearing at the anode was high at VHF not because of the physical >capacitor itself. Rather, the topology of the amplifier usually >involves significant series reactance in the connections to and from >the capacitor. The net effect would be to place a fairly high >impedance at the anode at VHF.

Hi Fred,

I replied once, but had some more thoughts on this. First let me clarify one thing. My point in measuring the tuning capacitor was to find out if it is possible to drive it with VHF energy and make it arc, and the answer seem to be a firm "no". The impedance is too low, at least between 60-80 MHz and 1 gHz.

You mentioned the anode. If the problem was high impedance in this area of the circuit, removing a wide low resitivity conductor and replacing it with a thin more resistive conductor would do no good at all. This is simple to analyze.

At VHF and higher, longer leads become more of a transmission line problem than simple "inductance" problems. To keep the anode impedance low, a low surge impedance is required in the line leaving the anode. That is achieved with a thick conductor, because the problem is one of maintaining the lowest possible ratio of distributed capacitance to inductance in the lead.

On the other hand, any increase in distributed resistance of the lead will increase the load impedance at the anode, which increases swing voltage available due to the time varying resistance of the anode. Adding thinner nichrome wire in the VHF path would absolutely increase the resistance and reactance (impedance) presented to the anode, and aggrivate feedback at VHF.

It would however, de-Q the circuit at HF and reduce the peak anode voltage available at the operating frequency if the tank was mistuned. That's because at lower frequencies the lead length is short, and the major effect problem is simply resistance in the path of the shunt anode capaciatnce to the resonant tank.

Generally, the goal in a RF PA is to keep all path impedances as low as possible, and place a load at the proper point. That point should load the tube optimally at the frequency where the combination of internal structure and external leads forms a resonant circuit, because that is the

frequency where the parasitic occurs.

Rich suggests using thin nichrome in the leads and in the inductance of the suppressor, we looked at the leads above and see that is a bad idea, let's look at the suppressor itself. The goal of the suppressor is to place a resistance in the VHF path between the anode and chassis. The anode lead, blocking capaciator, and plate tuning capacitor, and sheet metal form that path. We certainly all know the BOTH capacitors (tune and load) should be mounted to the same sheet metal, and that sheet metal should have a short low impedance path to the grid and input circuit.

To put the resistance in that path, we need the shunt reactance to be as high as possible across the resistance at VHF. To maintain tank Q, we want the shunt reactance across the resistance to be as low as possible. Since the primary VHF path is through the resistance (in a well designed suppressor) the Q of the suppressor coil is almost meaningless. It is the impedance of the coil, and the amount of resistance, that controls VHF and higher Q.

With nichrome, we have designed a low Q HF suppressor, with less anode loading at VHF. That would explain the improvement because it reduces HF voltage, a voltage we know CAN cause the bandswitch or tuning capacitor to arc. Lowering HF Q will make the tank soother to tune also!

The only question I have is if this change is the best way to solve problems of underloaded tanks. Remember the Q goes all over the place with the setting of the loading capacitor and the mean value of time varying shunt resistance presented by the tube. The series nichrome reduces tank Q more at low Q loading settings. We want to reduce it more at hi-Q loading settings. It sure seems a better solution would be to wind the plate choke with nichrome, placing the resistance in parallel with the anode. Q reduction would be more at high anode tank operating impedances (where we really want lower Q), rather than low ones (where we are supposed to be operating the tank).

Placing nichrome in that path, if workable, would also reduce intensity of gas arcs, a "free" additional benefit.

2707. TEMCO 100A need parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: atwoodes@mailbag.com
Message-ID: <55ujtv$g0a@grandcanyon.binc.net>
Source record: 100894

i've got a 1938 temco 100a transmitter that needs a plate transformer for the final.
the original transformer was replaced with one that only gives me 650- 700 volts to the plate.i need 1250 to 1500 using a center tapped full wave supply.
anyone know were i can find original parts? or where to look for suitable new parts?
also where can you get crystals for the ham bands? (160-10).
i also could use output coils for this unit. i've got a coil but it was used on 2.1mhz or 2.7mhz. but would like to get a full set. the coil i have is a plug in with a variable link coil inside the two output coils.
i have the complete engineering data for this unit and would be happy to share it with anyone who wants it.
the transmitter was used as a mobile unit for WSYR 570 AM Syracuse N.Y.from 1939 to ? w2bji was the guy who ran it.
well any info on parts or old stuff would be ice. THANKS !
ka9rle bill in madison wi.

2708. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: baack@maine.maine.edu
Message-ID: <55vi93$1jdg@sol.caps.maine.edu>
Source record: 100895
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <3281F7F9.44FA@execpc.com>, Kent Winrich <kwin@execpc.com> wrote:
>Path:
> sol.caps.maine.edu!cam-news-feed2.bbnplanet.com!news.bbnplanet.com!cam-news-hu
>b1.bbnplanet.com!howland.erols.net!newspump.sol.net!posts.execpc.com!usenet
>From: Kent Winrich <kwin@execpc.com>
>Newsgroups:
> rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,
>rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,r
>ec.radio.amateur.policy,rec.radio.amateur.space
>Subject: Re: ARRL lawyer to sue member

[BIG snip]..

yep... we really need to see this here in rec.radio.space..... geezz.

Jason N1RWY

2709. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: jfriley@airmail.net
Message-ID: <328371ad.3245133@news.airmail.net>
Source record: 100896

On 8 Nov 1996 05:44:42 GMT, W8JITom@aol.com wrote:
> It sure seems a better solution would be to wind the plate choke
>with nichrome
>Placing nichrome in that path, if workable, would also reduce intensity of
>gas arcs, a "free" additional benefit.

I alwys understood that nichrome wire was the "secret" of the B&W 800
plate choke. Wasn't it wound with nichrome?

Fred
JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM

2710. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0811960810390001@port9.vcnet.com>
Source record: 100897

In article <19961108152400.KAA24821@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

snip...
> Eimac has clearly told you it is a mistake to assume the problem is
> parasitics. This is repeated in an extract from a official letter that
> appeared in QST......snip........

The anonymous letter you posted on this newsgroup means zero without the
author's name.

To the best of my knowledge, there was no part of an 'official letter'
from Eimac that appeared in QST.

You have not identified who the 'entire staff' is at Eimac.

You have not explained why it is better for a vhf suppressor to use a high
vhf Q inductor.
---
e-mail copy to Mr. C. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

2711. BC-375 TUNING-UNIT CAPACITORS: A GOLDMINE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <55vnq5$f84@news.icanect.net>
Source record: 100898

BC-375 TRANSMITTER TUNING UNIT CAPACITORS

The following information, gleaned from some obsolete US Army Tech Manual, lists the capacitor ranges of various variable capacitors found in the Tuning Units of the BC-375-E Transmitter. The part no. can be found stamped on the end plate of the "condenser." The condensers are listed according to the number of the tuning unit in which they are found. Capacitance is in uuF.

TU-	Part No.	Max	Min
5A	P-7761569P2	35	20
5A	T-7660443P6	156	20
6A	P-7761569P3	77	15
6A	T-7660443P1	116	19
7A	P-7761569P4	111	23
7A	T-7660443P2	116	19
8A	P-7761569P5	66	14
8A	T-7660443P7	81	15
9A	P-7761569P6	77	15
9A	T-7660443P3	116	19
10A	P-7761569P7	62	14
10A	T-7660443P4	116	19

In addition, each tuning unit contains two identical neutralizing capacitors; the range of these is 26-19 uuF.

These capacitors are of the highest quality, being ceramic and silver plated. Even though designed for use in WW2, the BC-375 tuning units contain a wealth of "good stuffe!" National Velvet vernier drive, standoffs, caps, thick alum panel, drawn alum case, etc., etc.

The moral: Never throw anything away!

73--Terry/WB4FXD

Terry Simonds in Ft. Lauderdale
Researching SIMONDS/CAREY/DINSMORE/MANN

2712. Re: Need 4cx250x amplifier schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: coolidge@zk3.dec.com
Message-ID: <55voc0huk1@nntpd.lkg.dec.com>
Source record: 100899

--
gamrunr@aol.com wrote in <19961107174101.MAA05633@ladder01.news.aol.com>:

>>> I need schematics for amplifiers using the 4cx250 tubes, any number
>>> of tubes... Any help would be greatly appreciated

Well, you didn't specify what frequency range you were interested in, and
you didn't mention your amateur callsign, if you have one, so it's a bit
difficult to specifically answer your question.

However, the Radio Amateurs Handbook, published by the American Radio
Relay League, 225 Main St., Newington, CT 06111 http://www.arrl.org
has had a number of construction articles over the years. (The Handbook
is revised/updated annually). Giving you just a schematic is short-changing
you because with high-power amplifiers, particularly at VHF and above,
the construction techniques employed are a very significant part of
the amplifier design. Telling you in a schematic that a quarter-wave
line is hanging off the plate is one thing, _showing_ you that it's a
swaged piece of copper plumbing with Teflon(R) wrapped around the anode
is quite another! Cooling techniques can be rather interesting, too...

There are other texts available, such as the "Radio Handbook" by Bill
Orr, W6SAI, published by Sams Publications, that can provide a great
deal of information as well. I'm sure other readers in the group can
add their favourite texts to the bibliography!

Bayard R. Coolidge N1HO DISCLAIMER: The opinions expressed are
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coolidge@zk3.dec.com nor any other entity.
"Brake for Moose - It can save your life" - N.H. Fish & Game Dept.

2713. WT GPS info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: jacob055@maroon.tc.umn.edu
Message-ID: <jacob055-0811961007050001@news.tc.umn.edu>
Source record: 100900

I'm interested in building a better antenna for GPS, and can't find info on what frequency and polarization is used by this system. Any info or pointers to it would be welcome. Please send as email as well, my news provider doesn't hold messages long, and I don't want to miss your answer.

TNX
de KA0ZIL
Steve Jacobson
jacob055@maroon.tc.umn.edu

2714. How to reduce power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: gradyr@mindspring.com
Message-ID: <gradyr-0811961235500001@user-168-121-178-82.dialup.mindspring.com>
Source record: 100901

Perhaps one of you homebrewers can assist me...how can I reduce the power of my radio? Is there something I can place between my mobile and coax? I'd like something that wouldn't modify the radio and could easily be turned on and off to avoid overloading an amp. Can anyone assist with this?

TIA,
Grady

2715. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961108152400.KAA24821@ladder01.news.aol.com>
Source record: 100902

Hi Rich,

In a message dated 96-11-08 03:09:01 EST, you write:

>> >Tom: You still do not seem to understand that the engineer said that
the
>> >excessive grid current was apparently the result of an oscillation far
>> >above the operating frequency.
>>
>> Rich, first of all the Foote letter plainly says no such thing.
...snip...

Rich wrote:
>You are confusing the letter with the telephone conversation.

You keep referring to a letter that says nothing, and mixing in a gold story that came to you over the telephone. We agree the letter says nothing, and you can't seem to even name the engineer that started the gold rumor. All we have is a claim someone told someone else who told you, none of which is written.

Eimac has clearly told you it is a mistake to assume the problem is parasitics. This is repeated in an extract from a official letter that appeared in QST.

Please, let's move on to technical issues. Nothing is learned from arguing hear-say.

In a message dated 96-11-08 07:00:05 EST, you write:

>The idea that the tank can drive the anode to high voltages is not
>logical. The engine is the amplifier tube. The tank is the flywheel.

I understand where yiou get that from, but that is a common misunderstanding. Thinking the tube is any kind of source will get you into theory trouble big time. Let me keep this as simple as possible, and use a class B PA as an example.

Make no mistake about it, even though it sounds colorful, the tube is not an engine or a source. It does not "push" or "supply" a single bit of power. It is a time varying resistance controlled by the grid bais. Since the anode can not conduct when it is negative with respect to the cathode, we have to include a diode. That's all the tube is. Nothing more, nothing less.

The tube anode simply gives the tank a "tug" at the right instant of time. It's like pulling a flywheel with a rope rather than a lever, it certainly can not "push" anything. Even the effect of the tug isn't instantaneous.

It takes several tugs to get the tank rolling. The RF slowly builds over several cycles, that rate being controlled by the tank Q and tube's resistance.

The only thing that keeps tank voltage from building to infinity is load resistance on the tank and conduction angle of the tube. One point most laymen don't undersatnd is the anode condution angle of the anode depends heavily on the tank impedance, not just on the grid conduction angle. If the PA is mistuned, the tank voltage is limited only by the operating Q of the mistuned tank and the much shortened conduction angle of the tube.

Contrary to your claim, I don't think anyone is a "drooling idiot" for not knowing this.
That remark will come back to haunt you, because if I were going to elevate myself to the self-proclaimed position of the best amplifier expert in the country, and write article after article explaining how a PA worked and condemning anything anyone else does, I'd make damn sure I knew how the thing worked **first**.

>In a previous post, did you claim that the peak anode voltage produced by
>a mistuned tank could exceed several times the anode supply voltage?

Absolutely.

Anyone NOT understanding this effect should never write an article explaining failure modes, because it is at the root of most operating failures in PA's.

73 Tom

2716. Help on transistor id

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <5605fj$925@newsfeeder.total.net>
Source record: 100903

Hi

Can someone confirm the identification this transistor.
The side inscription reads as; T. K59 GR 9D

Checking T.K59 or K59 or GR9D independently in my NTE cross-reference hbk didn't yield anything (I think K59 is the real identifier for 3SK59 which is equivalent of ECG/NTE222 MOSFET, which is actualy what I need)

The unit I have as the exact same physical appearance as the 222, metal casing with the tab and the 4 legs.

If you conclude that what I have in hand is actualy a 3SK59, can you confirm it is leg for leg equivalent with the 222?

Finaly, is there a simple test I can make with a DVM (as for bipolar transistors) to check it, that it is nor short or open.

Many thanks for your help,

H. Caron

2717. Re: BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Bob Smith <bsmith@msn.com>
Message-ID: <01bbcdbd$92d58380$89ecbdcc@rsmith>
Source record: 100904
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

>>>altavoz: Many slugs and $$$thousands of dollars later ......
WHY NOT BUY AN MFJ249/209 ?

No good above 150 Mhz!

altavoz <altavoz@worldnet.att.net> wrote in article
<3282C239.5D0F@worldnet.att.net>...
Bob Smith wrote:
>
> Can someone kindly point me to a tutorial on the Bird 43 watt meter.
Just
> got one used without a manual. They look very simple to use.
>
> I do have a RF Sampler fitted - what range out output does this have? -
> would hate to blow my frequency meter or o-scope.!
>
> Thanks a million for reading.
>
> --
> >>>>
> Bob Smith N3FTU
> Atlanta, GA

altavoz: Many slugs and $$$thousands of dollars later ......
WHY NOT BUY AN MFJ249/209 ?

_____End of text from altavoz__________

2718. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: jwilkers@freenet.columbus.oh.us
Message-ID: <560c7b$mb9@login.freenet.columbus.oh.us>
Source record: 100905
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Steve Work (slwork@netcom.com) wrote:
: Phil (pmetcalf@xyplex.com) wrote:
: : About the simplest NBFM modulator that you can build is a variable
: : capacitance modulator using a varactor diode as the active component.
: : When properly biased, this device will give you a frequency swing of up to
: : 7.5khz deviation (on some) which you can easily control to the desired
: : 5khz. The device is installed at the oscillator tuning circuit and causes
: : an increased/decreased capacitance in that tuning circuit which
: : effectively changes the frequency of the oscillator with respect to the
: : audio signal that is riding on top of the bias voltage.

: Can anyone here spell "nonlinear", or "distortion"??

just what I was thinking. FM is most unforgiving when it comes to
overmodulation. Even a loud voice on some FM transmitters can distort to
the point of unintelligibility.
--
John L. Wilkerson Jr... jwilkers@freenet.columbus.oh.us
johnw@iwaynet.net
http://www.iwaynet.net/~johnw
Rec.radio.cb FAQ coordinator

2719. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <3283a802.4394752@139.187.128.43>
Source record: 100906
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In the newsgroup sci.electronics.design.
Tim Dicus <timothyd@gnt.net> from
Prolectron thoughtfully posted:

> I found a schematic using a NE568 as an AM detector. It is in National
> Semiconductor's data book. I have an older version, but I would imagine
> it is in the new version too.

Could this possibly be an old Phillips or Signetics databook? "NE" is a Phillips part.

We have an LMC568, which is akin to a 567, but is made specifically for demodulating SAP/SCA/FSK *FM* subcarriers up to 500KHz.

http://www.national.com/pf/LM/LMC568.html

The datasheet is only a few pages, and there are no "AM" detectors on it.

If it is our Databook, which one is it? I don't see that circuit in the "Specific" or "Video" books or appnotes.

Cheers,
Paul Grohe

Paul Grohe National Semiconductor Corp.
Sr. Electronics Technician 2900 Semiconductor Drive
AMPS New Products Eng Group Mail Stop C2693
Mailto:grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
(408) 721-7389 Tel (408) 721-2513 Fax

http://www.national.com

For technical assistance, literature, or samples call:
NORTH AMERICA EUROPE
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2720. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0811961703340001@port25.vcnet.com>
Source record: 100907

In article <328371ad.3245133@news.airmail.net>, jfriley@airmail.net (J. Fred Riley) wrote:

> On 8 Nov 1996 05:44:42 GMT, W8JITom@aol.com wrote:
> > It sure seems a better solution would be to wind the plate choke
> >with nichrome
> >Placing nichrome in that path, if workable, would also reduce intensity of
> >gas arcs, a "free" additional benefit.
>
> I alwys understood that nichrome wire was the "secret" of the B&W 800
> plate choke. Wasn't it wound with nichrome?
>
>
> Fred
> JFRILEY@AIRMAIL.NET
> FREDWA8AJN@AOL.COM

The B & W 800 is wound with copper wire. Nichrome is inappropriate for use in a HV-RFC because it is too resistive. Silicone-varnish (type WL/200 degrees C), electric motor wire is excellent for use in a HV-RFC . (for a detailed discussion see *Amplifiers* on my Web site) The URL is http://www.vcnet.com/measures/
VHF parasitic oscillations rarely involve the HV-RFC. The exception is Henry amplifiers. However, if you experience a big-bang, and you discover several crispy-crittered turns of wire near the top of the choke, chances are that the choke was involved in a VHF oscillation. Connecting a vhf attenuator bead in series with the top of the choke usually helps.

--
--Rich-- ag6k, 805.386.3734

2721. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Charles.Mccurdy@1492.conchbbs.com
Message-ID: <e71_9611082135@conchbbs.com>
Source record: 100908

```
* Original Area: REC.RADIO.AMATEUR.ANTENNA
* Original To : All (1:106/1492)

test

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@1492.conchbbs.com
|
| Standard disclaimer: The views of this user are strictly his own.
```

2722. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961108201900.PAA29849@ladder01.news.aol.com>
Source record: 100909

In article <328371ad.3245133@news.airmail.net>, jfriley@airmail.net (J. Fred Riley) writes:

>
>I alwys understood that nichrome wire was the "secret" of the B&W 800
>plate choke. Wasn't it wound with nichrome?
>
>
>Fred

Hi Fred,
I have no idea what B+W used Fred, it seems reasonable to do if the resistivity works out right. The problem is on the higher bands inductance dominates, and loading will be reduced. But at least we'd get a "free" arc surge supressor.

Hi Rich,
In a message dated 96-11-08 11:12:13 EST, you write:
>snip...
>> Eimac has clearly told you it is a mistake to assume the problem is
>> parasitics. This is repeated in an extract from a official letter that
>> appeared in QST......snip........
>
>The anonymous letter you posted on this newsgroup means zero without the
>author's name.

Pay careful attention to this Rich.

If that letter means nothing, than neither do your claims someone verbally told you the gold damage was caused by parasitics. So we agree, anything verbal means zero. We BOTH have no claim.

>To the best of my knowledge, there was no part of an 'official letter'
>from Eimac that appeared in QST.

Try reading QST again, on page 71 of September 1994. They extracted portions of a letter from Reid Brandon, Eimacs application engineer. Reid plainly stated "We do not undersatnd the reference to sudden busts of ......" and also indicted some of your modifications could be harmful.

>You have not identified who the 'entire staff' is at Eimac.

I have not, but if you get a company directory and look under engineering you will find them all. So the information is indeed available.

And you can not identify anyone who will suport your claims. But since we agreed verbal comments "means zero", we are once again on the same team.

>You have not explained why it is better for a vhf suppressor to use a high
>vhf Q inductor.

I certainly have, several times.

In a properly designed suppressor, the primary VHF path is through the resistor. The primary HF path is through the inductor. Changing the series resistance of the suppressor inductor affects Q very little, since it is primarily set by the parallel resistance and reactance values, not the low series resistance of the coil.

If you look back at my response to Fred and Gary, you will see how I outlined the behavior of the lead from the tube to the tank capacitor. This is all elementry circuit and transmission line theory.

If the line from the tube to the tuning capacitor is long enough to present a high impedance to the anode, making the line out of nichrome will make difference...but the wrong way. It will make the anode impedance at VHF higher yet! If that kead is too long, we are stuck with a high anode load impedance and high feedback.

If we make that lead thin, we will make the anode impedance higher at VHF. That's because we want minimum surge impedance (max distributed C, min distributed L) in that line.

We want a short thick lead with minimum series L and maximum distribiuted C (so long as we don't compromise minimum C in the tank too much). We want the suppressor as close to the tube as possible, with the current shifting into a proper load resistance at the worrisome frequency.

Just like with photons damaging PA's on standby, 5000 volt VHF arcs across an almost zero Z capacitor, gold boiling by skin effect, and 25 watt grids that take almost 500 watts to damage, your suppressor suggestion makes no sense when looked at carefully.

That is, it makes no sense UNLESS the arc or other damage is from HF energy caused by underloading the tank. In the case of HF mis-tuning, lowering the HF Q will help the system. Lower HF Q will make the PA smoother to tune and less prone to arcing.

The crummiest tank coils give us an amp that tunes the smoothest, and arcs the least when mistuned. The grid current soars less when out of a poor tank is underloaded. I suspect the thin lossy nichrome leads in the HF signal path acomplish exactly what's done by using poorer Q tank components.

But your marketing is better. No one would buy a low Q HF tank. It'd never catch on, even if it cured problems.

73 Tom

2723. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Michael Black <blackm00@libertel.montreal.qc.ca>
Message-ID: <Pine.SGI.3.91.961108234814.26971A-100000-100000-100000@ban.libertel.montreal.qc.ca>
Source record: 100910
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

But the 567, commonly used as a tone decoder, is a synchronous detector.
It has the PLL, and a separate product detector. The only question, of
course, is whether or not the method added to give a high or low output
for the detected tone can be worked around to get a linear output.

It's been a while since I've looked in the old Signetics application
book for the section on PLL's. SOmebody might have already worked on this.

The Signetics line of PLL's, which somewhere along the way got old
(I can remember when they were featured in the ham magazines as
the latest thing), did include devices with the additional product
detector (with a circuit that looks a lot like the circuit in the
now common NE602 mixer) needed for synchronous detection of AM. The
NE560 or 561 (I forget which). You could use any in the line, by
adding an external product detector. Of course, this type of
synchronous detector is the basic kind. You can get much fancier.

Michael VE2BVW

On Fri, 8 Nov 1996, Paul Grohe wrote:

> Tim Dicus <timothyd@gnt.net> from Prolectron thoughtfully posted:
>
> > I found a schematic using a NE568 as an AM detector. It is in National
> > Semiconductor's data book. I have an older version, but I would imagine
> > it is in the new version too.
>
> Could this possibly be an old Phillips or Signetics databook? "NE" is a Phillips
> part.
> We have an LMC568, which is akin to a 567, but is made specifically for
> demodulating SAP/SCA/FSK *FM* subcarriers up to 500KHz.
> http://www.national.com/pf/LM/LMC568.html
> The datasheet is only a few pages, and there are no "AM" detectors on it.
> If it is our Databook, which one is it? I don't see that circuit in the
> "Specific" or "Video" books or appnotes.
>
> Cheers,
> Paul Grohe
>

2724. Re: Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <560a20$idv@hpscit.sc.hp.com>
Source record: 100911

In article <01bbcd49$574d21c0$1318a6c2@mazzola>,
Giovanni Mazzola <it9xxs@exit.it> wrote:
>I'm trying to design a diplexer to be connected between the mixer (SBL-1)
>
>Any help about diplexers ? Please do not confuse it with a "duplexer", a
>Giovanni, IT9XXS
>it9xxs@freenet.hut.fi

Look up Wenzel's 1968 paper in the IEEE Trans. on Microwave
Theory and Techniques.

Rick N6RK

2725. Re: transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Mike <mikes@fishnet.net>
Message-ID: <3283D558.406C@fishnet.net>
Source record: 100912

Riccardo, try TEN TEc, Inc. They have a wide variety of transverter kits
for various frequencies. P# 1 423 428-7172. They also have a web page,
but I can not find where I wrote the URL down.
Good luck, 73, Mike K6YPB

2726. Radar Thesis Project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: Daniel S Nixon <dsn01@uow.edu.au>
Message-ID: <3282804B.C44@uow.edu.au>
Source record: 100913

I'm interested in building a doppler radar or radar speed gun as a thesis project, using a PC for signal processing. Does anyone have any ideas on where I could find information for such a project on the Web.

Thanks in advance

Dan.

2727. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: carl@ais.net
Message-ID: <55u5fg$9cr@news2.ais.net>
Source record: 100983
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics

In <55mr2q$a1o@post.servtech.com>, maroof@triton.kaifnet.com (Maroof H. Choudhury) writes:
>Can anybody suggest a simple design of a narow band frequency
>modulator for Citizen's band?

I see that you have gotten numerous responses regarding varactors, etc.

However, I did not see anyone point out that FM is not legal on CB
(At least in the US, unless the rules have changed dramatically)

I'm curious ... Why do you want to build an FM modulator for CB???

Carl - wa6vse
carl@ais.net

2728. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961108034000.WAA16515@ladder01.news.aol.com>
Source record: 100984

Hi Rich,

In article <measures-07119609081300001@port19.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:
>
>Tom: You still do not seem to understand that the engineer said that the
>excessive grid current was apparently the result of an oscillation far
>above the operating frequency.

Rich, first of all the Foote letter plainly says no such thing. It states your letter about parasitics was interesting, and the inside of the tube was badly overheated. The fellow assigned to answer customer letters said it was the result of an "apparent oscillation", but never said what kind, or even that it WAS an oscillation.

If I sent in some overheated tubes, with a letter saying I thought my PA oscillated, they would most likely write back, "your tubes are cooked, apparently the result of oscillation". If I wrote a letter saying my tubes were overdriven, they would very likely reply "your tubes were apparently overdriven".

Fiind a tire with a broken belt, and take it to the tire store and tell them you think it was damaged hitting a curb, and they'll say "yep, you apparently hit a curb".

This letter should be a long dead issue. Eimac has told you directly, and indirectly through QST, if anyone implied parasitics were the cause of grid damage they were mistaken. Their view is on page 71 of the September 1994 QST, and again page 74. Eimac's official response directly disputes your claims about the grid.

>> Are you still maintaining that it takes 500 watts to damage a grid
>> Eimac rates at only a few watts? ....snip........

>Tom: I was talking about the 8877 grid. The rated grid dissipation is
>25w. Since there is no numerical definition of 'few', I suppose 25 will
>do. The answer is yes.

Let's apply some common sense.

The grid has much less thermal mass than the cathode. The more massive cathode is heated to 750+ C with 50 watts. But the smaller thermal mass grid, rated at 25 watts by the manufacturer, with gold that becomes completely liquid at 1063 C, isn't damaged until 500 watts dissipation is reached.

I'd like to find some merit in something you say, but every aspect of your postulations runs contrary to common sense and known facts (if you have a copy of Reference Data for Radio Engineers or Electronic Designers Handbook you can look the facts up). Can you explain your theory better?

73 Tom

2729. fs/trade: misc stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-08 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <32828a9d.25348162@fvnews.com>
Source record: 100985

Hammarlund 'S' meter new old stock sp-200/400/129X $33 ship'd
Drake new old stock TV-1000LP 1kw lowpass filter $25 ship'd

Ten-Tec - Ameco & B&W are new old stock
241 Crystal Oscillator
$33
shipped
Ameco:
PS-1 POWER SUPPLY $25
shipped
PS-2 POWER SUPPLY $25
shipped
CLB CONVERTER 2-54mc $18
shipped
CHT CONVERTER 108-174mc $18 shipped
CG CONVERTER 450-470mc $15 shipped
CLG CONVERTER 75meter $15 shipped
ADVANCED CODE SET- 78 RPM $20 shipped

B&W 40 meter balun 1kw 1:1 $40 shipped

i still have a few of these left (altho i sold a bunch)
at $13 each shipped, for new old stock manuals, if nothing else
you should pick up 1 or so, for trade material..
you can't but copies for this.....
whats left:

HQ-145A (10)
HXL ONE AMP (1.5KW VERSION) (8)
HX-50 (13)
HX-500 (22)
HA-4 (1)
SR-400 (1)

1 BAG OF 20 NEW CAP'S (made in USA) @ 1200 MFD, 75 VDC $18.00

RELAYS (34 total)
NEW IN BOX MIL. SPEC. # MK 1007, 12 VDC , 120 OHMS, DPDT
all for $38 shipped

ROLA HEADSET ADAPTERS - FOR HEADSETS HS-33 OR HS-38
HIGH TO LOW IMP. MC-385-A & MC-385-C $8 PR.

ceramic trimmer cap's
these are new old stock Arco #304M 100-550pf ceramic trimmer caps...
10 or more $1 each, plus shipping (i.e. 10 @$1ea=$10+$3 priority
mail=$13)

i have approx. 150 or 160 of these available...

originals unless noted copy....
want to sell as one lot....all for $80 shipped cont. u.s.
=========
ALLIANCE TENNA-ROTOR SERVICE MANUAL
AEROTRON 600TT 25 COPY
AMCOMM BSM15/BSM15C
ALPHA SS-80H COPY
CARL CORDOVER CPO-4
CESCO DUAL FYRE BEAM
ELECTRA
BEARCAT 3 BC3-L,H,U,L/H,L/U,H/U
BCL=BCH-BCU SERIES 2

MILITARY

TM-11-2241 CV-116 FREQ. SHIFT CONVERTER
TM-11-300L FREQ. METERS- SCR-211K, SCR-211L
NAVSHIPS 900,013 TIMING CIRCUITS
RADAR (MIT)
TM-11-2241
TM-11-5820-498-12
TM-11-5820-401-10-1
EE-150-JA-OP1-010-E154
TO-31R2-2VRC-191
COLLINS 51X1A (NOT A TYPE-O)
COLLINS 951A-1
LM-7
MN-5
TYPE CRR-74028 HEDTRODYNE FREQ. METER
NAVY CMX-50128A
TM-11-666 ANTENNAS & PROPAGATION (225PGS)
MOTOROLA
HT SERIES
OPTIMA 16
PAGEBOY 148-174 MC
RAY JEFFERSON 1425 TITAN
RCA SSB-1 MARK 2A

REGENCY
AR-2
RC-600
HR-212
TME-8H
TM SERIES
MR-10
MR-10B
MR-10D
MR-33D

SONAR FM-3601
SONAR BR-20
TPL 80 TO 120 WATT VHF AMP COPY
END*******

==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
Boatanchors: the list: listproc@theporch.com......subscribe boatanchors <your name>
the news group: rec.radio.amateur.boatanchors
new group: ham-am@Listserv@ucsd.edu....Body: add ham-am
ME AND MY WIFE:
between the two of us, we know everything, what i don't know, my wife does, and what she don't know, won't hurt her...8-) ssssssh!

2730. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961109174100.MAA18514@ladder01.news.aol.com>
Source record: 100836

Hi Peter,

In article <19961109004800.TAA05057@ladder01.news.aol.com>,
commquart@aol.com writes:

>Just curious....
>Have seen several references (comments) in the
>past concerning imported PA tubes, such as
>the Chinese copies of Eimac's 3-500Z. I have
>heard claims that these tubes are more
>"prone" to VHF parasitic problems due to
>their having a higher gain than the original
>Eimacs.
>I wonder if this is true.

No, not at all. They have less gain than Eimac's 3-500 as a general rule,
but all in all the gain is so close no one would notice.

This is part of the technical damages false claims of parasitics has done.
The Chinese tubes, like all tubes, arc over from gas, not parasitics.

The problem is the Chinese tubes are not pumped down properly, and the
glass to metal seals are not as reliable as they should be. QC is poorer,
and the tubes won't withstand rated operating temperatures.

Out of a batch of 100 Chinese 3-500Z's received to test, 74% arced at 6000
volts or less. 100% had bad anode connector fit, 12% had poor solder
connections in the base.

Of the 26% that marginally passed gas tests, almost 50% failed while
dissipating 500 watts in less than one hour due to seal or envelope
failure. A typical Eimac tube will run years with 500 watts of
dissipation.

>After reading about
>the effects of gas release being able to
>cause severe internal flashovers in new tubes,
>I am now wondering if there is indeed a higher
>incident of problems with the imported tubes, if
>it may be caused by contamination and poor
>quality control?

It is without a doubt gas or seal failure, yet it is wrongly blamed on
parasitics.

A similar problem happened with 8877's, Eimac had a material problem in
the heat dam causing cathode internal shorts, and people blamed it on

parasitics.

73 Tom

2731. FREE SOFTWARE, CIRCUITS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: "Charles H. Reichert" <kd9jq@imaxx.net>
Message-ID: <3284D9A7.15FA@imaxx.net>
Source record: 100837

http://www.imaxx.nwt/~kd9jq

Courtesy of KD9JQ

2732. Re: PCB Designing at high Frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Madjid VE2GMI <mboukri@cam.org>
Message-ID: <3284C91F.36AD@cam.org>
Source record: 100838

Ford A R wrote:
>
> hi!
>
> I'm a naive newbie and i would really appreciate it if someone could
> direct me to, say, a WWW page or a FAQ on designing electronic circuits
> that involve high frequency RF applications (i.e greater than 200,300Mhz
> up to the 2Ghz Range)
>
> I've heard that a tequnique called "strip lining" is used. Can anyone
> explain that to me (I'm probably making an idiot of myself asking these
> questions)
>
> I know that circuits dont abey "normal" laws when there are high frequency
> RF signals involved, adn since i only know about the "normal" rules I'm
> completely i the dark when it comes to designing for higher frequency RF.

In the 1/2 Ghz and above PCB lines of a certain width, length
etc (including dielectric Cte of PCB substrate) behave as
Xmission lines/Reactance and you can design all sorts of
funny looking circuits with tracks going nowhere which are
tuned circuits, stubs etc... even gaps in the PCB become
circuits at microwaves (Slots).

QST presented years ago a technique using isolated wires
placed on a PCB to simulate microstrips. The insulation
acted as dielectric but the wires were connected to the
circuit (at least on one end!). Never tested the technique
but seemed very simple to implement. Microstrips can be
done with PCB layout tape and etching and "tuned"
with Xacto :)

TXLINE from AWR is a freebee showing how these "lines"
are designed. -> http://www.appwave.com/

There is also a good presentation of microstrip antennas
at: http://www.rfmicrowave.com

Check the following article
-> http://www.rfmicrowave.com/library/trends/aperture.htm

It will give you some insight on what can be done with
Microstrips :)

They had a freeware called PCCAD to design all sorts
of microstrip/striplines/patch&slots antennas but I can't

find it anymore on their site.

Madjid VE2GMI

2733. Re: BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: "Michael W. Moran" <mmoran@cts1.internetwis.com>
Message-ID: <3284F9C9.3A43@cts1.internetwis.com>
Source record: 100839
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

BOB:

I believe the sample port is -40dB down from the input power. Slugs for this beast tend to be rather expensive since they each cover a limited frequency and power range, but it is indeed easy to use. Just insert the slug with the arrow pointing to the antenna to measure forward power, toward the transmitter to measure reflected.

I don't know how wide a freq/power range you need or what you paid for the 43. If you find yourself looking at a big $$$ outlay for slugs, you might want to sell the 43 and look at a Telewave 44 which is wideband (30-1000 MHz) and has switches for power range and forward/reflected... no slugs needed. I've used one for about 5 years and never had a problem with it.

Mike M.

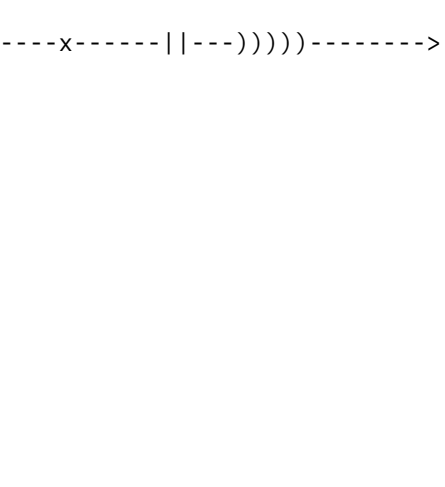
2734. Re: Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov9.101430.13547@ke4zv.atl.ga.us>
Source record: 100840

In article <01bbcd49$574d21c0$1318a6c2@mazzola> "Giovanni Mazzola" <it9xxs@exit.it>
writes:
>I'm trying to design a diplexer to be connected between the mixer (SBL-1)
>and the IF output (29 MHz) of a 6m transverter I'm going to design.
>I was looking around for some literature (or software tool, better) about
>this subject, but it seems it isnot a popular matter.
>
>Any help about diplexers ? Please do not confuse it with a "duplexer", a
>diplexer being a particular filter that allows passing of a frequency and
>closing of all the others to 50 ohms (sorry for a so bad explanation...
>HI).

There are several circuits called diplexers, some of them are actually
duplexers (most of the ones for combining dual band radio signals for
example). What you want is very specific, however. The circuit you need
is a bandpass between the mixer and the post amplifier and a band reject
shunting the mixer to a 50 ohm termination. The desired signal passes
through the BP filter to the post amp while not being able to reach
the termination because of the band reject filter. All other mixer
products are barred from entering the post amp by the BP filter while
being able to reach the termination via the band reject filter.

In other words, unlike a duplexer, this diplexer has both filters tuned
to the same frequency, the IF, but one is a pass and the other is a
stop filter. Here's a drawing.



C1 and L1 are series resonant at 29 MHz, C2 and L2 are parallel
resonant at 29 MHz. R1 is 50 ohms. You can, of course, use more
complex filters (higher order) in the bandpass and bandstop
sections if you desire, but this simple circuit is usually

sufficient.

Note that you want the bandpass components to have a high reactance compared to the mixer and post amp termination resistances at frequencies you don't want passed, IE use a low C resonant circuit. And the bandstop section should be high C to give a low impedance to signals off the IF frequency that are heading for the termination.

You can use ARRL Radio Designer to model this network and optimize the component values.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2735. HV DIODES FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: shiso@ici.net
Message-ID: <shiso-0911961842460001@pmfr3ip20.ici.net>
Source record: 100841

```
UNITRODE (86-526) 60KV solid state diodes .1 amp
UNITRODE (86-525) 45KV solid state diodes .3 amp
$10 each shipped to lower 48.
Thanks, BRUCE/ KD1MW.
```

2736. Re: transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Charles.Mccurdy@1492.conchbbs.com
Message-ID: <2b4_9611100010@conchbbs.com>
Source record: 100842

Hi do thay have a email address i got one of ther catelogs away back but it only had the 6mtr transverters.

--
|Fidonet: Charles Mccurdy 1:106/1492
|Internet: Charles.Mccurdy@1492.conchbbs.com
|
| Standard disclaimer: The views of this user are strictly his own.

2737. HELP: Keenwood TH-21AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: "John B. Lawrence" <ke6tgn@pacbell.net>
Message-ID: <32855F0E.2D90@pacbell.net>
Source record: 100843

Is the repeater offset adjustable on this transceiver? I don't have a service manual for it. I plan on using it with a Ten Tec 6m transverter, but I need a 500khz offset rather than the 600khz the Kenwood provides. Thanks for any help.

Email on this subject is greatly appreciated as I don't have a local access number to my provider and must dial long distancer.

John B. Lawrence KE6TGN
ke6tgn@pacbell.net

2738. Re: BIRD 43 Help/Tutorial

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <32856E81.7228@worldnet.att.net>
Source record: 100844
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics.equipment

Bob Smith wrote:
>
> >>>altavoz: Many slugs and $$$thousands of dollars later ......
> WHY NOT BUY AN MFJ249/209 ?
>
> No good above 150 Mhz!
>
> altavoz <altavoz@worldnet.att.net> wrote in article
> <3282C239.5D0F@worldnet.att.net>...
> Bob Smith wrote:
> >
> > Can someone kindly point me to a tutorial on the Bird 43 watt meter.
> Just
> > got one used without a manual. They look very simple to use.
> >
> > I do have a RF Sampler fitted - what range out output does this have? -
> > would hate to blow my frequency meter or o-scope.!
> >
> > Thanks a million for reading.
> >
> > --
> > >>>>
> > Bob Smith N3FTU
> > Atlanta, GA
>
> altavoz: Many slugs and $$$thousands of dollars later ......
> WHY NOT BUY AN MFJ249/209 ?
>

Good thinking , Bob , its probably no good over 5 gig's either.

2739. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov9.113452.13962@ke4zv.atl.ga.us>
Source record: 100845
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <560c7b$mb9@login.freenet.columbus.oh.us> johnw@iwaynet.iwaynet.net writes:
>Steve Work (slwork@netcom.com) wrote:
>: Phil (pmetcalf@xyplex.com) wrote:
>: : About the simplest NBFM modulator that you can build is a variable
>: : capacitance modulator using a varactor diode as the active component.
>: : When properly biased, this device will give you a frequency swing of up to
>: : 7.5khz deviation (on some) which you can easily control to the desired
>: : 5khz. The device is installed at the oscillator tuning circuit and causes
>: : an increased/decreased capacitance in that tuning circuit which
>: : effectively changes the frequency of the oscillator with respect to the
>: : audio signal that is riding on top of the bias voltage.
>
>: Can anyone here spell "nonlinear", or "distortion"??

Can anyone spell "industry standard"? The use of a varactor to modulate
the oscillator is the standard way NBFM radios are modulated. Motorola
has used the technique for decades, as have most of the other manufacturers.
A properly selected and biased varactor is very linear in its response
across the center of its tuning range. Of course it is biased to operate
precisely in that most linear area.

The other major technique, used in the bad old days before varactors,
isn't really FM modulation at all. It is PM, phase modulation, in a
follower stage (called a reactance modulator) after the oscillator.
The output of a PM modulator is essentially the same as the output
of a FM modulator, but with an added 6 db per octave pre-emphasis.
The standard varactor FM modulator does not inherently add pre-emphasis,
so an external pre-emphasis network is used to allow PM and FM radios
to interoperate. Note that PM can't reproduce DC as a fixed shift in
frequency, but a true FM modulator can. This can be important in data
transmission but is of no concern with speech.

Now PM can't achieve the deviation that direct FM can, so there
are usually several stages of multiplication after the PM modulator
to bring the signal on frequency and achieve the required deviation.
Varactor modulation can use this too, with the varactor moving a
crystal oscillator only a small amount, say 277 Hz, and then
multiplying up to operating frequency. A 18x multiplication will
give 5 kHz deviation for example. But a varactor modulator can
also be used directly on frequency because it can offer much
greater deviation than a PM modulator. In fact, all PLL radios
use a varactor as the control element of the on-channel VCO,
which for a 2m radio has a tuning range of at least 4 MHz, just
from varying the varactor voltage. Modulation is inserted into

the error loop of the PLL.

Incidently, the error loop filter kills DC response for this style
of radio too, so use of PLL radios for data can be a problem. That's
why a varactor modulated crystal controlled radio is preferred for
9600 baud data transmission.

> just what I was thinking. FM is most unforgiving when it comes to
>overmodulation. Even a loud voice on some FM transmitters can distort to
>the point of unintelligibility.

This is a receiver artifact and not a transmission problem. When
the signal goes outside the passband of the receiver IF, or exceeds
the linear range of the discriminator, severe distortion occurs.
But this distortion is *in the receiver* and not in the transmitter.
If the signal is very much over-deviated, the noise squelch amp
in the receiver sees it and can actually squelch the receiver on
voice peaks. Audio limiting is used in NBFM transmitters to avoid
causing these receiver problems (and to keep the transmitter's
modulation inside its assigned channel).

That's why you'll normally find a mic gain pot and a deviation pot
inside NBFM radios. The audio limiter is in between. By juggling
these two adjustments, you can control the onset of limiting so
that it occurs just at 5 kHz deviation for normal speech peaks.

Gary
--
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Destructive Testing Systems | we break it. | with previous uucp addresses
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Lawrenceville, GA 30244 | |

2740. Re: How to reduce power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov9.114828.14116@ke4zv.atl.ga.us>
Source record: 100846

In article <gradyr-0811961235500001@user-168-121-178-82.dialup.mindspring.com>
gradyr@mindspring.com (Grady Russell) writes:
>
>Perhaps one of you homebrewers can assist me...how can I reduce the power
>of my radio? Is there something I can place between my mobile and coax?
>I'd like something that wouldn't modify the radio and could easily be
>turned on and off to avoid overloading an amp. Can anyone assist with
>this?

What kind of radio, and what kind of amp?

You can use a power attenuator pad between the radio and the
amplifier, but you'll have to arrange switching to switch it
in and out of the circuit as you go from transmit to receive
so that it won't attenuate received signals too. This can be
a major pain. It's usually better to put the attenuator in
the amplifier, so the switching that is already in there can
take care of getting it in and out of circuit.

If your radio is a typical SSB radio, it will have an ALC
control line. If you feed a DC signal into that line, you
can reduce the radio's RF gain, and hence its output power.
A 9 volt battery and a pot will usually do it. Of course
you can also just turn the mic gain down since the output
of a SSB radio is a function of the amplitude of the modulating
audio. (If you have a speech compressor, turn it off.)

If you have a FM radio, that won't work. Many FM radios have
an internal output power adjustment, however. You can turn
the power down with this. This isn't really a modification of
the radio, just an adjustment.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2741. Re: Help on transistor id

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov9.120533.14262@ke4zv.atl.ga.us>
Source record: 100847

In article <5605fj$925@newsfeeder.total.net> hugo@infobahnos.com writes:
>
>Finaly, is there a simple test I can make with a DVM (as for bipolar
>transistors) to check it, that it is nor short or open.

You can check an enhancement mode FET by connecting the DVM leads
to source and drain (observe polarity), and then connect the gate to
the drain with a resistor. If the transistor is good it will start to
conduct. Note, with a DVM you may have to use the diode test position
to get enough voltage to activate the transistor. With an older VOM,
just use a low ohms scale. This is a simple go/no-go functional test
that'll work on NPN bipolar transistors too.

Note the bit about observing polarity. With many meters on ohms
scale, the red probe outputs a negative voltage, not positive as
you might assume. Check your meter (with another meter naturally)
to determine if this is true for your meter. Then *write it down*
on a tag and attach it to the meter. This will save lots of frustration
later on when you're checking transistors.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2742. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Ian Robert Walker <Ian@newbrain.demon.co.uk>
Message-ID: <VNRkIEAmeNhyEwqd@newbrain.demon.co.uk>
Source record: 100848
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics

In article <55u5fg$9cr@news2.ais.net>, Carl Stevenson <carl@ais.net>
writes
>In <55mr2q$a1o@post.servtech.com>, maroof@triton.kaifnet.com (Maroof H.
>Choudhury) writes:
>>Can anybody suggest a simple design of a narow band frequency
>>modulator for Citizen's band?
>
>I see that you have gotten numerous responses regarding varactors, etc.
>
>However, I did not see anyone point out that FM is not legal on CB
>(At least in the US, unless the rules have changed dramatically)

Maybe he is not in the USA. FM is the only legal mode in Europe,
although home built is defiantly not legal.

>
>I'm curious ... Why do you want to build an FM modulator for CB???

At a guess, to talk to people who can only use FM.
--
Ian G8ILZ
I have an IQ of 6 million, | How will it end? | Mostly
or was it 6? | In fire. | harmless

2743. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: DENNIS AND CONNIE BAKER <wbfim@sound.net>
Message-ID: <3285663E.372F@sound.net>
Source record: 100849
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

I beleive that you will find that they bias these diodes to be
conductive thourgh out the RF cycle.

Dennis

KE0QM

2744. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <561lfk$1ea@news05.deltanet.com>
Source record: 100850
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Steve Work (slwork@netcom.com) wrote:
: Phil (pmetcalf@xyplex.com) wrote:
: : About the simplest NBFM modulator that you can build is a variable
: : capacitance modulator using a varactor diode as the active component.
: : When properly biased, this device will give you a frequency swing of up to
: : 7.5khz deviation (on some) which you can easily control to the desired
: : 5khz. The device is installed at the oscillator tuning circuit and causes
: : an increased/decreased capacitance in that tuning circuit which
: : effectively changes the frequency of the oscillator with respect to the
: : audio signal that is riding on top of the bias voltage.

: Can anyone here spell "nonlinear", or "distortion"??

Seems to me that if it's NBFM, the least of their problems would be
distortion - like who cares.. For most of the real world, the NBFM is
done by pulling the freq of a crystal before it is multiplied up to the
Xmit freq. The multiplication also multiplies the deviation.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

2745. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961109004800.TAA05057@ladder01.news.aol.com>
Source record: 100914

Just curious....
Have seen several references (comments) in the
past concerning imported PA tubes, such as
the Chinese copies of Eimac's 3-500Z. I have
heard claims that these tubes are more
"prone" to VHF parasitic problems due to
their having a higher gain than the original
Eimacs.
I wonder if this is true. After reading about
the effects of gas release being able to
cause severe internal flashovers in new tubes,
I am now wondering if there is indeed a higher
incident of problems with the imported tubes, if
it may be caused by contamination and poor
quality control?

Peter

2746. Re: Noise-Cancelling mic.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Mandy Wright <Mandy@the-symposium.demon.co.uk>
Message-ID: <kVDe0rAB+8gyEw1a@the-symposium.demon.co.uk>
Source record: 100915

In article <Pine.SUN.3.91.961105123821.22155A-
100000@altair.herts.ac.uk>, "Richard Gunn;G7UDG" <rg5az@herts.ac.uk>
writes
>Can anyone pls help?? I am looking for a **small** noise-cancelling mic.
>to be used inside a (motorbike) crash-helmet. Where may I obtain one of
>these from and for how much (UK!!!)
>
>Also, some form of PTT that is cheap - not the one I would like to get
>(the one the Police use on their bikes!) - but a cheap alternative!!!
>
>Many thanks,
>
>==
> _ G7UDG Internet: r.s.gunn@herts.ac.uk <-- University
>|_)
>| \ichard Internet: rgunn@digibank.demon.co.uk <-- Home
>--
> Please reply to university as main address (mail read daily where possible)
> Home addresses get read on most weekends, and during holidays
>==
The Electret capsule used for hands-free operation of a mobile phone (it
clips on the sun-visor) can be obtained as a replacement from any mobile
radio workshop (2-way). Get the one with holes in the top _and_ a ring
of holes around the body, half way down. To power it make simple 4 volt
smoothed zennered supply for a couple of milliamps. Feed live mic lead
(+) via 2k2-6k8 from supply, and take AF output via 0.047u blocking
capacitor. Neg is ground.
They cost about ï¿½5, we've used this method. Output is about 10mv/600ohm.
PTT switch: use waterproof microswitch moulded in epoxy fixed to
handlebars with a couple of cable ties. Suggest you use very light
weight cable to connect headset and boom mic so it breaks easily if you
and the bike part company! ;-)

Hope this helps
Mandy
(Typing on behalf of my husband Tim who hates computers
despite being a practising RF Engineer! I know _nothing_ about RF!!)
Sussex
UK Please note the NEW ADDRESS!

Turnpike evaluation. For Turnpike information, mailto:info@turnpike.com

2747. looking for Motorola web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: dick@netcom.com
Message-ID: <dickE0Kwv1.720@netcom.com>
Source record: 100916

I wonder if anyone knows of a web site containing Motorola transistor
data sheets? I'd like to get specs on the MRF475 and MRF476, for example.

thanks and 73
dick, W5VEC

2748. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbcde5$3417cb00$d9102399@peter-s>
Source record: 100917
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

Steve Simpson <Steve@chubs.demon.co.uk> wrote in article
<EZ6q$hAL3cgyEwQM@chubs.demon.co.uk>...
> I would like to experiment with A/D and D/A audio over radio.

Try checking out the Motorola CVSD chip. It was a while ago, but I thing
the numbers were
MC3417 for 3 bit version and MC3418 for 4 bit version. Look up the app
circuit in the data
book, and build it EXACTLY as shown, and you will get decent results even
with the 3 bit
version.

...Peter

2749. Re: looking for Motorola web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: carl@ais.net
Message-ID: <560urg$39n@news2.ais.net>
Source record: 100918

In <dickE0Kwv1.720@netcom.com>, dick@netcom.com (Richard Arnold) writes:
>I wonder if anyone knows of a web site containing Motorola transistor
>data sheets? I'd like to get specs on the MRF475 and MRF476, for example.
>
>thanks and 73
>dick, W5VEC

Dick,

Check out Moto's site at: http://www.design-net.com

You will find a wealth of info ... and many data sheets and app notes in
Adobe .pdf format for downloading ...

73,
Carl - wa6vse
carl@ais.net

2750. Re: Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32846DFC.3639@worldnet.att.net>
Source record: 100919

If you can find a copy.... Try the book " Solid State Design for the
radio amateur", published by the American Radio Relay League. It has
about a page devoted to diplexers. Lots of other good data too. If
needed, I have a link to the ARRL on my page-
http://www.geocities.com/capecanaveral/3722
Have fun! Woody

Giovanni Mazzola wrote:
>
> I'm trying to design a diplexer to be connected between the mixer (SBL-1)
> and
> the IF output (29 MHz) of a 6m transverter I'm going to design.
>
> I was looking around for some literature (or software tool, better) about

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2751. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: mgkepner@facstaff.wisc.edu
Message-ID: <560vpt$eai@news.doit.wisc.edu>
Source record: 100920
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

jeroen@psas01.cern.ch (Jeroen BELLEMAN) wrote:

>This PIN diode is used as an RF switch, not a rectifier. It's
>forward biased to close the switch. Now, even though the level of
>RF voltage may be such that the diode is reverse biased for part of
>the RF period, you don't want the diode to block. Hence, the
>storage time must be (much) greater than half an RF period.

>Another key spec of PIN diodes used as RF switches is the junction
>capacitance in the off-state, which should be suitably low.

Okay, this makes some sense, even though I'm not completely convinced.
It seems like if we believe that we need enough stored charge to carry
us through some part of the reverse half cycle, then as the frequency
goes up (and the period goes down) and as long as we assume that the
currents drawn are "the same," then LESS stored charge should be
required at higher voltages.

I think we're still missing something here.

Jim

Melissa Kepner Jim Adney
mgkepner@facstaff.wisc.edu jim.adney@mpcug.com
Laura Kepner-Adney
Madison, Wisconsin

2752. Re: Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: ashlock <ashlocks@mdc.net>
Message-ID: <01bbce02.6f7add00$1cf042ce@comp-1>
Source record: 100921

The '96 Radio Amateurs Handbook has the best coverage on diplexers that I have seen. The math isn't too complex for determining component values.

The diplexer presents a fixed resistive load at all frequencies to the mixer (like 50 ohms - and this is important to proper operation of the mixer) while passing a limited range of frequencies to the following stage.

> "Giovanni Mazzola" <it9xxs@exit.it> wrote in article
<01bbcd49$574d21c0$1318a6c2@mazzola>...
> I'm trying to design a diplexer to be connected between the mixer
(SBL-1)
> and
> the IF output (29 MHz) of a 6m transverter I'm going to design.
>
> I was looking around for some literature (or software tool, better)
about
> this
> subject, but it seems it isnot a popular matter.
>
> Any help about diplexers ? Please do not confuse it with a "duplexer", a
> diplexer being a particular filter that allows passing of a frequency
and
> closing of all the others to 50 ohms (sorry for a so bad explanation...
> HI).
>
> It is a very interesting subject, in my opinion.
>
> Thanks in advance.
>
> Giovanni, IT9XXS
> it9xxs@freenet.hut.fi
>

2753. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbce07$2c3cdde0$59229bcf@kn6dv.qnet.com>
Source record: 100922

Hello all, I have been following this tread for some time and kind of lost track of all the previous comments. (I think it is a very interesting and educational discussion.)
So I looked up all the posting on this subject and made 1 combined file.
I have this file in my home page and this is a unedited file (long). I have tried to keep the right tread on it.

Here is the URL http://www.av.qnet.com/~kn6dv
and you will see the "Good source for amplifier tips" link.

73 Will, KN6DV

kn6dv@contesting.com
--
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive virtues vices, he will fail.
(Walter Lippmann)

2754. Plans for Homebuilt Scanner?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Cajun 'Net Crusier <cajuncru@sprynet.com>
Message-ID: <01bbce06$32725560$f8f7aec7@compuserve.com>
Source record: 100923
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.scanner

I would like to build a simple scanner that tunes the major modes (FM, AM, SSB?) on any frequency. Any ideas or plans?

Thanks!

PLease EMAIL me your answers.

2755. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961109063601.BAA11017@ladder01.news.aol.com>
Source record: 100924

I want to clarify the comments I made about PA operation. Starting from the resting condition, assuming perfect components:

The power supply is the source, not the tube. The tube is a time-varying resistance. The dc supply charges the blocking capacitor through the high RF impedance choke. The blocking capacitor is positive on the tube side, and zero on the tank side at rest.

When the tube turns on, the high Z of the choke allows the anode to freely move around, so long as it is at a high frequency. As the tube's resistance pulls the blocking caps positive terminal towards the chassis, the end of the blocking cap that was at zero volts appears negative and this forces the tuning cap to charge negative. The resistance of the tube essentially "pulls" against the inertia of the tank capacitor through the blocking cap, as the blocking cap tries to force the tank input negative.

As tube resistance decreases, blocking capacitor voltage (and stored energy) is transferred to the tank capacitor. The RF choke also develops a strong magnetic field (it stores energy) from the power supply voltage drop across it.

The tube reaches the lowest value of resistance, it starts back up. As it starts back up the tank (since it is tuned to the same frequency) follows it. Now the field that has built up in the choke collapses, and energy is returned from the choke to the blocking cap and the tube's resistance. Since the choke is in series with the dc supply and current is diminishing, the energy stored in the choke has the same polarity as the supply, they are effectively in series. The total available voltage at the anode end of the choke is the sum of the supply voltage and the voltage developed by the collapsing magnetic field in the choke.

When the grid goes negative the tube cuts off, and the choke and power supply is free to help the blocking cap positive terminal charge positive, and this charging current helps the tank capacitor charge positive (along with the collapse of field in the tank's coil). Everything in the circuit EXCEPT the tube pushes the tank capacitor positive. All the tube can ever do is "pull" on or load the circuit. The only thing that stops this positive momentum is the tube turning back on again, and the power extracted from the tank by the load.

This mechanism can't fully charge the tank capacitance on the first few "tugs". It takes several pulls to get the tank really moving, and that depends on the tank Q, tube conduction angle, and other factors.

This process repeats over and over again. If the tank stores too much energy it tries to overshoot in the negative direction, nothing stops it.

The tube anode goes negative and the tank is free to move. Only the high RF impedance of the plate choke opposes the move towards a lower (or negative) voltage, and that isn't much opposition if the choke has enough reactance. The tube, just when we expect it to be conducting heaviest, is suddenly cut off by the negative anode voltage. The grid continues to change and tries to turn the tube back off, and by the time the anode is positive the grid has the tube cut off. The tank and choke is free to swing things up positive at the tank's freewheel rate.

When exactly matched (in step) with the tube's time varying resistance, the time varying voltage and current at the anode forms the equivalent of a source resistance. This is a non-dissipative resistance that represents the source resistance of the dc to RF conversion process. This is the resistance value conjugately matched when maximum energy conversion efficiency is desired, or maximum output under a given set of operating parameters. It can be found by a modified Fourier analysis called a Chaffee analysis (Review Science Inst. 7, October 1936). This is also a resistance very few people understand, and one that got Walt Maxwell discredited for saying what was absolutely correct.

If the tank tries to overshoot in the postive direction, the tube resistance can pull against the change, but the tube is not a low resistance at the point of maximum tank voltage. The tube is nearly cut off. It can't really put its' "resistive brake" on the positive overshoot.

The tube is also a poor positive peak voltage limiter, unless the drive level and bias places the tube well into conduction (that would only be the case in a class A PA not being driven near its' power capability).

This is why tank loading, and resistive losses in the system, primarily limit tank and anode voltage when a tank is lightly loaded. The voltage soars until equilibrium is reached with losses (including the load and tube losses) or something flashes over.

I've measured, with a class B PA operating at low (500v) voltage and a tank designed for very high voltage (~15 kV), one way peak tank voltages over FIFTEEN times the dc supply voltage when the load was shorted. You can do this at home with a high voltage FET, a 12 volt supply, a scope, and a parallel L/C load. With a MRF-150 (rated at ~150v) and a tank Q of 200, I measured almost 140 volts at the drain.

This can be verified on spice programs if the model is done correctly.

Good tank components and output devices suffer instantaneous failures almost exclusively due to this very repeatable and measurable effect. Anything lowering operating Q reduces this effect, because it loads (extracts energy) from the tank. When books indicate "pick a tank capacitor rated at two times the dc voltage" they assume the PA is correctly loaded, and giving a safe margin for minor error.

73, Tom

2756. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: keinanen@sci.fi
Message-ID: <561mo8$fbi@tron.sci.fi>
Source record: 100925
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Michael Black <blackm00@libertel.montreal.qc.ca> wrote:

>But the 567, commonly used as a tone decoder, is a synchronous detector.
>It has the PLL, and a separate product detector. The only question, of
>course, is whether or not the method added to give a high or low output
>for the detected tone can be worked around to get a linear output.
>

The Signetics application book states that the 567 has AM and FM outputs, but that they are not optimized for linear demodulation. The FM distortion is specified as 5 %. The maximum frequence for the 567 is 500 kHz.

Looking at the internal schematic diagram of the 567, the additional product detector output is available at pin 1. An external capacitor C3 is usually connected from pin 1 to ground, forming a low pass filter with an internal 4k7 resistance. Pin 1 is also internally connected to a comparator feeding the main (open collector) output at pin 8.

Reducing the capasitance of the capacitor at pin 1 to a few nF, will put the low pass filter cut-off frequency above the audio range and the demodulated AM voltage is thus available at pin 1 (pin 8 is unused).

>It's been a while since I've looked in the old Signetics application
>book for the section on PLL's. SOmebody might have already worked on this.

>The Signetics line of PLL's, which somewhere along the way got old
>(I can remember when they were featured in the ham magazines as
>the latest thing), did include devices with the additional product
>detector (with a circuit that looks a lot like the circuit in the
>now common NE602 mixer) needed for synchronous detection of AM. The
>NE560 or 561 (I forget which).

The NE561 has (had) an internal product detector for AM demodulation. The maximum frequency is 30 MHz (with some extension tricks up to 60 MHz).

However, I have only seen the 567 in recent years (and some 565 a few years ago) and I am afraid that the NE560-NE562 are no longer available.

>You could use any in the line, by
>adding an external product detector. Of course, this type of
>synchronous detector is the basic kind. You can get much fancier.

It is important to note that the product detector used as the phase comparator in the PLL operates at the quadrature of the AM carrier signal. The product detector used for AM detection must be run in phase with the AM carrier. Thus, there must be a 90 degree phase difference between the VCO output for the phase comparator and the VCO output for the AM demodulator.

> Michael VE2BVW

Paul OH3LWR

2757. ustrip.c - Microstrip Widths

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Tom Mayo N1RMU <tcmayo@fang.berk.net>
Message-ID: <328477DD.614B93BE@fang.berk.net>
Source record: 100926

Here is a C program I wrote to calculate the impedence of a microstrip given the width. I wrote it to solve a particular problem I am working on, but it could be modified to work with different parameters. It is based on an application note marked RT 3.1.2 which was given to me by a friend, so I don't know how he got it, but it was written by Rogers Corporation.

Rogers Corporation
Microwave and Circuit Materials Division
100 S. Roosevelt Ave.
Chandler, AZ 85226

602-961-1382
602-961-4533 (FAX)

I don't intend this to be a fancy program, it just implements the formulas.

If anyone sees any glaring errors, let me know and I will fix them.

Tom.

--
Tom Mayo N1RMU http://bcn.net/~mayo

```
#include <math.h>
#include <stdio.h>

/* #define Bdef 0.0310 */
#define Bdef 0.0283
#define tdef 0.00134
#define epsilonrdef 2.55
#define wdef 0.09485
#define Fdef 5 /* GHz */

double Z01(double x)
{
double eta0 = 376.73;
double foo0, foo1, foo2;

foo0 = pow(M_E, -pow(30.666 / x, 0.7528));
foo1 = pow(4.0 / pow(x, 2.0) + 1, 0.5);
foo2 = (6.0 + (2 * M_PI - 6.0) * foo0) / x + foo1;
return(eta0 * log(foo2) / (2 * M_PI));
}
```

```
void main(void)
{
double B = Bdef;
double t = tdef;
double epsilonr = epsilonrdef;
double w = wdef;
double F = Fdef;

double foo0, foo1, foo2, foo3;

double T;
double U;
double U1;
double Ur;
double Au;
double Ber;
double Y;
double Z0;
double epsiloneff0;
double P1, P2, P3, P4, P;
double epsilonefff;
double Z0f;

printf("B = %f (in)\n", B);
printf("t = %f (in)\n", t);
printf("epsilonr = %f\n", epsilonr);
printf("F = %f (GHz)\n", F);

do {

printf("Enter w, trace width (in): ");
scanf("%lf", &w);

T = t / B;
U = w / B;

/* Get width corrected for thickness in homogenoeous medium. */

foo0 = 4 * M_E / T;
foo1 = pow(6.517*U, 0.5);
foo2 = pow(tanh(foo1), 2.0);

U1 = U + (T * log(1 + foo0 * foo2)) / M_PI;

/* Get width corrected for mixed media. */

foo0 = cosh(pow(epsilonr - 1.0, 0.5));

Ur = U + ((U1 - U)*(1 + 1/foo0)) / 2.0;

/* Use Ur and epsilonr to get value for intermediate Y. */

foo0 = pow(Ur, 4.0) + pow(Ur, 2.0) / 2704.0;
foo1 = pow(Ur, 4.0) + 0.432;
foo2 = log(foo0 / foo1);
foo3 = log(pow(Ur / 18.1, 3.0) + 1.0);
```

```
Au = 1 + foo2 / 49.0 + foo3 / 18.7;

Ber = 0.564 * pow((epsilonr - 0.9) / (epsilonr + 3.0), 0.053);

foo0 = pow(1 + 10.0 / Ur, -(Au * Ber));

/* Get value for intermediate Y. */

Y = (epsilonr + 1.0) / 2.0 + ((epsilonr - 1.0) / 2.0) * foo0;

/* Get Z0 without frequency effects. */

Z0 = Z01(Ur) / pow(Y, 0.5);

/* Get effective permittivity without frequency effect. */

epsiloneff0 = Y * pow(Z01(U1) / Z01(Ur), 2.0);

/* The filling factor P is from Kirshning and Jansen.
This was found more accurate than the simpler one
in Hammerstad and Jensen according to measure-
ments reported by Deibele and Bayer. */

foo0 = pow(0.0157 * F * (B*25.4) + 1.0, -20.0);

P1 = 0.27488 + U * (0.6315 + 0.525 * foo0)
- 0.065683 * pow (M_E, -(8.7513 * U));

P2 = 0.33622 * (1.0 - pow(M_E, -0.03442 * epsilonr));

foo0 = pow(F * (B*25.4) / 38.7, 4.97);

P3 = 0.0363 * pow(M_E, -4.6 * U) * (1 - pow(M_E, -foo0));

P4 = 2.751 * (1 - pow(M_E, -pow(epsilonr / 15.916, 8.0))) + 1.0;

/* Apply the filling factor to the Getsinger dispersion
model for the effective permittivity and characteristic
impedence at frequency F. */

P = P1 * P2 * pow(F * (B*25.4) * (0.1844 + P3 * P4), 1.5763);

epsilonefff = epsilonr - (epsilonr - epsiloneff0) / (1 + P);

printf("epsilonefff= %f\n", epsilonefff);

foo0 = (epsilonefff - 1) / (epsiloneff0 - 1);
Z0f = Z0 * pow(epsiloneff0 / epsilonefff, 0.5) * foo0;

printf("Z0f = %f (Ohm)\n", Z0f);

} while(1);

}
```

2758. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0911960441360001@port12.vcnet.com>
Source record: 100927

In article <19961109004800.TAA05057@ladder01.news.aol.com>,
commquart@aol.com wrote:

> Just curious....
> Have seen several references (comments) in the
> past concerning imported PA tubes, such as
> the Chinese copies of Eimac's 3-500Z. I have
> heard claims that these tubes are more
> "prone" to VHF parasitic problems due to
> their having a higher gain than the original
> Eimacs.

Yes, they do have a higher mu than the Eimac 3-500Z, but the mu is similar
to Amperex 3-500Z . However, most of the vhf parasitic oscillation
problems I hear about involve Chinese 572Bs, which appear to have much
higher vhf gain than do Cetron and RCA 572Bs. More gain isn't necessarily
better, unless you are trying to build an oscillator. Have you ever been
in an auditorium when someone turns up the gain too high on the PA?

> I wonder if this is true. After reading about
> the effects of gas release being able to
> cause severe internal flashovers in new tubes,
> I am now wondering if there is indeed a higher
> incident of problems with the imported tubes, if
> it may be caused by contamination and poor
> quality control?
>
> Peter

At first, the Chinese tubes did have a few problems---some of which were
materials-related. In time, the problems were worked out
If internal gas were the culprit, the gas would still be there after a
big bang. I test tubes which have been removed from such amplifiers. In
most cases, the vacuums appear to be normal. For a graphite anode 3-500Z,
a normal vacuum is indicated by a leakage current of 10uA or less at at an
anode-to-grid potential of 9kV. For a metal anode 3-500Z, the normal
leakage current is 3uA or less at 9kV.

I also measure grid-to-cathode breakdown voltage (BV). Due to the bursts
of high grid current that seem to accompany parasitic vhf oscillations,
grid damage is an indication that such oscillations have occured.
For Instance, normal grid-to-cathode BV for a 3-500Z is about 8kV. For
3-500Zs that have experienced a big bang, I see reduced voltage
withstanding ability.because the hot filament is bent sideways during the
parasitic. (see photo on p.15 in Sept. 1990 QST). In some tubes, the BV

is zero volts--i.e., the grid is welded to the bent filament helices. In other tubes. the BV is reduced by a less severely bent filament. From my experiences, a 3-500Z whose grid-to-cathode voltage withstanding ability is 5kV or less, will probably develop a grid to cathode short when the tube is operated in an amplifier. Sure, 5kV sounds like plenty of BV, but when the filament is at it's normal operating temperature of 1800+ degrees K, it expands in size, reducing the grid clearance.

---

e-mail copy to Peter

--

--Rich-- ag6k, 805.386.3734

2759. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: hill@rowland.org
Message-ID: <561v9k$852@fridge-nf0.shore.net>
Source record: 100928
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

meric@feynman.arc.nasa.gov, <meric@feynman.arc.nasa.gov> said...
>
> Suppose your supply voltage is Vcc, and you biased the collector
> at Vcc/2. [snip math] the gain is: -q Vcc/2kT!
> no collector resistor dependence...

And to summarize, for the case of biasing at V/2, the gain is 20 V.
This is a nice number to commit to memory.

--
Win

2760. Free Web site for Homebrew Project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: imagine <imagine@tecsolv.com>
Message-ID: <01bbce48$cb009200$8edd48a6@ibm.ibm.net>
Source record: 100929

If you have a interesting homebrew project and need a place to
put some info about it on the web, send it to me and I will
put it on the web for free. I have a homebrew projects on the
web page at
http://www.tecsolv.com/cq

Roger, KI5YN, Tecsolv Econo Page
http://www.tecsolv.com/econo

2761. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-0911960523520001@port12.vcnet.com>
Source record: 100930

In article <01bbce07$2c3cdde0$59229bcf@kn6dv.qnet.com>, "Will, KN6DV"
<kn6dv@qnet.com> wrote:

> Hello all, I have been following this tread for some time and kind of lost
> track of all the previous comments. (I think it is a very interesting and
> educational discussion.)

Loosing track is easy when there's so much smoke in a debate. When this
debate started, I received an e-mail from a ham in NYC who warned me that
one of the debaters here tends to invent smoke, and use it as a
diversionary tactic.

> So I looked up all the posting on this subject and made 1 combined file.
> I have this file in my home page and this is a unedited file (long). I have
> tried to keep the right tread on it.
>
> Here is the URL http://www.av.qnet.com/~kn6dv
> and you will see the "Good source for amplifier tips" link.

Good idea, Will. Thanks.

> 73 Will, KN6DV
>
> kn6dv@contesting.com
> --
> http://www.av.qnet.com/~kn6dv
>
> REFORM
> Unless the reformer can invent something which substisutes attractive
> virtues vices, he will fail.
> (Walter Lippmann)

 I think there may be a typo in the Lippmann quote.
---
e-mail copy to Will, KN6DV

--
--Rich-- ag6k, 805.386.3734

2762. Build Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: johnf <johnf@cyberramp.net>
Message-ID: <3284B150.22BB@cyberramp.net>
Source record: 100931

http://www.cyberramp.net/~johnf

2763. PTS 160 MHz Synthesizers 4 sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Wave@mindspring.com
Message-ID: <5626ke$21a@camel0.mindspring.com>
Source record: 100932
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space,rec.radio.swap,sci.electronics.equipment

I have a copuple of PTS synthesizers for sale. These units are the 160 MHz version. Here are some of the specs:

Frequency range .100 000 MHz to 159.999 999 MHz
Resolution 1 Hz to 100KHz in decades
Accuracy 1 x 10^-8/day +/- 1 x 10^-6/0 - 50 C
Control Local by 10 position dial; remote by ttl level parallel entry BCD or GPIB

Switching time 20 to 5 microseconds
Output level +3 to 13 dBm (metered in dBm and volts)
Flatness +/- 0.5
Impedance 50 ohms
Harmonics -40dBc
Discrete spurs -75dBc

Phase Noise -63 dBc (0.5 Hz to 15 KHz) incl. effects of internal STD
100Hz/105dBc, 1KHz/115dBc, 10KHz/123 dBc,
100KHz/127 dBc
Noise Floor -135 dBc/Hz
External drive 10 MHz or 5 MHz (internal TCXO included)
Weight 35 Lbs
Mounting Rack chassis

I have scanned images of the price sheet and specs/picture sheet. These are available upon request. These units sell new (with all the included options) for over $8000. I am selling them for $500. They all have minor cosmetic scratches but are in full working condition. If interested please e-mail me at:

Pieter Ibelings
N4IP
wave@mindspring.com

73's
Thanks

2764. Pye M290 low band PMR (UK)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: stirling@tandm.u-net.com
Message-ID: <5628uc$2g6@nuntius.u-net.net>
Source record: 100933

Does anyone have a circuit diagram of any of the Pye M290 series PMR radios that they could E-Mail me, or know where I could get one from?

Thanks.

/\/\ike

2765. Microwave devices for sale.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: shiso@ici.net
Message-ID: <shiso-0911961050060001@pmfr2ip16.ici.net>
Source record: 100934

Greetings, I have the following items up for best offer:

1-AYDEN MICROWAVE Ga As FET amp (4450B2S), SMA Connectors
1- CALIFORNIA MICROWVE OSC 52-100833-01 (-) MT5ON-213(-), 4500-5000MHZ.
4-MERIMAC coaxial variable attenuators (ASM2-15-11K), SMA Connectors.
3-MERIMAC coaxial variable attenuators (AUMP-25A),SMA Connectors.
5-Emco 20db directional coupplers,SMA Connectors.
2- KDI 10 db directional coupplers,SMA Connectors.
1-coaxial LP filter 6000MHZ,SMA Connectors.
1 NARDA power divider 4.8 GHZ (4314-2)
8-connectors N (F) to SMA (F) panel mount.
several short lengths of semi-ridgid coax with SMA (M) connectors.
Thanks for the interest. Bruce/ ND1MW shiso@ici.net

2766. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-09 00:00:00 UTC
From: Michael J Wooding <g6iqm@g6iqm.demon.co.uk>
Message-ID: <7mlgoHAWfEhyEwcj@g6iqm.demon.co.uk>
Source record: 100935
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

In article <EZ6q$hAL3cgyEwQM@chubs.demon.co.uk>, Steve Simpson
<Steve@chubs.demon.co.uk> writes
>Maybe there is a chip that does the whole thing (audio to data stream
>and back).

Sounds like a cellular phone to me

Mike

--
Michael J Wooding G6IQM email: vhf-comm@g6iqm.demon.co.uk
http://www.eolas.co.uk/ag/vhfcomm.htm & http://www.clearlight.com/~vhfcomm
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
Tel: (0)1788 890365 Fax: (0)1788 891883
VHF Communications Magazine - Especially covering VHF, UHF and Microwaves

2767. Re: Need hard to find parts!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <3285DEFC.2698@worldnet.att.net>
Source record: 100851

macino@ibm.net wrote:
>
> In <327DFDC4.3D2F@awod.com>, T Fultz <tfultz@awod.com> writes:
> >I'd like to learn to build some of my own gear. I've found some pretty
> >nice projects in a copy of 'Solid State Design' but I don't know where
> >to find some of the components. Since this copy is a 1978 copy, I'm
> >sure some of the parts listed are going to be next to impossible to
> >find.
> > Some of these components are:
> > Amidon T-50-6 cores

I think Amidon Associates are still in business. Santa Ana, California???
They are a small lot reseller. _W_

> > Millen 22050 4-54pF variable caps

Mouser Electronics (and others) sells mini and sub-mini caps that will (I
believe) substitute. _W_

> > Various Miller inductors
> > and Especially coil stock of all 'shapes and sizes'
> > (who has this stuff anymore)
> >
> >Basically, I'd like to experiment and I can't find anybody with parts
> >anymore. I've been to a number of ham fests and they're just not around
> >anymore.

Some 'fests are better than others for this sort of thing...

There are a number of vendors who don't have too large a minimum order (or typ.
a $5 surcharge if under).... I have used Mouser Electronics and DigiKey and
find them very good. Another I have used is Hosfelt Electronics (been a
while).

Other possibilities (includes surplus vendors): DC Eclectronics, Marlin P.
Jones, All Electronics, Cumminications Concepts Inc., MCM Electronics, C & H
Sales. _Woody_

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2768. Re: How to reduce power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: cureton@minyos.its.rmit.EDU.AU
Message-ID: <563mdm$685@aggedor.rmit.EDU.AU>
Source record: 100852

Grady Russell (gradyr@mindspring.com) wrote:
:
: Perhaps one of you homebrewers can assist me...how can I reduce the power
: of my radio? Is there something I can place between my mobile and coax?
: I'd like something that wouldn't modify the radio and could easily be
: turned on and off to avoid overloading an amp. Can anyone assist with
: this?
:
: TIA,
: Grady
How about an attenuator? Yeh - that might be the shot!

I assume the mobile is a phone that tx's uder 3 watts. An attenuator
(Variable) should be fairly easy to construct. Have a look at the ARRL
handbook!

--
David Cureton
cureton@minyos.its.rmit.edu.au

2769. Re: How to reduce power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <3285D958.3602@worldnet.att.net>
Source record: 100853

David Peter Cureton wrote:
>
> Grady Russell (gradyr@mindspring.com) wrote:
> :
> : Perhaps one of you homebrewers can assist me...how can I reduce the power
An attenuator
> (Variable) should be fairly easy to construct. Have a look at the ARRL
> handbook!
>
> --
> David Cureton
> cureton@minyos.its.rmit.edu.au

Remember to put it in the Tx line only or it will also attn. any Rx
signal... (Pardon me for stating the obvious)
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

2770. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1011960557480001@port6.vcnet.com>
Source record: 100854

In article <55gpdt$hg4@europa.winmail.com>, dom@shocking.com (Ron Angle) wrote:

> I would appreciate input from anyone who has used separate relays for the
> input and output on grounded grid linear amplfiers (as opposed to using a
> single DPDT relay). Is there a problem if two separate relays do not close
> simultaneously?

The primary consideration is that Both the RF input relay and the RF output relay contacts in the amplifier be closed, and finished bouncing, BEFORE the RF input signal arrives. Some of the newer radios begin delivering RF 5mS after switching from receive to transmit. If the amplifier relays are not fully closed in less than 5mS, relay contact arcing is certain.

In Figure 7B on my Web site, an amplifier switching circuit is shown that switches in about 2mS. Also, see QST, January, 1994 "The Nearly Perfect Amplifier".

We sell a parts kit for the circuit shown, including the Matsushita 1mS RF reed relay used to switch the input, but minus the Jennings RJ1A vacuum relay, which can be obtained for about $35 from Fair Radio Sales 419-227-6573. The price of our QSK parts kit is $20, including a spare 51v, 1.5kw, voltage surge suppressor diode (D1). If you don't want a spare D1, subtract $1.50. .

If you are interested in seeing my Web site: the URL is http://www.vcnet.com/measures/

--
--Rich-- ag6k, 805.386.3734

2771. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkE0nr6J.Mu8@netcom.com>
Source record: 100855
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

John Lundgren (jlundgre@delta1.deltanet.com) wrote:

: Seems to me that if it's NBFM, the least of their problems would be
: distortion - like who cares.. For most of the real world, the NBFM is
: done by pulling the freq of a crystal before it is multiplied up to the
: Xmit freq. The multiplication also multiplies the deviation.

True, the distortion is going to increase as the modulation index
increases. On narrow FM you'll have very little distortion, but it would
definitely be a problem if were trying to modulate a 400Khz subcarrier at
90Khz deviation.

2772. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkE0nrC4.MxM@netcom.com>
Source record: 100856
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Ian Robert Walker (Ian@newbrain.demon.co.uk) wrote:

: Maybe he is not in the USA. FM is the only legal mode in Europe,
: although home built is defiantly not legal.

: >
: >I'm curious ... Why do you want to build an FM modulator for CB???

: At a guess, to talk to people who can only use FM.

People with "regular" AM CB radios would probably still be able to hear
the conversation, though.

2773. Re: PCB Designing at high Frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: keinanen@sci.fi
Message-ID: <564e5r$f30@tron.sci.fi>
Source record: 100857

Madjid VE2GMI <mboukri@cam.org> wrote:

>QST presented years ago a technique using isolated wires
>placed on a PCB to simulate microstrips. The insulation
>acted as dielectric but the wires were connected to the
>circuit (at least on one end!). Never tested the technique
>but seemed very simple to implement.

Does anybody remember which year this was presented or any other
information to help to limit the search for this article ?

Paul OH3LWR

2774. FREE SOFTWARE, CIRCUITS - Correction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: "Charles H. Reichert" <kd9jq@imaxx.net>
Message-ID: <3285FCED.750C@imaxx.net>
Source record: 100858

Oops...correct address is:

http://www.imaxx.net/~kd9jq

2775. ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <3285f303.4923618@news.frazmtn.com>
Source record: 100859

Does anyone know why when the ARRL labs test, revue and publish IMD findings on new transceivers, and linear amplifiers they compare the IMD products to the sum of the two tones (PEP output of the two tones combined)? Doing the test this way makes the IMD measurements look 6db better than what they actually are (compared to commercial standards).
73, Jesse, W6KKT

2776. Radar : Circuit Diagrams for building my own

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: Richard Weideman <richardw@realtime.co.za>
Message-ID: <32861997.3FCD@realtime.co.za>
Source record: 100860

I would like to build my own pulsed radar for a personal tracking project.

I am trying to find a source for circuit diagrams, or a kit I can assemble/cannabilise, or any other assistance.

My design constraints are:

- to be used to track a corner reflector made of aluminized foil - (mylar)
- corner reflector cube side size limit is between 1 to 2 inches / 2.5 to 5 cm
- radar range is to cover an area 150 x 150 yards / 140 x 140 metres

- the radar will be used to track the distance of the corner reflector only
- the device will need to output elapsed time between "ping" and "echo"
- no display is required
- time output feed will be fed into a PC for processing
- 3 radar devices will be used to determine location by triangulation

If anyone can give me some pointers I'd be most appreciative.

Thanks
Richard

2777. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961110162500.LAA07297@ladder01.news.aol.com>
Source record: 100861

In article <3285f303.4923618@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

>Does anyone know why when the ARRL labs test, revue and publish IMD
>findings on new transceivers, and linear amplifiers they compare the
>IMD products to the sum of the two tones (PEP output of the two tones
>combined)? Doing the test this way makes the IMD measurements look
>6db better than what they actually are (compared to commercial
>standards).
>73, Jesse, W6KKT
>
>

They did in the past, but I haven't followed the situation lately. I asked about the practice back in the 1970s -- but didn't receive an answer. The preferred method is often called the "Collins method" for taking IMD readings, the tones are set to the 0 graticule, and the IMD products read directly down from that point.

Peter
Communications Quarterly Magazine

2778. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <5651g2$88v@library.airnews.net>
Source record: 100862

w6kkt@frazmtn.com (W6KKT Jesse) wrote:
>Does anyone know why when the ARRL labs test, revue and publish IMD
>findings on new transceivers, and linear amplifiers they compare the
>IMD products to the sum of the two tones (PEP output of the two tones
>combined)?

Because that's the right way to do it. Unfortunately, right or nor,
it is not the standard way to do it. The international standard is to
use either of the two (equal amplitude) tones as the reference. That
makes the IMD look 6 db worse than it actually is. Dave Russel, then
of RF Comm, was on the committee that made the recommendation.
According to him, the committee couldn't get a handle on PEP so they
compromised.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM

2779. List Of Stamp Applications [961110]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: cj@hth.com
Message-ID: <32861d3a.2378691@news.buller.se>
Source record: 100863
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

Since the L.O.S.A is getting bigger I only post the index of
applications to the newsgroups and you can download the complete
L.O.S.A from the following places...

WWW:

http://www.hth.com/losa.htm

FTP:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

1.0 Whats is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great
ideas and many problems that are solved with the BASIC Stamp. The
main purpose of this list is to get an idea of what other people are
using their BASIC Stamps for and maybe get some inspiration or hints.

1.1 How can I contribute to this list ?

If you have done something (big or small) with the BASIC Stamp that
you are willing to tell others please use the form given below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Visit the following Web site and fill in the contribution form...

http://www.hth.com/losa.htm

1.2 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
># 004 Scrolling LED Sign
># 005 Tone Decoder
006 Pager
007 HexWalker Mobile Robot
008 Robo Bug
009 EXPBOT Robot controlled by Stamp

010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
025 Sculpture control
026 Commercial clothes dryer controler
027 Morse Code Keyer
028 Traffic Light Controller
029 Automotive Lamp Control
030 Single Switch Scanning Device for Disabled
031 Bell timer for school bell control
032 RIMS controller for beer making
033 Stamp 1 and ISD 25XX Sound Chip Application
034 Camera Wireless Controller
035 Simple Battery Check using the BS2-IC
036 Photocell MIDI Controller
037 DCF-Clock
038 Radio-controlled Digital Clock
039 Weather Station I
040 Private Aid To Navigation
041 Stamp II in Space
042 MAT32 long integer math routines
043 Distinctive Ring Detector
044 Extended Stamp Memory
045 Debate Stoplite
046 Digital nametag
047 ST506 Disk Seeking Demo Controller
048 Robot: Multi-Stamps Communicate via Shared Memory
>
>
>
>

Regards,

/Christer

-=-=-=

* Vi saljer Parallax PIC och BASIC STAMP produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=

2780. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: Rik Slingerland <rik@iaehv.nl>
Message-ID: <565a1m$d22@news.IAEhv.nl>
Source record: 100864
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

grohe@galaxy.nsc.com (Paul Grohe) wrote:
>
> In the newsgroup sci.electronics.design.
> Tim Dicus <timothyd@gnt.net> from
> Prolectron thoughtfully posted:
>
> > I found a schematic using a NE568 as an AM detector. It is in National
> > Semiconductor's data book. I have an older version, but I would imagine
> > it is in the new version too.
>
> Could this possibly be an old Phillips or Signetics databook? "NE" is a Phillips
> part.
>
> We have an LMC568, which is akin to a 567, but is made specifically for
> demodulating SAP/SCA/FSK *FM* subcarriers up to 500KHz.
>
> http://www.national.com/pf/LM/LMC568.html
>
> The datasheet is only a few pages, and there are no "AM" detectors on it.
>
> If it is our Databook, which one is it? I don't see that circuit in the
> "Specific" or "Video" books or appnotes.
>
> Cheers,

Correct, it is a Philips IC used in a synchronous detector.
By the way: Philips is written with ONE 'L'!
A Philips employee
> Paul Grohe
>
> ---
> Paul Grohe National Semiconductor Corp.
> Sr. Electronics Technician 2900 Semiconductor Drive
> AMPS New Products Eng Group Mail Stop C2693
> Mailto:grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
> (408) 721-7389 Tel (408) 721-2513 Fax
>
> http://www.national.com
>
> For technical assistance, literature, or samples call:
> NORTH AMERICA EUROPE
> (800) 272-9959 +49 (0) 180-532 78 32
> mailto:support@tevm2.nsc.com mailto:europe.support@nsc.com

> Usenet Disclaimer: Any opinions expressed are mine, not NSC's
>
> PLEASE! NO Solicitors/Junkmail/Pyramid/Chain/MLM/Headhunters!
> ----------

2781. Re: Need hard to find parts!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: Don Wines <dwines@e-tex.com>
Message-ID: <328635E1.14E8@e-tex.com>
Source record: 100865

woody white wrote:
>
> macino@ibm.net wrote:
> >
> > In <327DFDC4.3D2F@awod.com>, T Fultz <tfultz@awod.com> writes:
> > >I'd like to learn to build some of my own gear. I've found some pretty
> > >nice projects in a copy of 'Solid State Design' but I don't know where
> > >to find some of the components. Since this copy is a 1978 copy, I'm
> > >sure some of the parts listed are going to be next to impossible to
> > >find.
> > > Some of these components are:
> > > Amidon T-50-6 cores
>
> I think Amidon Associates are still in business. Santa Ana, California???
> They are a small lot reseller. _W_
>
> > > Millen 22050 4-54pF variable caps
>
> Mouser Electronics (and others) sells mini and sub-mini caps that will (I
> believe) substitute. _W_
>
> > > Various Miller inductors
> > > and Especially coil stock of all 'shapes and sizes'
> > > (who has this stuff anymore)
> > >
> > >Basically, I'd like to experiment and I can't find anybody with parts
> > >anymore. I've been to a number of ham fests and they're just not around
> > >anymore.
>
> Some 'fests are better than others for this sort of thing...
>
> There are a number of vendors who don't have too large a minimum order (or typ.
> a $5 surcharge if under).... I have used Mouser Electronics and DigiKey and
> find them very good. Another I have used is Hosfelt Electronics (been a
> while).
>
> Other possibilities (includes surplus vendors): DC Eclectronics, Marlin P.
> Jones, All Electronics, Cumminications Concepts Inc., MCM Electronics, C & H
> Sales. _Woody_
>
>
> --
> de Woody (WB4QXE) - woody.white@worldnet.att.net
> Electron Microscopist/Microanalysist,

> Ham radio "homebrewer", shade tree mechanic,
> '90 Nissan 240SX, wish still had my Mcycle too!
> http://www.geocities.com/capecanaveral/3722
> .

The ARRL Handbook (any recent issue) has address for parts suppliers who will honor small orders. Chapter 30 of the 1996 edition. Also there is a list at the following site:

http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/general/parts.txt

Although this is a fairly old list (1991) it will give a starting point for address, etc. I have personally dealt with All Electronics, Jameco, Mouser, JAN Crystal, Amidon, RADIOKIT and others and have had generally good luck. The only problem with some suppliers such as Mouser is the cost is generally quite high but you can find just about anything you need.

GL es 73s,
Don, K5DW (ex AA5IE)

2782. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961110214700.QAA13312@ladder01.news.aol.com>
Source record: 100866

In article <5651g2$88v@library.airnews.net>, jfriley@iadfw.net (J. Fred Riley) writes:

>
>Because that's the right way to do it. Unfortunately, right or nor,
>it is not the standard way to do it.

There is no right way to make a measurement, only a standard way.

If a volt is only a volt because of how they decided to measure it.

It doesn't matter how the term is defined, so long as everyone uses the same definition.

73 Tom

2783. pcb designing programme's ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: Adriaan <adpe1khp@pi.net>
Message-ID: <3286DB7A.49CC@pi.net>
Source record: 100867

Hello,

Where can i find a good pcb designing programme for the pc ?

Cuagn, Adriaan
////
(o o)
---------------------------------------ooOO--(_)--OOoo--
VHF DX AmateurRadio Station PE1KHP JO22XE
Home site http://home.pi.net/~adpe1khp/home.htm
Pakect Radio pe1khp@pi8apd

Use 70cm, don't give it to the CB-boys

Member of the dutch radioclub Veron (IARU), member of VHF
commitee and chair-man of the local-club Apeldoorn

2784. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: edstagl@worldnet.ATt.NET
Message-ID: <19961110214642.AAA2102@LOCALNAME>
Source record: 100868

```
Do not read. This is a test.
```

2785. Hybrids and Gunnplexer Video ckt - HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-10 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199611101903.RAA15919@netra01.origin.com.br>
Source record: 100869

I got a SHW5042 hybrid from an "crashed" Motorola trunk radio. No data for this
component even at the Design-net (Motorola homepage). In one catalog I only found some case information, but no electrical caracteristics.
Any Idea? May be a MHW5042(not found too)?
I need information on PF0031 hybrid too!

Other subject: I'm looking for schemactics on video amplifier with pre-emphasis
(CCIR 525 lines, i.e. NTSC video). I did one using a FET, some RC network and
calibrated it using a domestic satellite receiver, 18MHz IF filter and a modified
Ku band LNB. The transmitter is a 10mW Gunnplexer(MAcom). May be the CCIR curve too). The idea is not to have a domestic TVRO de-emphasis as a reference.
The circuit was calibrated with a multiburst TV signal and looks OK but...

Thanks in advance.
Marcus Ramos, PY3CRX
mramos@originet.com.br
Homebrewing ATV, 902, 1296, 2304, 10250, Digital Video codecs, HRPT, GOES/METEOSAT/NOAA APT ....

2786. Re: Need 4cx250x amplifier schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961111173900.MAA03226@ladder01.news.aol.com>
Source record: 100786

In article <32872E11.15BC@rcru.rl.ac.uk>, Mike Willis <mjw@rcru.rl.ac.uk>
writes:

>
>you can not run easily a 4cx250B without forced air cooling. The heater
>is the problem. Eventually the ceramic base will crack. Some form of
>conduction cooling would be needed.

Eimac warns against applying filament power without airflow, because even
heater power can damage base seals.

73 Tom

2787. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: larson@net.com
Message-ID: <567osi$l5o@unet.net.com>
Source record: 100787
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <561lfk$1ea@news05.deltanet.com> jlundgre@delta1.deltanet.com (John Lundgren) writes:

>Seems to me that if it's NBFM, the least of their problems would be
>distortion - like who cares.. For most of the real world, the NBFM is
>done by pulling the freq of a crystal before it is multiplied up to the
>Xmit freq. The multiplication also multiplies the deviation.

Nowdays, most of the world generates NBFM with varactor modulators in PLL circuits. This allows radios with microprocessor controlled frequency selection.

Multiplication of the xtal frequency is a rather ancient method now.

Alan

2788. 12v antenna rotator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: jeffg@direct.ca
Message-ID: <567s46$c44@orb.direct.ca>
Source record: 100788

I want to use an antenna rotator at our cottage. We only have 12V DC.
Does anyone have a plan for, know of, want to sell a 12 volt antenna
rotator?

2789. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: nv0y@horizon.hit.net
Message-ID: <56746n$50e@opal.southwind.net>
Source record: 100789

In article <199610171243.FAA04002@mail.ucsd.edu>,
modinaf@swsupp.ico.olivetti.COM (Fabrizio MODINA) says:
>
>Hi All!
>I`m looking for address of dealer or producer a roller inductor to
build a
>tuner for hf bands.
>Thanks
>
>73 de IK1VCF
>
>I have had a lot of luck getting stuff like that at Surplus Sales of
Nebraska. Advertised in QST. Omaha, Neb. 402-346-4750. Gud Luck,
Mike NV0Y.

2790. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961111193400.OAA05467@ladder01.news.aol.com>
Source record: 100790

In article <32875267.19A9@mail.teclink.net>, "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:

>Tom, what letter have you been reading? The letter that Rich is
>apparently referring to says [in part] "Both have been badly overheated
>internally, the apparent result of an oscillation condition."
>"Oscillation condition"....."oscillation condition".....hmmm.... Do PA
>tubes normally oscillate? Was he referring to the tubes oscillating at
>HF? The letter says nothing about any probably cause except an
>"oscillation condition". That letter does NOT say "nothing".

The letter is pretty clear Tom. It mentions Rich wrote an interesting letter about parasitics. It says his tubes were overheated, the "apparent result" of an oscillation condtion.

Like I said before, if I sent a part back with a letter explaining how I thought my amp had an oscillation, and they relied "yep, apparently you did. Your tubes were overheated" what doe it mean? Nothing. Just the tubes were overheated.

>Also, the letter from Mr. Foote is *signed*, and we all know exactly who
>wrote it. Unfortunately, we cannot say the same for the unsigned email
>that you posted. Unless someone at Eimac has the username "XXX", then
>the true identity of the sender must have been intentionally hidden at
>some point. Why won't you tell us who wrote it? Is the author of the
>email that you quoted afraid to take responsibility for what he said?
>It looks like it at this point..... Which makes the accuracy of said
>email highly suspect. And, as I see it, the whole case against Mr.
>Foote's credibility *is* that email.

Read QST, I've outlined the page. Mr. Measures also has been verbally told, and told in correspondence, that his claims are untrue. The specifically asked to not be bothered with this more, because it is a waste of time.

Nothing described matches theory. The photons don't, the circuit analysis does not, the grid dissipation claims do not, the resistors as fuses do not, the removal of electronic overload does not, the suddent busts of energy do not fit oscillator theory, nor do the claims of tuning capacitor damage.

When almost nothing makes sense, it might be cause to consider the source unreliable.

>But.... I really think you are throwing rocks from the porch of a glass
>house on this "unnamed source" issue.

But Rich agreed with me. Read carefully, so we can get past this. I'll post what he said.

In article <measures-08119600081300001@port17.vcnet.com>, measures@mail.vcnet.com (R. L. Measures) writes:

>> >Tom: You still do not seem to understand that the engineer said that the
>> >excessive grid current was apparently the result of an oscillation far
>> >above the operating frequency.

I wrote:
>> Rich, first of all the Foote letter plainly says no such thing.
...snip...

Rich replied:
>You are confusing the letter with the telephone conversation.

So you see, he claims the oscillation far above the operating frequency comes from a verbal conversation.

>I would recommend that you either name the *person* who wrote the
>"damning email" from Eimac or stop questioning Mr. Foote's credibility.
>One of the two would seem to be indicated at this point.

QST printed enough. I recommend you look it up.

Even if the letter did say that VHF parasitics caused the failue (which it does not) Eimac has plainly denied the accuracy of such claims. For goodness sakes, let go of it. None of these parasitic claims make any sense.

This stuff isn't that complicated.

73 Tom

2791. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: carl@ais.net
Message-ID: <5680eo$t7q@news2.ais.net>
Source record: 100791

In <3285f303.4923618@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:
>
>Does anyone know why when the ARRL labs test, revue and publish IMD
>findings on new transceivers, and linear amplifiers they compare the
>IMD products to the sum of the two tones (PEP output of the two tones
>combined)? Doing the test this way makes the IMD measurements look
>6db better than what they actually are (compared to commercial
>standards).
>73, Jesse, W6KKT

It certainly DOES make the result look 6 dB better compared to
commercial standard test methods ... I'm sure that those who place ads
in Q$T LIKE that ...

Actually, it's pretty insulting if you think about it ... they're taking
avantage of the fact that many, many of today's appliance operators are
not technically astute enought to even recognize the fact that that 6 dB
discrepancy exists ... and that's a sad statement on the state of ham
radio, too ...

It's bad enought that the advertisers are willing to try to pull this
one over on us ... it's even WORSE that the ARRL is actively
participating in the sham! (guess what, it doesn't surprise me in the
least!)

Carl - wa6vse
carl@ais.net

2792. Re: Kenwood TH-28a mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: zmbwf@somtel.com
Message-ID: <N.111196.153056.75@somtel.com>
Source record: 100792

On 11/2/96 12:53AM, in message <327AE1C0.4C79@loop.com>, Vince Curtis
<stopahmanson@loop.com> wrote:

> Does anyone have info about modifying this unit ? Please help. Thanks-
> Vince
Newsgroups: rec.radio.amateur.misc
From: jonathan@nova.decio.nd.edu (Jonathan
Bradshaw)
Subject: Kenwood TH28A Mods (here they are)
Message-ID:
<1992Oct5.223344.26956@news.nd.edu>
Sender: news@news.nd.edu (USENET News
System)
Organization: University of Notre Dame, Notre Dame
Date: Mon, 5 Oct 19
92 22:33:44 GMT
Lines: 63

I just got the following. I CANNOT VERIFY THIS. However I
do know the
aircraft (hold F down then LOW) toggle does work.

From:
LAIRDPG@lub001.lamar.edu
Subject: Re: TH28A mods? Anyone?

Date: Sun, 16 Aug 92
19:59:26 PDT

TH28A Mods:

1) Remove the 4 screws holding
the radio together.
2) With your finger in the battery bay, separate the two
parts.
3) The inside of the keypad case has a copper RF shield. Move this shield

out of the way by removing the 2 screws and bending it up and away from
the PC
board. (There may be double sticky tape holding t
he shield to
the IC.) Under the shield you will find a large IC surrounded by

an array of diodes, as follows:

+-------+

```
| |
| IC |
| |
D D
D D +-------+
1 1 1 1

5 4 3 2

D D D D
1 1 9 8

1 0
```

(The diode numbers are read vertically.)

NOTE: Diodes D15 & D14 are
NOT present in the American version.

4) Remove diodes D8 and D10.
5) Install one of
these diodes in D14.

This enables th
e following three extended modes:

1) Extended receive from 360 Mhz to 400 Mhz.

2) Extended receive from 400 Mhz to 520 Mhz.
3) Extended transmit/receive from
136 Mhz to 174 Mhz.

in addition to the existing aircraft frequencies of:

4)
Receive from 118 Mhz to 136 Mhz. (AM)

(AM and FM are switched automatically according to the frequency range.)

To switch
between the modes, press the [F] key for one second, then
press the [LOW] key. This
will switch between:
a) Amateur VHF band (136 Mhz to 174 Mhz).
b) 340
Mhz band (340 Mhz to 400 Mhz).
c
) Aircraft band (118 Mhz to 136 Mhz).

To get the extended amateur UHF receive,
press the [BAND] key while in the
136 Mhz to 174 Mhz mode.
--
Jonathan Bradshaw |
jonathan@nova.decio.nd.edu -or- jbradsh2@darwin.cc.nd.edu
Packet:

n9oxe@n0ary.#nocal.ca.usa.na | Prodigy: XMSN02B | (Os/2)(DOS)(Li
nux)

Newsgroups: rec.radio.amateur.misc
From: unbham@jupiter.sun.csd.unb.ca (UNB
Amateur Radio)
Subject: Re: Kenwood TH28A Mods (here they are)
Message-ID:
<1992Oct7.222626.199@jupiter.sun.csd.unb.ca>
Organization: University of New
Brunswick
References: <1992Oct5.223344.26956@news.nd.edu>
Dat
e: Wed, 7 Oct 1992 22:26:26 GMT
Lines: 49

In article
<1992Oct5.223344.26956@news.nd.edu> jonathan@nova.decio.nd.edu (Jonathan Bradshaw)
writes:
>I just got the following. I CANNOT VERIFY THIS. However I do know
the
>aircraft (hold F down then LOW) toggle does work.
>
>
> D D D
D
> 1 1 9 8
> 1 0
>

^^

>4) Remove diodes D8 and D10.
>5) Install one of these diodes in D14.
>
By
just cutting diode 9, you enable the wide band receive on UHF
(from 400-520) and from
360-400 by hitting F and LOW.

I would be caref
ul when cutting diode D10 out though, I did it
(I've done surface mount mods before)
and my row 3 keys stopped working
(MEM, 3, etc) I am positive I didn't clip the
wrong diode because I
clipped the connection leading out from the diode (you'll see
what I
mean...)

Just don't get carried away
, that's all..

>This enables the following three extended modes:
>
> 1) Extended
receive from 360 Mhz to 400 Mhz.
> 2) Extended receive from 400 Mhz to 520
Mhz.

The above is available from the diode that I mentioned above. By the way,
the
mods presented here hold some validity as they
come from a tech sheet
that I got from the dealer.. a certain big mail order company
down the states)

> 3) Extended transmit/receive from 136 Mhz to 174 Mhz.
>
>in
addition to the existing aircraft frequencies of:
>
> 4) Receive from 118 Mhz to
136 Mhz. (AM)

This mod comes from simply
holding down F and hitting LOW. If this is
all you want, don't cut anything.. I
shudder at the thought at clipping
out surface mount diodes...

Derek

Newsgroups:
rec.radio.amateur.misc
From: iain@vision.rs.ch (Iain Campbell)
Subject: Re: Kenwood
TH28A Mods (here they are)
Message-ID: <iain-0
81092104913@talisker.rs.ch>
Followup-To: rec.radio.amateur.misc
Sender:
news@neptune.inf.ethz.ch (Mr News)
Nntp-Posting-Host: talisker.rs.ch
Organization:
Radio Schweiz AG.
References: <1992Oct5.223344.26956@news.nd.edu>
<1992Oct7.222626.199@jupiter.sun.csd.unb.ca>
Date: Thu, 8 Oct 1992 10:16:28
GMT
Lines: 48

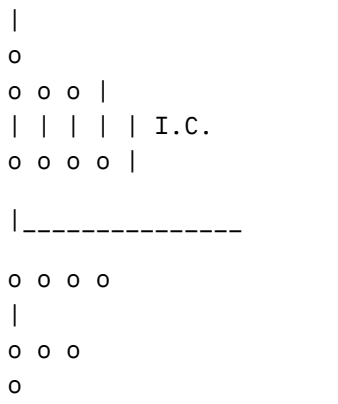
I bought a couple of TH28A's recently in the States and the guy in
the shop
did the mods for me on the spot.

The features I have on the radios are
those described by the recent
postings..

Rx AM 118.000 - 135.995
Tx/Rx FM
136.000 - 173.995
Rx FM 340.000 - 399.995
(Not 360-.. as in a previous posting)
Rx FM 400.000 - 519.995

Note: The poor
thing does not like being tuned much over 500 MHz, it beeps
at you in
complaint.

Here are the diode settings that are in my radios:



I can therefore confirm that the above freq. ranges and the above diode

settings definitely work
!!

Cheers,
Iain.

Iain Campbell
iain@vision.rs.ch
Radio Schweiz AG
iain@dcs.glasgow.ac.uk
Laupenstrasse 18a
3008 Bern
Tel: +41 (0)31 509 855
Switzerland
Fax: +41 (0)31 5
09 675

2793. 2 Mtr SSB Kit(s)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: <>
Message-ID: <5684pi$2ibq@ausnews.austin.ibm.com>
Source record: 100793

Does any one know of a 2 mtr SSB xcvr kit or plans to build?

Thanks

Peter Hertler VE3KAI
peter@vnet.ibm.com

2794. NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: tlang@freeway.DIALix.oz.au
Message-ID: <69c_9611120701@freeway.DIALix.oz.au>
Source record: 100794
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

It's 09 Nov 96 21:34,
We'll return to gary@ke4zv.atl.ga.us and All's
discussion of NBFM modulator: design wanted

ga> Can anyone spell "industry standard"? The use of a varactor to
ga> modulate the oscillator is the standard way NBFM radios are modulated.
ga> Motorola has used the technique for decades, as have most of the other
ga> manufacturers. A properly selected and biased varactor is very linear
ga> in its response across the center of its tuning range. Of course it is
ga> biased to operate precisely in that most linear area.

You are indeed correct here. there are few radios using a PLL that
don't use a varactor based modulator. I do know of one or two
commercial two-ways that fit this category, but the vast majority simply
insert the audio into the main PLL loop (including Eurpean FM CB's).

ga> use a varactor as the control element of the on-channel VCO,
ga> which for a 2m radio has a tuning range of at least 4 MHz, just
ga> from varying the varactor voltage. Modulation is inserted into
ga> the error loop of the PLL.

This is the most common technique I've seen used.

ga> This is a receiver artifact and not a transmission problem. When
ga> the signal goes outside the passband of the receiver IF, or exceeds
ga> the linear range of the discriminator, severe distortion occurs.
ga> But this distortion is *in the receiver* and not in the transmitter.
ga> If the signal is very much over-deviated, the noise squelch amp
ga> in the receiver sees it and can actually squelch the receiver on
ga> voice peaks. Audio limiting is used in NBFM transmitters to avoid
ga> causing these receiver problems (and to keep the transmitter's
ga> modulation inside its assigned channel).

Indeed, if you listen to an unlimited and overmodulated FM transmission
with a wideband FM scanner, you can get some really nice audio! Doesn't
do wonders for the people on adjacent channels though. :-)

ga> That's why you'll normally find a mic gain pot and a deviation pot
ga> inside NBFM radios. The audio limiter is in between. By juggling
ga> these two adjustments, you can control the onset of limiting so
ga> that it occurs just at 5 kHz deviation for normal speech peaks.

Only problem with this arrangement is where you get two (or more) people
with widely differing voice levels. One may be hardly heard, while the
other drives the clipper so hard that the audio is grossly distorted. I
generally adjust my mike gain pot down a little to reduce distortion (I

have a tendancy to overdrive some transmitters' audio stages :)).

... Things that make you go hmmmmmmm.
--
| Fidonet: Tony Langdon 3:632/367.2
| Internet: tlang@freeway.DIALix.oz.au
|
| Freeway Internet Gateway, Melbourne, Australia. For information about
| our services and conditions of use, e-mail:
| info@freeway.DIALix.oz.au, to receive a copy of the FAQ.

2795. Re: 2 Mtr SSB Kit(s)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Simon Robinson <pls5i50e@pop.plasma.co.uk>
Message-ID: <32876BEF.1853@pop.plasma.co.uk>
Source record: 100795

Peter Hertler wrote:
>
> Does any one know of a 2 mtr SSB xcvr kit or plans to build?
>
> Thanks
>
> Peter Hertler VE3KAI
> peter@vnet.ibm.comThere was an article in the RSGB magazine RADCOM for a portable 2m SSB transceiver which uses the now obsolete Plessey SL1600 series chips.

If you cannot find anything more suitable, e-mail me and I will see if I
can help further.

Regards

Simon

2796. LOOKING FOR NORTHEREN RADIO VFO MODEL 115

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <3286c0e3.47830557@fvnews.com>
Source record: 100796

looking for NORTHEREN RADIO VFO MODEL 115,
this is a rack mount unit.
if you have one you'll sell/trade, please email me
with details.
thank you
Visit my Web Page.....
==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

2797. Re: pcb designing programme's ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Joe Carey <jcarey@qualcomm.com>
Message-ID: <328785A2.2F50@qualcomm.com>
Source record: 100797

Adriaan wrote:
>
> Hello,
>
> Where can i find a good pcb designing programme for the pc ?
>
>

I've used Protel Easytrax at home quite successfully.
It is available for free from Alberta Printed Circuits at

http://www.apcircuits.com

It is old, and kind of clunky by today's standards, but
works fine for most home-type projects.

Joe

2798. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <566aot$4h4@hpscit.sc.hp.com>
Source record: 100798
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <1996Nov9.113452.13962@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>
>Can anyone spell "industry standard"? The use of a varactor to modulate
>the oscillator is the standard way NBFM radios are modulated. Motorola
>
>The other major technique, used in the bad old days before varactors,
>isn't really FM modulation at all. It is PM, phase modulation, in a
>follower stage (called a reactance modulator) after the oscillator.
>The output of a PM modulator is essentially the same as the output
>of a FM modulator, but with an added 6 db per octave pre-emphasis.
>The standard varactor FM modulator does not inherently add pre-emphasis,
>so an external pre-emphasis network is used to allow PM and FM radios
>
>Now PM can't achieve the deviation that direct FM can, so there
>are usually several stages of multiplication after the PM modulator

Another way to get enough deviation is to cascade several phase
modulators.

>That's why you'll normally find a mic gain pot and a deviation pot
>inside NBFM radios. The audio limiter is in between. By juggling
>these two adjustments, you can control the onset of limiting so
>that it occurs just at 5 kHz deviation for normal speech peaks.
>
>Gary Coffman KE4ZV | You make it, | Due to provider problems

It's more complicated than that. There is the question of
whether you do the clipping before or after the pre-emphasis.
Motorola got a patent on the technique of clipping *after*
pre-emphasis. In those days, phase modulators were used as
Gary says, and pre-emphasis was built in to the modulator.
The simplest thing was to put an audio clipper before the
phase modulator (hence before pre-emphasis). To implement
the Motorola technique, you had to 1. pre-emphasize, 2. clip
3. de-emphasize and 4. phase modulate (equivalent to FM +
pre-emphasis). Step 3 was to make step 4 look like a real
frequency modulator. You got much better "talk power", as
CB'ers would say. If I have any of this wrong, someone correct
me, but that's what we did at Konel.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2799. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: altavoz <altavoz@worldnet.att.net>
Message-ID: <3288096A.954@worldnet.att.net>
Source record: 100799
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

```
Winfield Hill wrote:
>
> Jaafar Mejri at mejri@lrs.e-technik.uni-erlangen.de says...
> >
> >hill@rowland.org (Winfield Hill) wrote:
> >>meric@feynman.arc.nasa.gov, <meric@feynman.arc.nasa.gov> said...
> >>>
> >>> Suppose your supply voltage is Vcc, and you biased the collector
> >>> at Vcc/2. [snip math] the gain is: -q Vcc/2kT!
> >>
> >>And to summarize, for the case of biasing at V/2, the gain is 20 V.
> >>This is a nice number to commit to memory.
> >
> > what about this: (Bipolar transistors only) the gain is
> > A= g_m * R_c = I_c / U_t * R_c
> > The maximum value of I_c * R_c is Vcc resulting in:
> > A_max = Vcc / U_t, so for 12 v Vcc
> > you can get a maximal amplification of nearly 500.
> >
> > comments?
>
> Exactimundo. For biasing the output at V/2 you have G= V*20 = 240,
> and if you use the entire 12V for the load resistor (almost but not
> quite saturating the BJT amplifier), you get G = 500.
>
> --
> Winfield Hill hill@rowland.org
> Rowland Institute for Science
> Cambridge, MA 02142

altavoz: U_t ?

______End of text from altavoz__________
```

2800. Re: Help on transistor id

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <568qre$b4o@newsfeeder.total.net>
Source record: 100800

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>>Finaly, is there a simple test I can make with a DVM (as for bipolar
>>transistors) to check it, that it is nor short or open.

>You can check an enhancement mode FET by connecting the DVM leads

>This is a simple go/no-go functional test
>that'll work on NPN bipolar transistors too.

Realy tought it was more involving :)

>Note the bit about observing polarity. With many meters on ohms
>scale, the red probe outputs a negative voltage, not positive as
>you might assume. Check your meter (with another meter naturally)
>to determine if this is true for your meter. Then *write it down*
>on a tag and attach it to the meter. This will save lots of frustration
>later on when you're checking transistors.

Altough I 'kinda' knew about this, I would have totaly forgotten about
it, this time around. Thanks for the warning.

H.C.

2801. Re: pcb designing programme's ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: cj@hth.com
Message-ID: <32879939.4291115@news.buller.se>
Source record: 100801

Hi Adriaan,

Adriaan <adpe1khp@pi.net> wrote:

>Where can i find a good pcb designing programme for the pc ?

Take a look at Ivex products, you can download a shareware
version (max 100 pin) from their site at www.ivex.com...

Regards,

/Christer

-=-=-=

2802. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1111962347440001@port21.vcnet.com>
Source record: 100802

In article <55iuf7$aam@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:
snip
> At 150 mA of grid current in a typical HF PA, a single 3CX800 has a
> measured grid dissipation of almost 20 watts. That's almost 5 times the
> maximum rated dissipation of the grid.

According to Eimac CURVE 005211, "Eimac 3CX800A7 Constant Current
Characteristics (Grounded Grid)":
around 27vrms of cathode-to-grid driving voltage produces the maximum
anode/plate current of 600mA.

P=I times E. 27vrms times 150mA = 4.05w(rms).

Tom: Is 4.05w "almost 20 watts" in your opinion?

Tom: If the rated grid dissipation is 4w, in your opinion is 4.05w of grid
dissipation going to increase the temperature of the grid to over 2000
degrees F, and boil the gold plating off of the grid?

> And yes, it will cause the gold to ball up, evaporate and even flake off.
> And yes, Eimac will confirm this.
>
When are you going to publish this confirmation from Eimac that supports
your position, Mr. Rauch?
--
Tom does not appear to understand what is taking place. Gold melt balls
are formed from gold vapour. I have never seen evidence of gold flaking
off the grid in a kaput tube I opened and inspected.
----
e-mail copy to Mr. C. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

2803. Need plans for 6 meter CW for beacon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: dwentz@accessus.net
Message-ID: <567bcl$mmh@news.accessus.net>
Source record: 100803

Could point me to a 6 meter cw transmiter with a power output of about 5 watts.
I am getting ready to put a beacon up, but dont want to use my allmode.

Thanks
de KB9JJA/Dale
dwentz@accessus.net
kb9jja@amsat.org

2804. fs/trade: misc parts, equipment, manual's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <328681bc.31663713@fvnews.com>
Source record: 100804

THINK OF THIS AS A TRUNK SALE AT A HAM FEST.....
YOU'D MAKE OFFERS THERE, IF YA THOUGHT A PRICE WAS HIGH......

i'm not hard to deal with.... I am not a business...just a ham who
enjoy's the hobby.
And like most ham's, accumulate alot of stuff...which i don't need. so
i use this, the Internet, to
trade or sell it.
My address & phone number, are in my sig.
****
TRADES: THING'S I'M LOOKING FOR
I am in need of 2 - 32mb 72 pin simms 60 or 70 ns (both the same)
flatbed color hi res scanner (1200 x 1200 or better)
2 meter allmode base (older 10-25 watt..i.e. kenwood ts-700s, etc.)
6 meter allmode base (same as above)
Capacitance checker digital *must* be able to check air variables
range pf thru mmfd
other trade items considered...email what you have & what you want to
trade for...
* TUBES; 100TH, 250TH, 2A3,
* TUNNING UNITS TU 47 - TU 54
* BC-610E COILS & CRYSTAL BOX (BX-34-B)
* ORIGINAL MANUALS, WHAT DO YOU HAVE?
* EARLY HAMMARLUND, HAMMARLUND/ROBERTS
SALES LIT., MANUALS, SHORTWAVE CATALOGS
CAPACITOR CATALOGS, ECT....
****
P.S. if you call, and the phone is busy, it means i'm on the computer
(internet) send email
and let me know your trying to call.....(gotta get another line 8-)

I HAVE :

elctro eng. works Modulation Reactor type e12497 21henry 1.5adc
3,000vrms 34 ohm dcr
$250
electro eng. works reactor High Voltage DC filter choke type 11654-a
3henry 360 cps
6.7 dcr ind rms 375 pk 7,500 v $150
ADC class reactor type 900304-2 10 hen. 1.0 amp dc, 350 ohm dc
res 4.0kv ins
choke 10HY @ .2ADC $150
UTC AR-409
RCA A.C. VOLTAGE PICK-UP MI-27516 $20
GE model 9T51Y6171, pri. v. 120/240 sec. v. 12/24 kva .250 80

C rise $50
magnetic control # 34321-U coil v. 115, (have 2) $20 ea.
STANDARD ELECT. adjust-o-volt type 520BU, input 230 output 0-270
max kva .81 3a $50
Filiment transformer 12.6v @ 29a $50
Jennings: 1000 pf fixed 10,000 volt $75
Jennings: 75 pf vaccumm variable 20,000 volts $60
3x3000T1 tube marked: "rebuilt by Econco" (condition unknown) $100
(deal pending)
Condenser Products KMOC 25M005ES .05 MFD @ 25,000 VDC (NEW)
NON-PCB $20
blower 1.5 hp 3ph cabable 120 cfm $150
ceramic standoff's, feedthru's, all sizes and shapes

tunning coils, all below come with standoff's, strips/taps
used with each
sorry no extra tap connectors availible
****only have 1 of each coil****

2> EFJ $50 EDGEWOUND 24 TURNS 7 7/8" DIA COIL LENGTH 7 5/16"
INTERNAL DRUM ELECTRIC
OPERATED

3> EFJ $50 EDGEWOUND 34 TURNS 8 " DIA. COIL LENGTH 8 3/8"
NO DRUM INSIDE

4> EFJ $50 EDGEWOUND 15 TURNS 5 3/8 DIA. COIL LENGTH 3
1/8"
NO DRUM INSIDE

5> MULTRONICS $50 TUBULAR COIL 3/8"DIA STOCK 4 TURNS 8" DIA
COIL LENGTH 2 7/16"

x) = QUANITY
Magnetic breakers 2)- rated at 70 Amp's each $50 ea
Allen-Hart contactor up to 50A $30
EFJ # 145-101-13 HV contactor (rca # 1K703) $50
6A, 10A, & 30A relays $5, $5, $10

Tubes: Filiments tested good...condition unknown:
3) 4-65A 19) 4-125A/4D21/6155 2) 4-250A

RCA Part #'s: 3) 218346 n.o.s. 4) 218347 n.o.s. $5 ea.
have 120 more of above, used, mounted 20 per board, have 6
boards $25 ea board
****
Resistors all between the stars.....total approx 25..all for $29
shipped
these have the metal end caps with ceramic in between
Large 1.25" dia. x 11 7/16 L`
4) 500 WL 1) 250 ohm 1) 1600 ohm 1) 8000 ohm
1) 1400 ohm 1) 3100 ohm
Medium size: 1.25" x 7.5"

2) 80,000 ohm 1) 40,000 ohm 3) 31,500 ohm
3/4" x 5 3/16"
2) 5,000 ohm
3/4" x 4.5" 1) 8,000 ohm

1/2" x 3" 1) 6,300 ohm 1) 8,000 ohm

GLOBAR type A 15,000 ohms
OHMITE MULHI 250 ohms
35,000 ohm
IRC (2) type 4 1/2 EA 2,500 ohm 65W

****
>>> I WILL CONSIDER ALL TRADES OFFERED <<<<
>>>>>>>>> DON'T BE AFFRAID TO ASK <<<<<<<<<
>>ESPECIALLY LOOKING FOR MANUALS<<
>>>> Price's are NOT written in stone<<<<<
>IF YOU FEEL THEY'RE HIGH, MAKE OFFER<
****

AIR VARIABLE CAPACITORS
Still have some left, e-mail or call with your needs.
HAVE THEM WITH AND WITHOUT SHAFT'S $5 - $30 EA.

Thordarson #T-47109 xfmr. $45 +
it's taps are marked as follows:

2.5V 10A
O CT O
O

o o o
10v ct 3.25a

o o o o
5v 3a 5v 3a

o o o o
PRI 6.9v 1a

UTC XFMR # S-55 6.3V @ 3A $12 + SHIPPING
INDUCTOR 1-2 = 630T 2-3= 2200T $12 SHIPPED
CHOKE C-2987 16HY @ 50MA $10 +
CHOKE N.I.B. 6-X-3 HF 8.5 HY @ 50 MADC $10 +
XFMR 10.2 CT @10A & 10.2 CT @ 5A $20 +
FIL. XFMR 6.3 @ 3A $10 +

1 BAG OF 20 NEW CAP'S (made in USA) 1200 MFD @ 75 VDC $18.00 ship'd

RELAYS 34 total
NEW IN BOX MIL. SPEC. # MK 1007, 12 VDC, 120 OHMS, DPDT $33 shipped

ROLA HEADSET ADAPTERS - FOR HEADSETS HS-33 OR HS-38
HIGH TO LOW IMP. MC-385-A & MC-385-C $8 PR.

ALL CERAMIC ITEMS ARE PLUS SHIPPING

CERAMIC INSULATOR'S - STANDOFF'S AND FEED THRU'S TO MANY TO LIST
(various sizes & shapes)

CERAMIC COIL FORMS 15 total...all for $50 shipped
L x Dia. in inches
x / = quanity of each
2/ 5 x 1.25
1/ 5 x 2
1/ 5.25 x 1-7/16
1/ 3.5 x 1-7/16
1/ 3 x 1-11/16
1/ 2.25 x 1-5/16
1/ 4-7/8 x 2-1/16
3/ 3.75 x 2
1/ 6-3/8 x 2
1/ 6 x 3 (1)-has slight cracking,epoxy would fix on inside
1/ 6.5 x 4 has inner ceramic form, adjustable sliding tap
1/ 6 x 4 dual sliding taps, w/inner coil that rotates via outside
gear

RF CHOKE FORMS SMALL RESISTOR STYLE 20 FOR $1.00 +

TORROIDAL COIL FORMS, 6 SIZES, 1 @ 5/8", 1@ 13/16", 4@ 1",5@ 1 1/4"
3@ 9/16", 3@ 2" total 17.....all for $23
shipped

ARCO CERAMIC TRIMMERS # 304M (NOS) 100-550 pf (10 or more $1 ea
plus $3 shipping

RELAYS - MANY TYPES, PULL'S, 6A, 10A, 30 A........ INQUIRE

7 PIN WAFFER for tubes (?), unknown, have raised center hub ???
make offer

******* MANUALS *******
ask for either 'manual list' or 'Hammarlund manual list'
OR 'TRADE MANUAL' LIST
ALWAYS LOOKING FOR & TRADING FOR ORIGINAL MANUALS

BOOKS TAKE ALL 6 FOR $25 SHIPPED
hard covers all in nice condition

the cathode ray tube at work
rider
18th printing 1944

industrial electronic control
cockrell
1st edition 1944

microwave transmission
slater
1st edition 1942

strength of materials testing
i.c.s. staff
1930

vacum tube voltmeters
rider
8th printing 1944

frequency modulation
rider
10th printing 1942

TEN-TEC & AMECO ARE New Old Stock

TEN-TEC 241 CRYSTAL OSCILLATOR 33.00

AMECO:
PS-2 POWER SUPPLY 25.00
CHT CONVERTER 15.00
CG CONVERTER 450-470mc 15.00
CLG CONVERTER 75meter 15.00
ADVANCED CODE SET- 78 RPM's NOS 20.00

B&W 1KW 1:1 balun 40M N.O.S.(new old stock) 35.00

SP-600/SP-200 FRONT PANEL REFINISHING...$89.00
PLUS YOUR PANEL EXCHANGE
THIS PRICE INCLUDES RETURN SHIPPING

****
LOOK FOR UP-DATES AS THINGS COME AND GO

Oil filled Cap's: quanity $50 for all SHIPPED
cont. U.S.
.05-3.5MFD @ 1000 VDC 3
2.0 @ 1500 DC 1
2.0 @ 2000 VDC 2
4 MFD @ 1500 VDC 2
8 MFD @ 1000 VDC 1
3 MFD @ 2000 VDC 1
4 MFD @ 2000 VDC 1
1 UF @ 2500 VAC 1
1.12 @ 600wvdc / .03 @1400 1
.5 - 3.5 MFD @ 1000 WVDC 3

CAPACITOR'S: (PULL'S) CAN & AXIAL TYPE......INQUIRE

S meters "DB from 50 microvolts. (155:1)" these are new meters, round
face,
2 1/8" panel opening. . 10 - N.O.S. availible 13.00 ea.
shipped

Eico -- model 488 wired electronic switch...new in box
this is added to a single trace scope, to give dual trace..
$24 shipped

EF JOHNSON: NEW OLD STOCK PARTS
all plus shipping

116-214 Knob 13/16" tall x 1/2" dia. skirt
is 3/4" dia. $4.00 each
22.778 Mica 150 mmf @ 1200 vdcw
$3.00
22.1465 Switch ceramic
$12.00
104-251 Coupling ceramic 3/8" x 3/8" both sides
$8.00
104-251-2 Coupling ceramic 1/4"x1/4" both sides
$8.00
104-262 Coupling ceramic 1/4"x1/4" round ceramic
$8.00
116-265 Vernier dial like kw matchbox type
$15.00
116-285 Vernier dial ?
$12.00

(+ = PLUS SHIPPING)
METERS VARIOUS INQUIRE $4 EA. +
PATCH PANEL'S 96 1/4" JACKS - RACK MOUNT'S $25 +
NATIONAL NCL-2000 AMP WORKING $650 +
HAMMARLUND CABINETS FOR HQ-110C & 110A $40
HAMMARLUND CABINET FOR HX-500
$50
HAMMARLUND CABINET FOR HQ-129X PAINTED BLUE $25
HAMMARLUND CABINET FOR HQ-129X DARK GREY $40
HAMMARLUND 'S' METER N.O.S. - SP200/400/129X
$33
BELL LAB'S AMP - 2 MIC, 1 PHONO, BASS & TREBLE ....
DECO STYLE CABINET 6L6 amp $65
MEASURMENTS MODEL M468 SIGNAL GEN. 149-166 MHZ
NOT TESTED $20
DRAKE N.O.S.-TV-1000LP LOWPASS FILTER 1,000W $25
DOWKEY 230V N CONNECTORS N.O.S. $30 ship'd
SHURE MODEL 450 DESK MIC (LOOKS LIKE 444) $25
KENWOOD TH-77A HT 2/440 1 BAT, KSC8 CHARGER
AND MANUAL.... unit *UNLOCKED*
120-136mhz, 136-178/9mhz, 800-949mhz
also 440mhz but where it starts/goes too, i
don't know $300
will consider older 2 m almode i.e. Kenwood
TS-77S as trade

original new old stock Hammarlund manual's
i still have a few of these left.
at $13 each shipped, for new old stock manuals, if nothing else
you should pick up 1 or so, for trade material..
you can't buy copies for this.....
whats left:

HQ-145A
HXL ONE AMP (1.5KW VERSION)
HX-50
HX-500

DON'T BE AFFRAID TO MAKE OFFER'S...CASH/TRADE !!!!
Visit my Web Page.....
==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

2805. Good source for amplifier tips (part2)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbcfe5$3af4c200$30229bcf@kn6dv.qnet.com>
Source record: 100805

Part 2 is now available on my page:
--
http://www.av.qnet.com/~kn6dv

It looks like there is a lot of interest in this archive.

73 de Will

kn6dv@contesting.com

REFORM
Unless the reformer can invent something which substisutes attractive
virtues vices, he will fail.
(Walter Lippmann)

2806. Re: Plans for Homebuilt Scanner?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961111181103.5380B-100000@primeline.net>
Source record: 100806
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.scanner

On 9 Nov 1996, Cajun 'Net Crusier wrote:

#I would like to build a simple scanner that tunes the major modes (FM, AM,
#SSB?) on any frequency. Any ideas or plans?
#
#Thanks!
#
#PLease EMAIL me your answers.

I was going to build a scanner using the tuner from a vcr, with a 49 Mhz
reciever for the IF. The channel circutry was going to be one of those
pushbutton tuning controls (the ones with the thumb tuned pots),which
it's control IC had an up/down control.

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

2807. Antenna software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: kc7eph@teleport.com
Message-ID: <566o55$26v@nadine.teleport.com>
Source record: 100807

I am looking for a GOOD, and THOUROUGH program to create all means of antennas: HF, VHF, UHF, etc... 1/2 Wave, 5/8 Wave, J-pole. etc... All means!! If anybody knows of such a program, email me at kc7eph@hotmail.com.

'73
Kevin KC7EPH

2808. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Tim Dicus <timothyd@gnt.net>
Message-ID: <328714EA.7EAC@gnt.net>
Source record: 100808
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew
Body handling: Binary attachment payload not displayed: LMC568A.GIF

Addendum to post.

Apologies for leaving off the graphic.

Schematic for AM detector using PLL follows (hopefully).

Life is hectic sometimes!
--
Tim Dicus
Destin, Florida
e-mail timothyd@gnt.net

[One or more binary attachments are retained only in the source text.]

2809. Re: some questions about PIN diode switches

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: jeroen@psas01.cern.ch
Message-ID: <E0pB4J.97K@news.cern.ch>
Source record: 100809
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.components

In article <560vpt$eai@news.doit.wisc.edu>,
Melissa & Jim <mgkepner@facstaff.wisc.edu> wrote:

>I think we're still missing something here.

There's a FAQ about unusual diodes on the web. Take a look at:

http://www.avtechpulse.com/faq.html/

Best regards,
Jeroen Belleman
Jeroen.Belleman@cern.ch

2810. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: "Thomas W. Castle" <afn17891@afn.org>
Message-ID: <Pine.A32.3.95.961111020210.20942B-100000@freenet3.afn.org>
Source record: 100810
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Fun to watch - guys....

Question: DO YOU know how to "look" up his call in QRZ or Sams' an
write him a letter..?

What is the difference between a: lawyer, politician & a crook???

HINT: [NONE!]

De Tom...

2811. Re: pcb designing programme's ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <3287BC07.7F81@cam.org>
Source record: 100811

Adriaan wrote:
>
> Hello,
>
> Where can i find a good pcb designing programme for the pc ?

CIRCAD Demo:
http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/programs/ccdemo.zip

> --
> Member of the dutch radioclub Veron (IARU), member of VHF
> commitee and chair-man of the local-club Apeldoorn
> --

Apeldorn that is Philips headquarters No?

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

2812. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: fluidoz1@juno.COM
Message-ID: <19961110.231403.12630.0.fluidoz1@juno.com>
Source record: 100812

index

2813. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov11.170826.25732@ke4zv.atl.ga.us>
Source record: 100813

In article <19961110214700.QAA13312@ladder01.news.aol.com> w8jitom@aol.com writes:
>In article <5651g2$88v@library.airnews.net>, jfriley@iadfw.net (J. Fred
>Riley) writes:
>>
>>Because that's the right way to do it. Unfortunately, right or nor,
>>it is not the standard way to do it.
>
>There is no right way to make a measurement, only a standard way.

I disagree. The right way to make a measurement is the way which
gives the correct value. Any other way, whether you call it standard
or not, is the wrong way. For example, I could say that the standard
way to read the static electric field is to hold the probes of a
VOM in the air. But that would give an incorrect reading of the
static field, so it is the wrong way to make the measurement.

>If a volt is only a volt because of how they decided to measure it.

No, this is a different matter. A volt is a unit of measurement,
and units of measurement are arbitrarily defined by definition.
(Boy, is that redundant or what?) An arbitrary unit requires a
specified and arbitrary way of calibrating measuring instruments
against the standard. That's completely different from *taking*
a measurement of a parameter of interest in a circuit.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2814. Re: Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Mandy Wright <Mandy@the-symposium.demon.co.uk>
Message-ID: <COiniPABRnhyEwpb@the-symposium.demon.co.uk>
Source record: 100870

A cheap way to give low VSWR to mixer output: use 6db pad.

Regards
Tim

In article <01bbcd49$574d21c0$1318a6c2@mazzola>, Giovanni Mazzola
<it9xxs@exit.it> writes
>I'm trying to design a diplexer to be connected between the mixer (SBL-1)
>and
>the IF output (29 MHz) of a 6m transverter I'm going to design.
>
>I was looking around for some literature (or software tool, better) about
>this
>subject, but it seems it isnot a popular matter.
>
>Any help about diplexers ? Please do not confuse it with a "duplexer", a
>diplexer being a particular filter that allows passing of a frequency and
>closing of all the others to 50 ohms (sorry for a so bad explanation...
>HI).
>
>It is a very interesting subject, in my opinion.
>
>Thanks in advance.
>
>Giovanni, IT9XXS
>it9xxs@freenet.hut.fi

Mandy
(Typing on behalf of my husband Tim who hates computers
despite being a practising RF Engineer! I know _nothing_ about RF!!)
Sussex
UK Please note the NEW ADDRESS!

Turnpike evaluation. For Turnpike information, mailto:info@turnpike.com

2815. TDR unit from December "Electronics Now"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: faunt@netcom16.netcom.com
Message-ID: <FAUNT.96Nov10184334@netcom16.netcom.com>
Source record: 100871

If anyone does a PC board for the little TDR signal generator in the
December "Electronics Now" page 58, I'd like one. It's almost not
worth it, but....
73, doug

2816. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <567a5u$8kl@dfw-ixnews6.ix.netcom.com>
Source record: 100872

In <19961109063601.BAA11017@ladder01.news.aol.com> w8jitom@aol.com writes:
>
>
>When exactly matched (in step) with the tube's time varying
>resistance, the time varying voltage and current at the anode forms
>the equivalent of a source resistance. This is a non-dissipative
>resistance that represents the source resistance of the dc to RF
>conversion process. This is the resistance value conjugately matched
>when maximum energy conversion efficiency is desired, or maximum
>output under a given set of operating parameters. It can be found by a
>modified Fourier analysis called a Chaffee analysis (Review Science
>Inst. 7, October 1936). This is also a resistance very few people
>understand, and one that got Walt Maxwell discredited for saying what
>was absolutely correct.

Hi Tom,

My understanding of Chaffee analysis is that the resistance calculated is the *load* resistance, not the source resistance. In fact, nothing is known of the source resistance (except that, in the example of a Class C amp, it is non-linear and time-varying), so how can we say there is a conjugate match?

I think this is my main hangup with the idea of "conjugate matching" to a non-linear amp such as a class C amp. The final (glowfet, fet, or bjt), is a non-linear time-varying resistance (picture a fet alternately pinched-off then wide-open - essentially a switch). How does one conjugately match a linear resistance load to a non-linear device? Does such a concept make sense?

Nothing I've read of Chaffee analysis says anything about the source resistance. The final is modeled as a non-linear current source (with *no* resistance (or, more properly, infinite resistance)). And that's it. Calculate the load resistance necessary to give the desired voltage swing, and away you go...

Regards,

- Jeff, WA6AHL

P.S. Would it be possible to get a copy of Chaffee's original article. I've always wanted to read it, but I've never found it.

2817. Re: antenna tuner design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <stefans.847724071@bauv111>
Source record: 100873

Paul Butler <pbutler@cyberramp.net> writes:

>I am looking for some schematics on antenna tuners that can be built. If
>anyone knows of any please let me know.

Please consider my article "A more versatile Transmatch" in QST for
July 1982, pp. 31 ff.
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

2818. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Jaafar Mejri <mejri@lrs.e-technik.uni-erlangen.de>
Message-ID: <567cca$ivi@rznews.rrze.uni-erlangen.de>
Source record: 100874
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

hill@rowland.org (Winfield Hill) wrote:
>meric@feynman.arc.nasa.gov, <meric@feynman.arc.nasa.gov> said...
>>
>> Suppose your supply voltage is Vcc, and you biased the collector
>> at Vcc/2. [snip math] the gain is: -q Vcc/2kT!
>> no collector resistor dependence...
>
>And to summarize, for the case of biasing at V/2, the gain is 20 V.
>This is a nice number to commit to memory.
>
>--
>Win
>

what about this: (Bipolar transistors only)
the gain is A= g_m * R_c = I_c / U_t * R_c
The maximum value of I_c * R_c is Vcc resulting in:
A_max = Vcc / U_t, so for 12 v Vcc you can get a maximal amplification of
nearly 500.

comments?

Jaf.

2819. Re: Need 4cx250x amplifier schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32872E11.15BC@rcru.rl.ac.uk>
Source record: 100875

Jim wrote:
>
> Also, there was an intriguing article in Ham Radio magazine
> on a non-forced-air cooled 4CX250 "QRP" amp, but I don't have the
> reference for this article. You could use that schematic
> with forced-air cooling and a higher Ep for a bigger bang.
>
> N6OTQ

you can not run easily a 4cx250B without forced air cooling. The heater is the problem. Eventually the ceramic base will crack. Some form of conduction cooling would be needed. Better to use one of the conduction cooled members of the same valve family.

2820. Re: Pye M290 low band PMR (UK)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32872E5B.4FE0@rcru.rl.ac.uk>
Source record: 100876

Mike Stirling wrote:
>
> Does anyone have a circuit diagram of any of the Pye M290 series PMR
> radios that they could E-Mail me, or know where I could get one from?
>
> Thanks.
>
> /\/\ike

Try HRT. Getting a circuit will be difficult except from Pye service
centres.

2821. 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Peter Dingemans <129432pd@mstore.eur.nl>
Message-ID: <Pine.PCN.3.91.961111150959.7898B-100000@[130.115.53.199]>
Source record: 100877

G'day everyone,

A couple of weeks ago I built an amplifier, using a (surplus) 4cx250. The problem is: it doesn't work (much). Guess the coils/cap's aren't in the band yet.

That's not the main problem, though. When I turn on the amp, you can see a blueish glow inside of the tube. It can only be noticed when it's dark, and is hard to see because of the ceramic envelope, but is definitely there. When I increase anode-current, the glow gets brighter.

I vaguely remember reading something about this a long time ago; in that article, they said it was because of poor vacuum. Could this be right, i.e. that the tube suffers from poor vacuum? Or am I guessing in the completely wrong direction, and is there a blue glow in every VHF power tube?

Hope someone has an answer to this,

Thanks in advance,

P.Dingemans,
Rotterdam,
The Netherlands.

2822. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32872c75.4385817@news.frazmtn.com>
Source record: 100878

On Sun, 10 Nov 1996 16:56:33 GMT, jfriley@iadfw.net (J. Fred Riley) wrote:

>w6kkt@frazmtn.com (W6KKT Jesse) wrote:
>>Does anyone know why when the ARRL labs test, revue and publish IMD
>>findings on new transceivers, and linear amplifiers they compare the
>>IMD products to the sum of the two tones (PEP output of the two tones
>>combined)?
>
>Because that's the right way to do it. Unfortunately, right or nor,
>it is not the standard way to do it. The international standard is to
>use either of the two (equal amplitude) tones as the reference. That
>makes the IMD look 6 db worse than it actually is. Dave Russel, then
>of RF Comm, was on the committee that made the recommendation.
>According to him, the committee couldn't get a handle on PEP so they
>compromised.

"Because that's the right way to do it"? Can you be a bit more specific? What is the theory behind ARRLs IMD measurement interpolation? In the sixties and seventies their measurement technique coincided with every other manufacturer of commercial high power sideband transmitters,amplifiers, tubes, analyzer equipment, etc.(Collins Radio, TMC, Continental, Eimac). Somewhere along the way they adopted a more lenient (6db) measurement interpretation for their revue of new equipment. Why?
73, Jesse, W6KKT

2823. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961111152600.KAA00231@ladder01.news.aol.com>
Source record: 100879

Hi Jeff,

In article <567a5u$8kl@dfw-ixnews6.ix.netcom.com>,
jeffa@ix.netcom.com(Jeff Anderson) writes:

>Hi Tom,
>
> My understanding of Chaffee analysis is that the resistance
>calculated is the *load* resistance, not the source resistance. In
>fact, nothing is known of the source resistance (except that, in the
>example of a Class C amp, it is non-linear and time-varying), so how
>can we say there is a conjugate match?

Because we define conjugate match as the point of maximum power transfer, because we can measure it with a reverse generator, and because resistance is defined by E/I, and that's what Chaffee gave us in his analysis..

> I think this is my main hangup with the idea of "conjugate
>matching" to a non-linear amp such as a class C amp. The final
>(glowfet, fet, or bjt), is a non-linear time-varying resistance
>(picture a fet alternately pinched-off then wide-open - essentially a
>switch). How does one conjugately match a linear resistance load to a
>non-linear device? Does such a concept make sense?

Because the tube only gives the tank a tug, so the tube is not the load or source. The source is the energy provided by the mechanics of the conversion process, and it has a optimum ration of E/I, and that is resistance.

Imagine a flwheel pushed by pistons, turning a flywheel. At a certain load impedance (rpm/torque), maximum power is coupled to the load. If we reduce the load resistance (raise the torque requirement) slightly, we will see an RPM change. The anount of load change and the amount of corresponding RPM change is the source impedance at the flywheel.

Same in the PA. Either a load pull (very slight change, so it doesn't change the conduction angle and upset the conversion process) or a backwards generator will indicate a conjugate match when the PA is tuned for maximum conversion energy transfer.

That's out of the scope of parasitics and such, so I don't want to drag it out in this thread. But the conjugate match problems, like the voltage problem many people have, comes from viewing the tube as a source. It isn't.

The power supply is the source, and the tube is a thing that converts the power supply energy (it is almost the mirror image of the explosion in a

piston engine) to a new form. Pull the load off an engine running happily at 5000 RPM and the voltage (RPM) skyrockets. Load the engine to heavily and it lugs, loses power, and overheats.

We go out of our way to overcomplicate simple processes. Models are only useful when they paint the correct picture. Thinking the tube is any kind of source is wrong.

>P.S. Would it be possible to get a copy of Chaffee's original article.
>I've always wanted to read it, but I've never found it.

I'm sure it's somewhere in original form. I no longer have access to it, but most large engineering institutions should have something.

73 Tom

2824. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: "Thomas W. Castle" <afn17891@afn.org>
Message-ID: <Pine.A32.3.95.961111014114.20942A-100000@freenet3.afn.org>
Source record: 100880
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

How do you damage the reputation of a Lawer??????????????????????

The only difference I know between a Lawyer, Politician & a Crook is:

1. A politician is Lawyer, who is usually a Crook, who must be elected
to screw the public...

2. A Lawyer is a Crook who knows how the system is used to screw anyone...

3. A crook is a person who hasn't figured out how to become a lawyer or
politician - YET.....!

De Tom....

2825. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Steve Simpson <Steve@chubs.demon.co.uk>
Message-ID: <jEEzYaA0exhyEwso@chubs.demon.co.uk>
Source record: 100881
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

In article <01bbcde5$3417cb00$d9102399@peter-s>, Peter Gottlieb
<peter_gottlieb@msn.com> writes
>Try checking out the Motorola CVSD chip. It was a while ago, but I thing
>the numbers were
>MC3417 for 3 bit version and MC3418 for 4 bit version.

Thanks Peter, I've downloaded the App notes from the Motorola WWW site
and I'm well on my way.
'Can't help wondering if their is a very fast Hi Fi version though.

Regards and once again thanks for your help.

Steve.

--
Steve "Chubby" Simpson
Web Author/Night Club D.J.
Steve@chubs.demon.co.uk
G7NAY@GB7MSW.#33.GBR.EU
HTTP://www.chubs.demon.co.uk

2826. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32875267.19A9@mail.teclink.net>
Source record: 100882

Partial quote from Tom's message:

>>You keep referring to a letter that says nothing<<

Tom, what letter have you been reading? The letter that Rich is apparently referring to says [in part] "Both have been badly overheated internally, the apparent result of an oscillation condition." "Oscillation condition"....."oscillation condition".....hmmm.... Do PA tubes normally oscillate? Was he referring to the tubes oscillating at HF? The letter says nothing about any probably cause except an "oscillation condition". That letter does NOT say "nothing".

Also, the letter from Mr. Foote is *signed*, and we all know exactly who wrote it. Unfortunately, we cannot say the same for the unsigned email that you posted. Unless someone at Eimac has the username "XXX", then the true identity of the sender must have been intentionally hidden at some point. Why won't you tell us who wrote it? Is the author of the email that you quoted afraid to take responsibility for what he said? It looks like it at this point..... Which makes the accuracy of said email highly suspect. And, as I see it, the whole case against Mr. Foote's credibility *is* that email.

Now, as I have said before via email.....you guys are the experts here. I'm just watching and picking up lots of great info from the discussion.

But.... I really think you are throwing rocks from the porch of a glass house on this "unnamed source" issue.

I would recommend that you either name the *person* who wrote the "damning email" from Eimac or stop questioning Mr. Foote's credibility. One of the two would seem to be indicated at this point.

And thanks again for the continuing discussion......the info being batted around here is indeed extremely interesting!

73

Tom KJ5IE

2827. Re: Good source for amplifier tips (part2)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbcfe6$c20425a0$30229bcf@kn6dv.qnet.com>
Source record: 100883

Sorry about that,I have the right signature file now.

Will, KN6DV <kn6dv@qnet.com> wrote in article
<01bbcfe5$3af4c200$30229bcf@kn6dv.qnet.com>...
> Part 2 is now available on my page:
> --
> http://www.av.qnet.com/~kn6dv
>
> It looks like there is a lot of interest in this archive.
>
> 73 de Will
>
> kn6dv@contesting.com
>
>

--
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

2828. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: Steve Simpson <Steve@chubs.demon.co.uk>
Message-ID: <QQy$9rAth1hyEwKD@chubs.demon.co.uk>
Source record: 100884
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

In article <7mlgoHAWfEhyEwcj@g6iqm.demon.co.uk>, Michael J Wooding
<g6iqm@g6iqm.demon.co.uk> writes
>In article <EZ6q$hAL3cgyEwQM@chubs.demon.co.uk>, Steve Simpson
><Steve@chubs.demon.co.uk> writes
>>Maybe there is a chip that does the whole thing (audio to data stream
>>and back).
>
>Sounds like a cellular phone to me

Thanks Mike, very constructive!

NEXT!
--
Steve "Chubby" Simpson
Web Author/Night Club D.J.
Steve@chubs.demon.co.uk
G7NAY@GB7MSW.#33.GBR.EU
HTTP://www.chubs.demon.co.uk

2829. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-11 00:00:00 UTC
From: hill@rowland.org
Message-ID: <567m71$fe7@fridge-nf0.shore.net>
Source record: 100885
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

Jaafar Mejri at mejri@lrs.e-technik.uni-erlangen.de says...
>
>hill@rowland.org (Winfield Hill) wrote:
>>meric@feynman.arc.nasa.gov, <meric@feynman.arc.nasa.gov> said...
>>>
>>> Suppose your supply voltage is Vcc, and you biased the collector
>>> at Vcc/2. [snip math] the gain is: -q Vcc/2kT!
>>
>>And to summarize, for the case of biasing at V/2, the gain is 20 V.
>>This is a nice number to commit to memory.
>
> what about this: (Bipolar transistors only) the gain is
> A= g_m * R_c = I_c / U_t * R_c
> The maximum value of I_c * R_c is Vcc resulting in:
> A_max = Vcc / U_t, so for 12 v Vcc
> you can get a maximal amplification of nearly 500.
>
> comments?

Exactimundo. For biasing the output at V/2 you have G= V*20 = 240,
and if you use the entire 12V for the load resistor (almost but not
quite saturating the BJT amplifier), you get G = 500.

--
Winfield Hill hill@rowland.org
Rowland Institute for Science
Cambridge, MA 02142

2830. RE: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: COREY BICANICH <CBICAN@wvnvm.wvnet.edu>
Message-ID: <96317.172414CBICAN@wvnvm.wvnet.edu>
Source record: 100737

Blue glow is not unusual in power tubes. I have never seen voltage gain
tubes have any blue glow, just power tubes. The intensity alters with
power output. Don't worry about the blue glow... there is no such thing
as a perfect vacuum. A tube that has LOST its vacuum will not work at all
and is easily identified by a white haze or powder on the interior of the
glass bulb, near the base or the top. I believe the blue is argon gas?
Gasses sometimes are "squeezed" from the anode and the other elements during
operation. Sometimes the blue glow is very difficult to see, but I have never
seen a power tube in operation that did not have a blue glow somewhere inside.

-Corey

2831. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32890406.253B@mail.teclink.net>
Source record: 100738

Hi Tom-

I'm posting this here because our local ISP was offline recently while they were doing maintenance and upgrades and I missed the post (of yours) that I'm replying to......sorry about the lost message on my end.

> The letter is pretty clear Tom. It mentions Rich wrote an interesting
> letter about parasitics. It says his tubes were overheated, the "apparent
> result" of an oscillation condtion.

We agree here, Tom, the letter is clear and says basically what you've quoted above.

> Like I said before, if I sent a part back with a letter explaining how I
> thought my amp had an oscillation, and they relied "yep, apparently you
> did. Your tubes were overheated" what doe it mean? Nothing. Just the tubes
> were overheated.

I disagree here. You are putting words in Mr. Foote's mouth, and deciding what a letter that someone else wrote "really meant". That won't work. The only one who knows exactly what that letter meant is Mr. Foote.

> Read QST, I've outlined the page. Mr. Measures also has been verbally
> told, and told in correspondence, that his claims are untrue. The
> specifically asked to not be bothered with this more, because it is a
> waste of time.

I hear what you are saying, Tom, "read QST, read QST" and that is fine. I have the articles and will reread them when I can dig them out.

But!

You are evading a question that Rich and I have asked repeatedly, which is:

Who wrote the email that was sent by "XXX" at Eimac, that you quoted in this thread???

Please either tell us or refuse to tell us. So far, you have just evaded the question.

At this point, I'd say that you and Rich are tied at "1 to 1" in documented sources at Eimac. Your email from "XXX" would get you a 2 to 1 lead if it was not by the same Mr. Brandon who wrote for QST, *and* if you can identify the sender. At this point, you and Rich disagree, and Mr. Foote and Mr. Brandon disagree. That's a stalemate. No more, no less.

Your move.

And let me say again.....you guys are the experts here. I have done my share of work on MF PAs as big as 5 KW and VHF PAs as big as 19 KW, but I am not in y'all's league as far as designing PAs. However, I can total up the number of documented sources at Eimac that each of y'all have and see that you each have the same number of documented, *identified* sources (at Eimac) at this point.

As far as the technical issues here, I guess I'm in the middle ground.

I see what Rich is saying about a grid protection transistor being inadequate in the event of a catastrophic failure. So, I completely agree with adding fuses or "expendable resistors" and that sort of thing. I have had a half watt resistor explode and actually protect a SWEEP tube in an old amp! <g> So, that concept does work, and not just on new tubes.

But, on the other hand, I can see that the electronic grid protection circuits that have been mentioned would indeed prevent damage from some amount of mistuning and ham-fisted operation. So, while adding the brute force measures (no pun intended!) that Rich recommends, I would not remove ANY grid protection without serious cause to do so. I'd say a combination of "cataclysmic protection" and "everyday protection" would be the ticket for expensive, delicate tubes. I have seen stuff blow up in ways I wouldn't have thought possible! <g> And so have you, I suspect.....

As far as the parasitic VHF catastrophic oscillation scenario, I think it is wrong to say that EITHER it "never" happens, OR it "always" happens, when that sort of damage occurs. The fact is that in order to assess the failure mode of any given amp, the amp would have to be coaxed into failure in a controlled environment, while connected to data gathering instruments. I really think the method that I described to you via email would be the way to go. (Fast rise, storage scope in single shot mode)

Now, I don't perceive that Rich is saying that the ONLY way this sort of damage ever occurs in an amp is through parasitics......are you saying that parasitics NEVER occur? If so, then why do amps you design still have parasitic suppressors in them?

73, Tom KJ5IE

2832. Re: Need plans for 6 meter CW for beacon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <56acjo$nog@service3.uky.edu>
Source record: 100739

In article <567bcl$mmh@news.accessus.net>, dwentz@accessus.net (Dale Wentz) says:
>
>Could point me to a 6 meter cw transmiter with a power output of about 5 watts.
>I am getting ready to put a beacon up, but dont want to use my allmode.
>
>
>Thanks
>de KB9JJA/Dale
>dwentz@accessus.net
>kb9jja@amsat.org
>
Check out RC (remote control) equipment. There are simple (1 transistor
with crystal control) transmitters around. I picked one up at a flea
market for next to nothing (like $1.00). Some of them use the same
circuit board and you wind different coils/transformers on the same
forms. After all, 72MHz is not that far from 50MHz. The Tx's are
"digital AM" (in mine a 1[anything over 2v] turns the TX on and anything
below that turns it off). I use a single chip ider and can either
use the output to key the TX with CW, or from the same cpu get a 1khz
sqaure wave to "AM" the Tx. (The 1KHZ is only there during a dit or dash)
Good hunting

2833. Old tube CW rigs: NETS!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <569ufl$2t5@news1.mnsinc.com>
Source record: 100740
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Hi - I thought some of you fellers might enjoy listening in or joining in on these nets:
Forwarded message:
==========
Send reply to: conard@tntech.campus.mci.net
From: Conard Murray <conard@tntech.campus.mci.net>
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: BA/GB net hoopla!

Hi radio fans!
It was a busy Monday night on 3579.5! The band is in excellent condition with trans-contenental DX between
NA4G in North Carolina runnig a Heath HW16 and N7TM in Washington state running a Drake 2C/2NT combo.
Also worked were several stations dropping by for the first time. Stations on were:

KC5TJG/Geo in Wichita Falls, Texas
W5FRS/Dennis in Texas running a great sounding TCS (look ma, no chirp!)
W5TVW/Sandy in New Orleans running a SR150 into a Henry amp (WWL's second cousin!)
N2CQR/Bill in Va running a Halli HT37/Drake 2B
VA3RP/Rod in Ontario running a Heath DX60B
NA4G/Bob in NC with a Heath HW16
N7TM/Tom in WA running a Drake 2C/2NT combo
K4MSG/Paul in Va running (classified)
AF4K/Bry in MD running (classified)
WS4S/Conard in TN running HB 6V6->6Y6/R-390A
Also heard calling but not worked was K7FJ.

How about some of you BA/GB ops in exotic DX-lands (KH6/KL7 etc.) make some schedules with us
for a late-night session so we can work you with our flea-power rock crushers?

If you want to get in some great CW time with an excellent group of operators, here is your chance.
Come up on 3579.5 after dark with whatever you can find that radiates a signal. Wait until someone
turns it over to another op and send your call. With the onset of decent propagation on 80, even
5 or 10 watts will do fine.
73 all,
de Conard, WS4S

Conard Murray WS4S NNN0UTN Glowbugs Listowner
217 Dyer Avenue BA/GB net 1802.5/3579.5/7050 KHz
Cookeville, Tn 38501 conard@tntech.campus.mci.net
615-526-4093 Wise men still seek Him
==========

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

2834. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001211961704110001@news.vcnet.com>
Source record: 100741
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <55remb$9ik_002@ppp22.arcos.org>, tunedin@arcos.org (.) wrote:

> In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> "James S. Kaplan" <kg7fu@combined.com> wrote:
> >ARRL lawyer to sue member
> >
> >The following is a copy of a message I received today from
> >ARRL General Counsel Christopher D. Imlay N3AKD:
> >
> >
> >To: James S. Kaplan, KG7FU
> >Copies: Mary Lou Brown, NM7N
> > Terry Baun
> > John Poray
> >Date: July 16, 1996
> >Re: Your article, SBE Chapter 124 Newsletter, July, 1996
> >**********
> >
> > Jim, I have just finished reading your article in the July,
> >1996 Water Cooled Newsletter, page 6. In it, you argue that two of
snip....

Failing that, I am going to sue
> >you in the District of Columbia for libel.

In California, it is against the law to threaten to sue.

--
--Rich-- ag6k, 805.386.3734

2835. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Michael J Wooding <g6iqm@g6iqm.demon.co.uk>
Message-ID: <fuop6EAu7MiyEwAn@g6iqm.demon.co.uk>
Source record: 100742
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

In article <QQy$9rAth1hyEwKD@chubs.demon.co.uk>, Steve Simpson
<Steve@chubs.demon.co.uk> writes
>Thanks Mike, very constructive!
>
>NEXT!

I do try very hard - perhaps though if you had investigated devices as
used in that market you would find what you want?

Mike

--
Michael J Wooding G6IQM email: vhf-comm@g6iqm.demon.co.uk
http://www.eolas.co.uk/ag/vhfcomm.htm & http://www.clearlight.com/~vhfcomm
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
Tel: (0)1788 890365 Fax: (0)1788 891883
VHF Communications Magazine - Especially covering VHF, UHF and Microwaves

2836. WANTED: article from february 1977 "Ham Radio" magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: "David \"Scott\" Coburn" <scott@bnl.gov>
Message-ID: <3288D07A.41C67EA6@bnl.gov>
Source record: 100743

I would like to get a copy of the February 1977 issue of "Ham Radio"
magazine. Does anyone have one they would like to get rid of? Or,
could someone make a copy of the article "Fixed-Frequency Receiver for
WWV" from the issue and send it to me?

Thanks,

Scott

--
scott coburn brookhaven national laboratory
mailto:scott@bnl.gov upton, ny, usa
http://gorzarg5.phy.bnl.gov/~scott (on long island)

2837. WANTED: references to WWV receiver projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: "David \"Scott\" Coburn" <scott@bnl.gov>
Message-ID: <3288D276.2781E494@bnl.gov>
Source record: 100744

I am looking for references to WWV receiver projects. Articles,
circuits
in books, etc. If anyone has actually built such a beast and would like
to chat about it that would be great also. I know you can buy radio-
clocks that do this (WWVB...), but I'm in this for the learning
experience.

Thanks much,

Scott

--

scott coburn brookhaven national laboratory
mailto:scott@bnl.gov upton, ny, usa
http://gorzarg5.phy.bnl.gov/~scott (on long island)

2838. Re: 12v antenna rotator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Raymond Ciaccio <rciaccio@pop.mhv.net>
Message-ID: <32893839.537D@pop.mhv.net>
Source record: 100745

Jeff Groberman wrote:
>
> I want to use an antenna rotator at our cottage. We only have 12V DC.
> Does anyone have a plan for, know of, want to sell a 12 volt antenna
> rotator?
Try using an old wiper motor off a car. You my need to drop the voltage
some to slow it down. Idea from "73 Amateur Radio Today" mag. November
issue 1996, Page 61.

2839. follow radio signal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Eric Gagnon <egagnon@sie.qc.ca>
Message-ID: <328939F0.7A77@sie.qc.ca>
Source record: 100746

I want to make some device able to folow radio signal in 1/4 mile

distance

if the signal is backward the receiver lit LED backward

if the signal is forward the receiver lit LED foward

if the signal is from left lit left LED

and the same for right.

some people know how to make that device.

or where can i find a documentation on this?

Somebody say is a doppler RDF receivers.

Tanks for rapid respond.

2840. Re: Wanted : Diagrams of 23 Cm ATV Receivers (Home Brew)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: pe1prx@xs4all.nl
Message-ID: <5686f2$8pn@news.xs4all.nl>
Source record: 100814

Jerome Grimminck <fright@knoware.nl> wrote:
hi
there is a good design in cq-dl of 11/89
a bit old maybe but it works fine
the way it works ?
a vco hand controld
mixed down to 65 MHz
ne564 as pll fm detector
and a tda120 for the audio detection
if you want narrow banthwith you can control that whith the filter and
the detector (the pll)
so happy homebrew
pe1prx@xs4all.nl
>Hi Om ...

>I'am looking for some good schematics for an Home Brew 23 Cm ATV
>receiver.
>The most important is that it has an narrow bandwith (15 Mhz)
>I dont want to use any sat receivers but want to build it on my own.

>If you have / know something please let me know.

>--
>*=*=*=

2841. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: jfriley@iadfw.net
Message-ID: <568ogv$btp@library.airnews.net>
Source record: 100815

w6kkt@frazmtn.com (W6KKT Jesse) wrote:

>"Because that's the right way to do it"? Can you be a bit more
>specific? What is the theory behind ARRLs IMD measurement
>interpolation?

I don't remember history that way, Jesse. (My mind may be going with advancing age.) The IMD products in all the early articles were always referenced to PEP output. When the international standard measurement method was adopted--because the definition of PEP couldn't be agreed on--ARRL apparently decided not to follow a procedure that was logically flawed. The flaw is simply that the amplifier, with two equal strength tones, has a Peak Output Power four times the level of either tone. The distortion products produced by that amplifier, when referred to the PEP of the amplifier, translate directly into intermodulation distortion and reflect the power output of the distortion products.

The contrary opinion holds that either way we have a test of amplifier linearity and that lower numbers mean better performance. But, in fact, certains numbers--like 30, 35, and 40--have an almost magical significance. When a spec is writen for -40 db IMD relative to either tone, the customer is really asking for an amplifier whose distortion is -46 db down. And that's a tough 6 db.

I would characterricterize my position on this as adamantine. Tom is technically correct--as he so often is. But IEC can decide that white is black and I would still see white.

Fred

JFRILEY@AIRMAIL.NET
FREDWA8AJN@AOL.COM

2842. "New" Old Computers Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: tamgree@aol.com
Message-ID: <19961112051700.AAA18208@ladder01.news.aol.com>
Source record: 100816

Doesn't anyone care about old computers?!
Find out in the new magazine of computer history nostalgia -
"Classic Computing" magazine

Historical Computer Society
3649 Herschel Street
Jacksonville, FL 32205
Contact: David Greelish, President and Founder
E-mail: historical@aol.com
On the World Wide Web - http://www.cyberstreet.com/hcs/hcs.htm (under construction)

JACKSONVILLE, FL, November 10, 1996 Some people collect stamps, baseball cards, dolls and even cars. But did you know that there is a group for people who collect computers! This group even has some members with over fifty computers in their own private collections! The Historical Computer Society is an international user group for old computer enthusiasts (old computers and/or old enthusiasts). HCS has over thirty classic computers in it s own collection; important older machines which most people have never seen before, much less heard of, like the IMSAI, Osborne, PET and more. The Society is dedicated to preserving older and classic computer hardware, software and literature while educating and helping it s members as well as the general public. Their new quarterly magazine, Classic Computing is all about personal computer history as well as computer history in general! In only twenty short years, there is much history to be shared just about personal computers. The Society and it s magazine were started in the pioneering spirit of the early computer clubs (like the Homebrew Computer Club). Even with today s impressive technological breakthroughs in computing, that fresh, exciting, pioneering spirit doesn t seem to be a part of it all anymore. HCS hopes to rekindle some of that excitement and to share it.

Many people have fond memories of their early computing days. Never has another device evolved so rapidly as to produce nostalgic artifacts in less than a quarter of a century! Classic Computing is a forum for these people to meet and share their stories.

The Historical Computer Society intends to become the authority in the community of retired personal computers. Hundreds of old computers are thrown out everyday by Americans as junk, but HCS believes that these outmoded machines have value. HCS can help owners find answers about system operation, peripherals, software, books, magazines and service.

Classic Computing is the central forum for members and is ready to become the premier circular for information, classifieds and trading of outdated equipment, etc. New subscriptions in the U.S. are only $14 a year

or try an issue for only $3; subscriptions in Canada are $16 and $24 international. Classic Computing is sold at The Computer Museum in Boston, the American Computer Museum in Bozeman, Montana and at Smithsonian Book Stores, Washington, DC.

HCS is beginning a local meeting chapter in Jacksonville, Florida! Meet once a month with others who share in the passion. If you live in North/Central Florida or Southern Georgia and would like to attend, please write David Greelish by e-mail for more information of the first meeting.

2843. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: orion@capital.net
Message-ID: <3288080d.45875454@news.capital.net>
Source record: 100817
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

"Thomas W. Castle" <afn17891@afn.org> wrote:

>How do you damage the reputation of a Lawer??????????????????????
>
>The only difference I know between a Lawyer, Politician & a Crook is:
>
>1. A politician is Lawyer, who is usually a Crook, who must be elected
>to screw the public...
>
>2. A Lawyer is a Crook who knows how the system is used to screw anyone...
>
>3. A crook is a person who hasn't figured out how to become a lawyer or
>politician - YET.....!
>
>De Tom....
>
>
Do you know why a shark will never bite a lawyer?

Professional Courtesy.

--
73,
Butch N2YMJ

2844. Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbd063$16e3fb00$3a229bcf@kn6dv.qnet.com>
Source record: 100818

For those who are wondering what the "EIMAC" letter is all about, you will find a copy of it on the page:
--
http://www.av.qnet.com/~kn6dv

Also you will find the archive of the "Good source for amplifier tips".

REFORM
Unless the reformer can invent something which substisutes attractive virtues for atractive vices, he will fail.
(Walter Lippmann)

2845. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32883836.4DD2@rcru.rl.ac.uk>
Source record: 100819
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Thomas W. Castle wrote:
>
> Fun to watch - guys....
>
> Question: DO YOU know how to "look" up his call in QRZ or Sams' an
> write him a letter..?
>
> What is the difference between a: lawyer, politician & a crook???
>
> HINT: [NONE!]
>
> De Tom...

Never heard of an, "Honest crook" then?

2846. Re: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32883A56.415E@rcru.rl.ac.uk>
Source record: 100820

Peter Dingemans wrote:
>
> G'day everyone,
>
> A couple of weeks ago I built an amplifier, using a (surplus) 4cx250. The
> problem is: it doesn't work (much). Guess the coils/cap's aren't in the
> band yet.
>
> That's not the main problem, though. When I turn on the amp, you can see
> a blueish glow inside of the tube. It can only be noticed when it's dark,
> and is hard to see because of the ceramic envelope, but is definitely
> there. When I increase anode-current, the glow gets brighter.
>
It is Normal. It is what happend when electrons travelling at 50000
miles per second hit the anode and tube walls. The light flashes with
output power on SSB. You get x-rays of TV tubes. Best not to look at
it.

2847. Re: What is the maximum gain that you can get out of a transist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Jaafar Mejri <mejri@lrs.e-technik.uni-erlangen.de>
Message-ID: <569gp4$4p7@rznews.rrze.uni-erlangen.de>
Source record: 100821
Cross-posted to: rec,rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.design,sci.electronics.misc

altavoz <altavoz@worldnet.att.net> wrote:

>altavoz: U_t ?
U_t = kT/q (in the range of: 25 mV at room temp!)

JaF.

2848. RE: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Dave_Covert@msn.com
Message-ID: <00001fee+00001e07@msn.com>
Source record: 100822

I am no expert on tubes, but I have messed about with high voltage and vacuums.

Air will, like pretty much any gas (like neon or xenon or argon), glow when 'pumped' by high voltage. Different gasses glow different colors (like neon glows read). Air is rather interesting because it will glow different colors based on it's pressure (or lack of pressure). Air can glow both blue and lavender depending on how low the pressure is.

No definite answer here... just a definite maybe... 8 }

73, dave kb5gog

2849. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: L.Wald@LERC.NASA.GOV
Message-ID: <L.Wald-1211961100320001@lwald.lerc.nasa.gov>
Source record: 100823

I presume a DPDT is okay to use in this application.

Larry, KE8GW

In article <55lh93$8f4@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <327de9de.1099211@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT
> Jesse) writes:
>
> >
> >Hi Tom, what timeing would you recommend for the close / open and how
> >would the average ham go about achieving it?
> >73, Jesse, W6KKT
>
> As long as the antenna closes first, and opens last, you will be ok.
>
> The amount of delay is unimportant, I'd make it enough to always guarantee
> a correct sequence, perhaps a minimum stagger of 10-20% of the slowest
> relay's response time.
>
> 73 Tom

--
Larry Wald
NASA Lewis Research Center

2850. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <3288a0a2.15613210@news.frazmtn.com>
Source record: 100824

On Tue, 12 Nov 1996 02:47:57 GMT, jfriley@iadfw.net (J. Fred Riley)
wrote:
>I don't remember history that way, Jesse. (My mind may be going with
>advancing age.) The IMD products in all the early articles were
>always referenced to PEP output.

1975 ARRL Handbook (page 400) has several examples of the correct way
to measure IMD. They reference the IMD to a single tone of two equal
tones.

When the international standard measurement method was
adopted--because the definition of PEP couldn't
>be agreed on--ARRL apparently decided not to follow a procedure that
>was logically flawed. The flaw is simply that the amplifier, with two
>equal strength tones, has a Peak Output Power four times the level of
>either tone. The distortion products produced by that amplifier, when
>referred to the PEP of the amplifier, translate directly into
>intermodulation distortion and reflect the power output of the
>distortion products.
>
>The contrary opinion holds that either way we have a test of amplifier
>linearity and that lower numbers mean better performance. But, in
>fact, certains numbers--like 30, 35, and 40--have an almost magical
>significance. When a spec is writen for -40 db IMD relative to either
>tone, the customer is really asking for an amplifier whose distortion
>is -46 db down. And that's a tough 6 db.

In the past, I have conducted many commercial side band, field
specification acceptance tests. We always referenced IMD to a single
tone of two equal tones. -37 to -40 (3rd order) was the norm. Using
ARRLs method the IMD would be -42 and -46.

Eimac, Today, in their book "Care and Feeding of Power Grid Tubes"
make a point of stating (page 71); "It is NOT correct to compare one
distortion product to the sum of the two tones; that is to say, the
PEP value of the signal". (ARRLs method).

ARRLs interpolation reminds me of the EPA gas mileage on new
cars.......It looks real good.....??

2851. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1211960829090001@port28.vcnet.com>
Source record: 100825

In article <55iuf8$aan@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:
snip...

> Subj: 3CX800A7
> Date: 96-10-31 13:21:43 EST
> From: xxx@eimac.cpii.com
> To: W8JItom@aol.com
>
> Hi, Tom. I hear you are in conversation with Rich Measures.
> To answer your question regarding the 3CX800A7, this tube uses a grid made
> from material which has a high melting point (Molybdenum or Tungsten)
> plated with gold. If one over drives this tube or operates it at high
> grid current due to improper loading or failure in the matching network or
> load, then it is likely that the temperature of the grid will quickly,
> within seconds, become high enough to vaporize the gold. This may be what
> happened to the 8874 tubes that Measures returned to Eimac a long time
> back and Bill Foote, then responsible for writing letters related to
> returned products, wrote something about a microwave oscillation that we
> saw IN ANOTHER PRODUCT, maybe he did not make that distinction, but to
> this day Measures believes that the incidence of failures with gold
> evaporated from grids are entirely due to parasitic oscillations, and
> tries to hold this letter from Mr. Foote as evidence. This is bunk. I
> trust that is what you are discussing with Measures? May I suggest that
> you make your life more enjoyable, do something else than arguing with
> Measures.
>
>
> ------...

Tom: Who is Mr. XXX?

--
--Rich-- ag6k, 805.386.3734

2852. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov12.142956.29825@ke4zv.atl.ga.us>
Source record: 100826
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <69c_9611120701@freeway.DIALix.oz.au> tlang@freeway.DIALix.oz.au (Tony Langdon) writes:
> ga> This is a receiver artifact and not a transmission problem. When
> ga> the signal goes outside the passband of the receiver IF, or exceeds
> ga> the linear range of the discriminator, severe distortion occurs.
> ga> But this distortion is *in the receiver* and not in the transmitter.
> ga> If the signal is very much over-deviated, the noise squelch amp
> ga> in the receiver sees it and can actually squelch the receiver on
> ga> voice peaks. Audio limiting is used in NBFM transmitters to avoid
> ga> causing these receiver problems (and to keep the transmitter's
> ga> modulation inside its assigned channel).
>
>Indeed, if you listen to an unlimited and overmodulated FM transmission
>with a wideband FM scanner, you can get some really nice audio! Doesn't
>do wonders for the people on adjacent channels though. :-)
>
> ga> That's why you'll normally find a mic gain pot and a deviation pot
> ga> inside NBFM radios. The audio limiter is in between. By juggling
> ga> these two adjustments, you can control the onset of limiting so
> ga> that it occurs just at 5 kHz deviation for normal speech peaks.
>
>Only problem with this arrangement is where you get two (or more) people
>with widely differing voice levels. One may be hardly heard, while the
>other drives the clipper so hard that the audio is grossly distorted. I
>generally adjust my mike gain pot down a little to reduce distortion (I
>have a tendancy to overdrive some transmitters' audio stages :)).

Yeah. There are better ways to deal with this than using a simple hard clipper, though that is commonly used. The first step above a hard clipper is a soft limiter. GE used a custom hybrid to do this in their older equipment (Exec II, Mastr II). Instead of hard clipping of peaks, gain decreases as the peak is approached. This is less "harsh" than a hard clipper, but of course still introduces distortion. Today, there are several chips on the market which do this. Basically this is audio AGC with a time constant which allows gain control of individual cycles of audio.

A step up from just a soft limiter is to add a syllabic rate audio AGC system, gated to prevent background noise pumping. Commercial FM broadcast uses units like the Volumax, Audimax, Optimod, etc to process the audio prior to modulation to control deviation overshoot while trying to make any necessary distortion unobjectionable (any processing *at all* is a form of signal distortion of course). Gated

compression into a soft limiter (often in multiple bands) is at the heart of most of these units. When it is set up right, it can sound pleasing, and can handle a wide range of input levels. (When set up wrong, as many rock stations do, it just sounds *loud*, without any real dynamics at all.)

It doesn't really matter whether we use a varactor modulator or a reactance modulator or even some exotic pulse repetition rate modulator to generate the FM, we still have to control the baseband audio going into the modulator to keep the deviation within the limits of the receiver (and the law). This is the most challenging aspect of FM system design.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2853. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961112163700.LAA27866@ladder01.news.aol.com>
Source record: 100827

Hi Rich,

In a message dated 96-11-12 02:48:42 EST, you write:
>
>According to Eimac CURVE 005211, "Eimac 3CX800A7 Constant Current
>Characteristics (Grounded Grid)":
> around 27vrms of cathode-to-grid driving voltage produces the maximum
>anode/plate current of 600mA.
>P=I times E. 27vrms times 150mA = 4.05w(rms).

Rich. This is unbelievable. You have no idea how to use a constant current characteristic graph, and you are writing articles implying everyone else in the world doesn't know what they are doing!

The failure to understand simple physics, like photons or the mechanisims of heat generation are one thing, but misapplying a simple operating graph is unbelievable!

When the grid current is maximum, anode voltage is below zero in a mistuned PA. These conditions are not even plotted on the graph, because they are not obtainable in steady state conditions without destroying the tube. The graph would be five times larger, or the useful operating area would be condensed to the point it was unusable with the performance calculator overlay, if Eimac included abnormal operating ranges in the data.

You aren't even calculating the values obtained in normal operation correctly, because you are mixing peak and RMS values.

Let me give an example of one thing (out of several) you have done wrong. You assumed the average RMS grid current indicated on the meter (150 mA) is the value applied to the graph. The peak grid current is many times that value, and varies throughout the RF cycle. For over half the input RF cycle, the grid is biased out of conduction. The cathode is positive with respect to the grid, and current flow in the grid is zero.

As the cathode RF driving waveform crosses zero and exceeds the bias voltage in a negative direction, the grid slowy begins to draw current. The grid meter displays this value integrated over the entire RF cycle, so peak grid current is many many times the value you used, it is far off the curves by the time the meter reads 150 mA!

You selected 27 VRMS, even though that value is low for the cathode voltage that might be obtained in a typical properly loaded circuit, and applied it to the average RMS grid current indicated by the meter. Yet that voltage is clearly not the G-K voltage in a mistuned condition at all, since the driving impedance and grid voltage soars when anode load

impedance is raised!

Remember, negative feedback is removed when the anode load impedance is raised, cathode voltage soars. The vast majority of the exciter's power is diverted to the control grid. Since this condition is NOT indicated on a typical operation graph, the design engineer needs to measure it. The grid meter does indicate the correct effective current applied to dissipation, but your voltage figure is a factor of almost five times off.

You have probably mixed steady state impedance and average driving impedances as well.

>Tom: Is 4.05w "almost 20 watts" in your opinion?

No. Since you obviously don't understand the dynamics of a PA, the dissipation is not 4.05 watts either!

>> And yes, it will cause the gold to ball up, evaporate and even flake off.
>> And yes, Eimac will confirm this.
>>
>When are you going to publish this confirmation from Eimac that supports
>your position, Mr. Rauch?

QST already in effect did that on page 71 of the Sept 1994 issue Eimac's letter says:

"Oxide cathode tubes using focus cathode design are more easily damaged in a short time under fault conditions. Newly developed circuits are quite effective in protecting tubes from excessive grid dissipation, which can result from loss of load due to failure in the feedline, balun, or antenna."

If that alone isn't enough to support my position that improper loading can quickly damage the grid, there is more. They go on to say your grid circuit suggestions are "ludicrous" (that description also seems to fit your suggestions that photons destroy tubes in PA's that are on standby), and that they have yet to see evidence of the parasitic oscillation damage claims you make.

Let this parasitic fantasia go quietly away Rich. I have no desire to beat you into the ground technically, and you will remain unbendable no matter what evidence is presented.

The tuning capacitor measures a very low Xc over the VHF and UHF range, yet you claim it arcs from VHF energy. The anode impedance actually moves the wrong way when your suppressors are installed, yet you claim they improve things. Resistors make horrid fuses (and fuses are bad enough) yet you recommend removing electronic protection and adding resistors to protect a grid. Eimac rates a grid at 25 watts, and you say it takes 500 watts. Eimac rates a cathode at many tens of amperes of peak current, and yet you say a slight amount of overdrive damages it. You claim a parasitic can drive a tube into super energy oscillation, yet claim the same tube

flat tops when overdriven by a few percent. You claim a photon can drive a gas-less tube on standby into conduction, yet current in a gas filled geiger-muller tube is in fractions of a pico-ampere.

Everything you say contradicts science, the manufacturer of tubes, and even yourself.

Shame on the publisher for letting this stuff ever get started. I hope they've learned a lesson about technical editing. Let it die Rich, let's both do something more productive.

73 Tom

2854. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Phil <pmetcalf@xyplex.com>
Message-ID: <56ad83$lno@cronkite.xyplex.com>
Source record: 100828
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Interesting Conversation!

But you guys overlooked a key request from the initial poster.

S I M P L E !

-> Phil

2855. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Phil <pmetcalf@xyplex.com>
Message-ID: <56af1p$lno@cronkite.xyplex.com>
Source record: 100829
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

WOW! Thanks Gary:

I didn't realize that I was opening up such a can of worms and I have been away a few days from the group.

Firstly, I think some of the responders were missing th a point when the original poster asked for a 'SIMPLE' FM modulator.

Secondly, You are absolutely correct about the deviation levels provided by a varactor. The others have also missed the point on proper biasing of the diode to drive it to the desired result. A deviation level that falls within the receiver specifications and complies with the passband limits is perfectly do-able by any standards and is dependent on a stable and well controlled bias. In designing a varactor modulator to a specific receiver you would have to monitor this condition, but once designed in, you're done.

Thirdly, there are dozens of methods of frequency or phase modulating a carrier but none as simple as the varactor method. Unless of course the original poster wants to start playing with PLLs which can be a bear to control. Especially since there job is to fight to keep the frequency stable.

Anyhow, thanks again for the support!

That'll teach me to drop a hint and take a vacation!

-> Phil KKC4849 (Calamity), KA1NHZ, AFA1MY, Patriot 655

2856. TS-870S general coverage transmit - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <56aj4r$mk5@sf18.dseg.ti.com>
Source record: 100830
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Anyone have a mod to enable general coverage transmit on the TS-870S?

No, I don't plan to use it on CB! I want to use it as an RF signal
generator. I've done this with past Kenwoods (TS-430, 440, 850).

It's easy. Connect a dummy load, crank the RF Output and Carrier pots
all the way down, select AM mode, and dial up your desired frequency.
Voila... a nice stable carrier on the desired frequency, with 10 Hz
readout! Need modulation? Add some (but keep the gain real low).

So... any help on this?

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

2857. Re: HELP: Keenwood TH-21AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Clif <avvid@onramp.net>
Message-ID: <3288C2AC.6F40@onramp.net>
Source record: 100831

John B. Lawrence wrote:
>
> Is the repeater offset adjustable on this transceiver? I don't have a
> service manual for it. I plan on using it with a Ten Tec 6m transverter,
> but I need a 500khz offset rather than the 600khz the Kenwood provides.
> Thanks for any help.
>
> Email on this subject is greatly appreciated as I don't have a local
> access number to my provider and must dial long distancer.
>
> John B. Lawrence KE6TGN
> ke6tgn@pacbell.net

The offset is crystal controlled. it probably could be changed by
substituting the proper crystals.

Clif

2858. HR2510

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: belmar@megatoon.com
Message-ID: <belmar-1211961007210001@annex3-quebec-ppp-16.accent.net>
Source record: 100832

looking for information on HR2510 finals and substitutes.

Thanks

JB

2859. LM568

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <3288F4F6.40E9@up.net>
Source record: 100833

I'm interested in using a LM568 to provide a carrier off alarm for
a CH. 5 TV transmitter, and at the same time provide a SAP output.
Any suggestions?

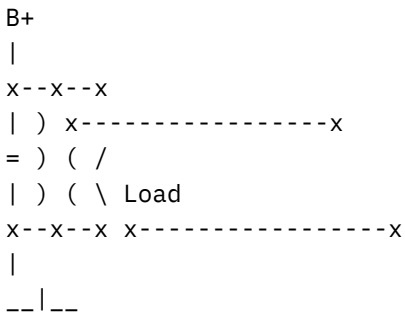
2860. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov12.165910.425@ke4zv.atl.ga.us>
Source record: 100834

In article <567a5u$8kl@dfw-ixnews6.ix.netcom.com> jeffa@ix.netcom.com(Jeff Anderson) writes:
>In <19961109063601.BAA11017@ladder01.news.aol.com> w8jitom@aol.com
>writes:
>>When exactly matched (in step) with the tube's time varying
>>resistance, the time varying voltage and current at the anode forms
>>the equivalent of a source resistance. This is a non-dissipative
^-- *impedance*
>>resistance that represents the source resistance of the dc to RF
>>conversion process. This is the resistance value conjugately matched
>>when maximum energy conversion efficiency is desired, or maximum
>>output under a given set of operating parameters. It can be found by a
>>modified Fourier analysis called a Chaffee analysis (Review Science
>>Inst. 7, October 1936). This is also a resistance very few people
>>understand, and one that got Walt Maxwell discredited for saying what
>>was absolutely correct.
>
>Hi Tom,
>
> My understanding of Chaffee analysis is that the resistance
>calculated is the *load* resistance, not the source resistance. In
>fact, nothing is known of the source resistance (except that, in the
>example of a Class C amp, it is non-linear and time-varying), so how
>can we say there is a conjugate match?
>
> I think this is my main hangup with the idea of "conjugate
>matching" to a non-linear amp such as a class C amp. The final
>(glowfet, fet, or bjt), is a non-linear time-varying resistance
>(picture a fet alternately pinched-off then wide-open - essentially a
>switch). How does one conjugately match a linear resistance load to a
>non-linear device? Does such a concept make sense?

No, it doesn't. If you treat the power supply, driving signal, tube, and plate tank as a *unit*, you can assign the *totality* a mathematical artifact you can call source impedance, but it has very little physical reality in relation to individual components of the circuit. The limiting source impedance of *the tube* is cathode emission. We don't ever want to match that, or we'll burn up the amplifier. The source impedance of the power supply is the limit of the rectifier diodes or the transformer core saturation, or core winding resistance, whichever is greater, and we don't want to match that either. The tank isn't a source per se, nor is the driving signal, so we can't match them. Only the unity of the entire circuit can be treated as a source for the purposes of assigning it a source impedance.

What makes this talk of "conjugate matching" sometimes confusing is when the plate tank and the load impedance transforming network are combined, such as in the pi net, so that it is difficult to visualize the separate physical processes going on in the two. The physical processes are easier to visualize if we separate these functions a bit like this:



> Nothing I've read of Chaffee analysis says anything about the
>source resistance. The final is modeled as a non-linear current source
>(with *no* resistance (or, more properly, infinite resistance)). And
>that's it. Calculate the load resistance necessary to give the desired
>voltage swing, and away you go...

Right. The tube is both a current source and a valve. It valves the electrons boiling off the cathode (current source) by the action of the signal voltage on the grid (valve). This deccelerates the electrons as the grid is driven more negative and reduces the amount of current reaching the plate (closes down the valve), and vice versa. The pulses of current reaching the plate flow through the tank, drawn by the power supply potential, and complete the circuit via the power supply to the B- connection. (We get into *physical* trouble when we try to use a "conventional" current model and assume current flows from positive to negative. In a tube circuit, electrons are the majority carrier, and physical current flows from negative to positive.)

The tank is a simple harmonic oscillator tuned to some frequency. Energy "sloshes" back and forth between the capacitor and the coil, shifting energy from the electric field to the magnetic field and vice versa. Without "pushes" from the current pulses coming from the tube, the simple harmonic oscillator runs down due to losses in the tank (unloaded Q). But if the current pulses from the tube are synchronized with the tank circulating currents, and valved in just the right amount, they will make up the tank losses and a steady amount of current will circulate in the tank.

Now we add an external load. In typical RF practice, its impedance would present way too much loading on the tank, dragging loaded Q down to virtually nothing, overdamping the harmonic oscillator, and overwhelming the tube's ability to source current. So we use an impedance transforming network (shown above as a simple link transformer) to transform the impedance up to a higher value to be presented to the tank so that loaded Q stays high enough to allow the current pulses from the tube to once again stablize the circulating current in the tank at some level.

We're not "matching" to the tube, we're not "matching" to the tank, we're not "matching" to the power supply. All we're doing is *presenting* a loss of suitable value to the *unit* of tank, tube, power supply, and driving signal so that a stable and sustainable circulating tank current can be maintained while tapping off to the load as much power as the *unit* can supply to us without exceeding cathode emission limits or power supply limits or valving limits. We can *model* that as an equivalent unit "source impedance", but that's just a bit of convienent mathematical fiction which allows us to calculate circuit parameters. It has no physical reality as a real dissipative resistance, though it does have a physical reality in the tank reactances and the *virtual resistance* of the tube acting as a valve.

The behavior of *the tube* is extremely non-linear (it can be modeled as a switch in series with a diode in some cases as you note, and its resistance can be either zero or infinite). But the behavior of the *unit* is that represented by the stable circulating current in the tank. That's a smooth function for sinewave operation, and can be represented by E/I as a source impedance. We can't call it a resistance without including the cos(theta) term, however, since we are dealing with an AC signal. In the absence of a real valued load, cos(theta) is zero, and source resistance is undefined.

So your interpretation of Chaffee is correct. It is the presented real valued load impedance which, in a tangible sense, generates the mathematical artifact we call source impedance. Where people get into trouble is when they try to interpret that mathematical fiction as a real tangible resistance. It isn't. If it were, we'd be looking at a Thevenin circuit, and efficiency couldn't exceed 50% if we "matched" to the source impedance, but of course it can exceed 50% which tells us models which accept the source impedance as real valued are flawed.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2861. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-12 00:00:00 UTC
From: pe1prx@xs4all.nl
Message-ID: <567j0e$mmi@news.xs4all.nl>
Source record: 100835
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

Steve Simpson <Steve@chubs.demon.co.uk> wrote:

>I would like to experiment with A/D and D/A audio over radio. I have an
>excellent Babani book on the subject but all the circuits seem to have
>parallel outputs. I would like some sort of modem type chip that will
>take the parallel signal and turn it into a data stream for TX in a
>narrow bandwidth. Also visa versa. Is this cheaply possible using say
>cellular phone type circuits or am I asking the impossible.

>Maybe there is a chip that does the whole thing (audio to data stream
>and back).

>Can anyone point me in the right direction please?

well i have a tp3057 from national semiconductor
it will do the job for you
coding en decoding in 1 ic
check the home page of national semiconductor for datasheets
(btw tp3054 is whith u law coding)

2862. Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: kevinm@eden.com
Message-ID: <56bbbe$74j@boris.eden.com>
Source record: 100747
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

I have uploaded to Simtel.Net:

http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes

sbfft11.zip Sound Blaster spectral display and filtering

Features:
* Sound Blaster 16 (or 100% compatible) input and output.
* Band widths of 2K, 4K, 8K or 16K Hz.
* Spectral resolutions of 1 Hz to 16 Hz per pixel.
* Display of power spectral density with any of 4 color maps in either
linear or logarithmic scale.
* Define and use as many as to six filters simultaneously -- band pass,
band stop, low pass, and high pass.
* Filters are defined graphically by mouse movement based upon
the displayed spectrum. Once you see a signal, you can
quickly define a pass or stop filter around the signal by clicking
and dragging the mouse.
* Net filter passband is displayed at all times.
* Filters can be selectively enabled and disabled by a single
keystroke.

Special requirements: DOS 3.0 or higher, SB16 or 100% compatible, SVGA,
VESA modes 101, 105, mouse.

Copyrighted Freeware. Uploaded by the author.

Kevin - KW5Q

kevinm@eden.com

$$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
Kevin McWilliams
KW5Q
Applied Mathematician

2863. FS: Radio Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: "John F. Haase" <TheHossMan@worldnet.att.net>
Message-ID: <56bbd2$r72@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 100748

I have the following tubes for sale.

Contact me at TheHossMan@worldnet.att.net

Boxes Minatures 8-Pin, etc.
1G3/1B3 2D21 1G3GT/1B3GT
1N1238 3HQ5 1K3
2AS2 4DT6 5R4GY
3A3/3B2 4HM6 5V4G
5Y3 4JC6 5Y3
6AG5 4JD6 6AS7G
6AH6 4KT6 6BK4
6AK5 5AQ5 6BQ6GTB/6CU6
6AK6 6136 6D6
6AN5 6201 6J5 (Metal)
6AU4 6AF4 6V6
6AU6 6AG5 6Y6G
6AX8 6AH6 6Z10
6AY3 6AL5 12AY3
6BA6 6AQ5 12D4
6BC5 6AS5 12DQ6B
6BF5 6AW8 12SN7GT
*6BH6 6BA6 12SQ7
6BK7 6BG7 12V6GT
6BN6 6BH6 17BE3
6BQ7 6BQ7 17BF11
6C4 6BZ6 17JZ8
6CB6 6C4 21JZ6
6CB6/6CF6 6CG7 25L6GT
6CL6 6CG8 35Z5
6CL8 6CL8 38HE7
6CW4 6CQ8 50L6
6CZ5 6CZ5 OD3
6D4 6DE6 5452
6D6 6EA5 5881
6DC6 6EB8 6528
6EA5 6EK5 45
6EB8 6GH8 57
6EH7 6GM6 75
6FQ7 6HB7 829B
6FQ7/6CG7 6J6
6FV8 6KE8
6GH8 6T8
6GM6 6U8
6J4 6X4

6J6 8FQ7
6JF7 8FQ7/8CG7
6K7 8JV8
6KD6 10LZ8
6KE8 12AD6
6L8 12AU7
6SJ7 12FX5
6SK7 OA5
6SN7 OB2
6V6GTA 5654
6W4 5687
7F8 5696
8EM5 5749
12AL5 5750
12AT7 5751
12BA6 5814
12BH7 6197
12DT5
35L6
35W4
50L6
OA2
OB2
OC2
OG3
5651
5749
5763
5963
6112
6977

2864. Sound Blaster SPectral Display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: kevinm@eden.com
Message-ID: <56bgf3$93j@boris.eden.com>
Source record: 100749

I have uploaded to Simtel.Net:

http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes

sbfft11.zip Sound Blaster spectral display and filtering

Features:
* Sound Blaster 16 (or 100% compatible) input and output.
* Band widths of 2K, 4K, 8K or 16K Hz.
* Spectral resolutions of 1 Hz to 16 Hz per pixel.
* Display of power spectral density with any of 4 color maps in either
linear or logarithmic scale.
* Define and use as many as to six filters simultaneously -- band pass,
band stop, low pass, and high pass.
* Filters are defined graphically by mouse movement based upon
the displayed spectrum. Once you see a signal, you can
quickly define a pass or stop filter around the signal by clicking
and dragging the mouse.
* Net filter passband is displayed at all times.
* Filters can be selectively enabled and disabled by a single
keystroke.

Special requirements: DOS 3.0 or higher, SB16 or 100% compatible, SVGA,
VESA modes 101, 105, mouse.

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Kevin - KW5Q

kevinm@eden.com

$$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
Kevin McWilliams
KW5Q
Applied Mathematician

2865. Good source for amplifier tips (part3)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbd11a$01501140$3a229bcf@kn6dv.qnet.com>
Source record: 100750

For those who are interested, I uploaded part 3 of the on going Good source
for amplifier tips.

You also find the " EIMAC letter " here:

http://www.av.qnet.com/~kn6dv
kn6dv@contesting.com

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

2866. Re: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961113074300.CAA17407@ladder01.news.aol.com>
Source record: 100751

In article <32883A56.415E@rcru.rl.ac.uk>, Mike Willis <mjw@rcru.rl.ac.uk>
writes:

>>
>> That's not the main problem, though. When I turn on the amp, you can
see
>> a blueish glow inside of the tube. It can only be noticed when it's
dark,
>> and is hard to see because of the cera

I ran one for sometime. Never saw any glow until the amp
was operating.

What is the bias voltage on the control grid?
What is the screen voltage?
Maybe too little grid voltage lets it conduct while on standby.

4CX250's are touchy, touchy and touchy.

Carl

2867. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: codyspc@aol.com
Message-ID: <19961113084200.DAA18281@ladder01.news.aol.com>
Source record: 100752

In article <56af1p$lno@cronkite.xyplex.com>, Phil <pmetcalf@xyplex.com>
writes:

>Anyhow, thanks again for the support!
>
>That'll teach me to drop a hint and take a vacation!
>
>-> Phil KKC4849 (Calamity), KA1NHZ, AFA1MY, Patriot 655

I'll have to admit, I learned a few things too. It was/is a good
thread...

:+> Andy <+:

2868. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961113132500.IAA21509@ladder01.news.aol.com>
Source record: 100753

In article <32890406.253B@mail.teclink.net>, "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:

>At this point, you and Rich disagree, and
>Mr. Foote and Mr. Brandon disagree. That's a stalemate. No more, no
>less.

Mr. Brandon represented Varian's viewpoint, not his own. He is the authorized interface between engineering and customers. Mr. Measures, despite his claims, is not their "messenger".

If you have a specific technical question about some technical point you didn't follow, ask it. I'd be happy to answer and/or site references.

I have no time to argue emotional decisions or techno-religion. This is science, not voo-doo.

73, Tom

2869. Beefing up a twin 3-500Z amp...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: wx8l@vtc.tacom.army.mil
Message-ID: <56bn3j$qn2@vtc.tacom.army.mil>
Source record: 100754

Anyone have any experience beefing up a 2 X 3-500Z amp? (Drake L4-B)

I'm wondering what the best power supply configuration would be for
maximum capability.

Thoughts so far are 3500V @ 1A CCS using a Dahl Hypersil.
(multi tap or variac for adjustment???)

Any insight or preferably experience would be apprieciated.

Sean

2870. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <56clho$8cp$4@news3.microserve.net>
Source record: 100755
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

This is really getting off topic, but I couldn't resist:
What's the difference between a dead dog on the road and a dead lawer on the road?

There are skid marks in front of the dog!
Tyler

2871. newbee help: How to match a 50 ohm line to a whip on a cordless phone?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <56cm2r$8cp$6@news3.microserve.net>
Source record: 100756

How do you match impedances from a cordless phone whip antenna to a 50 ohm line? Any help would be greatly appreciated. Thanks.
73 de N3SPD Tyler

2872. newbee help: What is RIT and VFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <56clvf$8cp$5@news3.microserve.net>
Source record: 100757

Although I've been a ham for a while, I don't have any HF gear and am wondering what an RIT control is on the front of some rigs? Also, my Allied communications receiver has an RCA plug on the back with the letters VFO above it. Is this Variable Frequency Oscillator? If it is, what is it used for exactly? Any help would be greatly appreciated. Thanks
73 de N3SPD Tyler

2873. Re: Beefing up a twin 3-500Z amp...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: wiley@interaccess.com
Message-ID: <wiley.45.00942548@interaccess.com>
Source record: 100758

In article <56bn3j$qn2@vtc.tacom.army.mil> wx8l@vtc.tacom.army.mil (Sean McCarthy) writes:
>From: wx8l@vtc.tacom.army.mil (Sean McCarthy)
>Subject: Beefing up a twin 3-500Z amp...
>Date: Wed, 13 Nov 96 05:42:11 GMT

>Anyone have any experience beefing up a 2 X 3-500Z amp? (Drake L4-B)

I made a big homebrew supply for both the L-4B and L-7 amplifiers,
but my intent was to get reliable RTTY performance rather than to
increase plate voltage and resultant output. The difference in output
between running a pair of 3-500Zs at 3500 volts vs. 2500 volts just
isn't worth the cost of the parts and the additional heat generated.

The L-4B needs additional cooling air, if you run higher voltage. The
easy way is to put a muffin fan on the cabinet top, pulling air out.
The L-7 has a more efficient 2-speed cooling fan and is acceptable as-is.

The weak link in the Drake amplifiers is the voltage rating on the plate
tuning capacitor. If you boost the B+ to much more than 3000 volts and
try to tune-up into anything more than flat VSWR, you will probably
experience arcing in the tuning cap. I went back to the original Drake
power supply as the design voltages and currents are properly matched
to the rest of the RF deck. You might want to up-grade the HV rectifiers
in the Drake power supply and leave the rest original.

73,

Bill, WA9NHQ

2874. TRIPLE OF BRUGES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: Wim Moerman <wim.moerman@icon.be>
Message-ID: <01bbd153$4ac780e0$026f4ac1@wim.icon.be>
Source record: 100759

The Triple of Bruges (De Brugse Tripel), a beer of the brewery De Gouden Boom (The Golden Tree) was awarded the Great Golden Medal 96 from the International Institute for Quality Selections.

The brewery received the award during a session of the jury in Lisbon, Portugal.

The jury praised the rich bouquet of the beer as well as its excellent composition.

The jury based its decision not only on taste, but also on laboratory anlysis, which gives the contest an objective character.

For reactions please contact me on
wim.moerman@icon.be

2875. Schematic Cordless Phone Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: "Chuck V." <cvest@terranet.net>
Message-ID: <01bbd180$639133a0$9c7435ce@cvest>
Source record: 100760

I am looking for a schematic for a Northwestern Bell Excursion Sport
Phone..
Model Number: 38000 Man.Date C0787A Serial 77004269
I am also looking for a part for it or information on a replacement for
it.
It is TD62602

Thanks ...Chuck...
e-mail cvest@terranet.net

2876. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: John EVANS <IFANS@CN.MSM.CERN.CH>
Message-ID: <328A0036.7E13@CN.MSM.CERN.CH>
Source record: 100761
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

As an aside, could somebody please tell me the frequency deviation
for a commercial (European) FM station? Thank you, John.

2877. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: John EVANS <IFANS@CN.MSM.CERN.CH>
Message-ID: <328A0117.118A@CN.MSM.CERN.CH>
Source record: 100762
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

As an aside, could somebody please tell me the frequency deviation
for a commercial (European) FM transmitter.
Thanks, John.

2878. Re: RE: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <56d47j$kia@news.calweb.com>
Source record: 100763

Try to see if the blue is on the glass surace or is inside the tube.

If on the suface then it is due to electrons striking the glass.

If inside then you have some gas in the tube and it will probably
give trouble due to incorrect grid current. I won't use a tube
that has internal gas (unless it's mercury in a rectifier).

Bill K7NOM

2879. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkE0toCz.3rs@netcom.com>
Source record: 100764
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

John EVANS (IFANS@CN.MSM.CERN.CH) wrote:
: As an aside, could somebody please tell me the frequency deviation
: for a commercial (European) FM transmitter.
: Thanks, John.

Most commercial FM stations use a 75Khz deviation.

2880. More Grid stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9610138479.AA847925048@mails.imed.com>
Source record: 100765

Well, I finally got through a 10 more digests. I think I'm up to 11/5 now. This topic has generated a bunch of bits!

Tom has quite correctly stated that the kinetic energy is the *primary* heat producer. This is the same effect that accounts for the lion's share of heat produced in the anode. Gary's analysis sounds good in terms of there being very little energy due to the 100 EV for each electron, but when you consider that 150 mA is a *lot* of electrons it quickly adds up! Looked at another way 150 mA into a grid at 100V is no different than 150mA into the plate of a receiving tube at 100V anode potential. Its still 15W either way.

I stand by my previous statements that it's those blasted secondary effects that have been mentioned by Tom, Ian, and Gary that are not well defined that will eat your lunch. Until we have better models we will never adequately solve these problems. Our solutions will continue to be black magic.

Ray Mack

2881. More Amplifier Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9610138479.AA847928044@mails.imed.com>
Source record: 100766

Only a few more digests to go!

I wish to echo Tom's assertion that the anode voltage can soar to very high values above what is normal when it is lightly loaded. I would say what he said in a different way.

One of the things that we teach in introductory electronics is that the current through an inductor cannot make an instantaneous change in value. Any tube operating in a mode other than class A works by alternately conducting and not conducting. When the tube stops conducting the current through the plate choke continues at the same level it was when the tube quit conducting. In a properly loaded tank the impedance of the tank is a close match to the impedance of the tube and the voltage will not be affected much when the tube cuts off. However, in a lightly loaded network, the impedance can be many times higher (let's say 10 times higher). In this case as soon as the tube cuts off, the current that is flowing in the plate choke is now driving a 10 times higher impedance. This results in an immediate increase to 10 times the anode voltage.

This is a simplified example and not entirely accurate in the details, but the main point of the reason for an increased voltage remains. It's not nearly as magical as it seems.

Ray Mack

2882. Re: TRIPLE OF BRUGES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: jonz@rainbow.rmii.com
Message-ID: <56djae$8o2@rainbow.rmii.com>
Source record: 100767

Wim Moerman (wim.moerman@icon.be) wrote:
: The Triple of Bruges (De Brugse Tripel), a beer of the brewery De Gouden
: Boom (The Golden Tree) was awarded the Great Golden Medal 96 from the
: International Institute for Quality Selections.

Clueless in cyber-land.

: For reactions please contact me on
: wim.moerman@icon.be

Don't tempt me.

Besides, I've got no time. There's all that banality over in
rec.radio.amateur.misc yet to read....

Jonesy W3DHJ

2883. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <328A56CD.C5A@mail.teclink.net>
Source record: 100768

>>No. Since you obviously don't understand the dynamics of a PA, the dissipation is not 4.05 watts either!<<

Tom, it was you who said that the grid dissipation was "about 4 watts". Not Rich.

Read back through your own postings and you will see that I am right about that.

Were you wrong then, or are you wrong now? Or is the cat both alive *and* dead? :-)

>>They go on to say your grid
circuit suggestions are "ludicrous" (that description also seems to fit your suggestions that photons destroy tubes in PA's that are on standby),
and that they have yet to see evidence of the parasitic oscillation damage
claims you make.<<

They, they, they..... WHO are "they"? So far, I have seen one, yes *one* individual at Eimac named here (by you). No more. Your use of the term "they" indicates more than one. Please supply the names of the rest of "they". Or stop saying "they".

As I said before, you and Rich are "1 to 1" in named sources so far. Why won't you tell us your sources' names? (Other than Mr. Brandon)

I'm not saying that anything you have said is wrong, but you do seem to be keeping a smoke screen between us and the identities of your sources..... And where there is smoke..... ;-)

73 and thanks again for the great discussion!

Tom KJ5IE

2884. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: bsadeghi@phoenix.princeton.edu
Message-ID: <56d88l$clv@cnn.Princeton.EDU>
Source record: 100769
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

i've never used plls for am demodulations, since it seems to
be an overkill. but i don't see anything wrong with using a
pll to demodulate an am signal. it works exactly the same way
as an fm demodulator (at least in theory). unless i'm missing
something.

In article
<Pine.SGI.3.91.961108234814.26971A-100000-100000-100000@ban.libertel.montreal.qc.ca>
Michael Black <blackm00@libertel.montreal.qc.ca> writes:
>But the 567, commonly used as a tone decoder, is a synchronous detector.
>It has the PLL, and a separate product detector. The only question, of
>course, is whether or not the method added to give a high or low output
>for the detected tone can be worked around to get a linear output.
>
>It's been a while since I've looked in the old Signetics application
>book for the section on PLL's. SOmebody might have already worked on this.
>
>The Signetics line of PLL's, which somewhere along the way got old
>(I can remember when they were featured in the ham magazines as
>the latest thing), did include devices with the additional product
>detector (with a circuit that looks a lot like the circuit in the
>now common NE602 mixer) needed for synchronous detection of AM. The
>NE560 or 561 (I forget which). You could use any in the line, by
>adding an external product detector. Of course, this type of
>synchronous detector is the basic kind. You can get much fancier.
>
> Michael VE2BVW
>
>On Fri, 8 Nov 1996, Paul Grohe wrote:
>
>> Tim Dicus <timothyd@gnt.net> from Prolectron thoughtfully posted:
>>
>> > I found a schematic using a NE568 as an AM detector. It is in National
>> > Semiconductor's data book. I have an older version, but I would imagine
>> > it is in the new version too.
>>
>> Could this possibly be an old Phillips or Signetics databook? "NE" is a Phillips
>> part.
>> We have an LMC568, which is akin to a 567, but is made specifically for
>> demodulating SAP/SCA/FSK *FM* subcarriers up to 500KHz.
>> http://www.national.com/pf/LM/LMC568.html
>> The datasheet is only a few pages, and there are no "AM" detectors on it.
>> If it is our Databook, which one is it? I don't see that circuit in the

>> "Specific" or "Video" books or appnotes.
>>
>> Cheers,
>> Paul Grohe
>>

2885. Re: car-alarm type transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: stevem@best.com
Message-ID: <56dsjp$g6t@shellx.best.com>
Source record: 100770

In article <328A4339.403E@auckland.ac.nz>,
G. Sargent <sargent@flintheart.ead.auckland.ac.nz> wrote:
>Hi All,
>
>I am trying to find someone who sells car-alarm style remote control
>transmitters / receivers.
>
>My task is to transmit an alarm indication (or, perhaps some data) with
>a range of approx. 60 feet.
>
>I'm not an RF guru, so I don't know where to start...
>
>I realise that this is not a 'proper' amature radio topic, but I have
>been sent here because you Guys and Gals are the experts.
>
>Cheers,
>Grant

I was browsing through the Digi-Key catalog (http://www.digikey.com/)
and noticed they have some rc modules for alarm systems and garage
door openers made by Holtek. You might check them out.

Steve M.

2886. Need Coil Winding Machine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: frbspd@crl.com
Message-ID: <56e2jo$dql@crl9.crl.com>
Source record: 100771

Anyone have any idea of where I might find a coil winding machine ? I need one for a small production shop.

Thanks,

Stephen Dunifer
frbspd@crl.com

2887. Re: WANTED: references to WWV receiver projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <328AC0DC.70BE@wenzel.com>
Source record: 100772

You can make a great WWV receiver by combining a converter and an auto radio. Auto radios are well shielded and make great IFs for homemade shortwave receivers. There is a schematic in our technical library at www.wenzel.com.

2888. Help with Auto Tuner Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: Kory Hamzeh <kory@avatar.com>
Message-ID: <Pine.BSI.3.91.961113165328.10755A-100000@avatar.avatar.com>
Source record: 100773

Hi Everyone,

I've decided to hack up my spare tuner, MFJ 989B, and convert it into an auto tuner. I will be using the basic stamp, a a/d convert (to get the reflected power), and three stepper motors (two for the caps, and one for the roller inductor).

I need help in the follow areas:

1. What is a good algorithm for tuning. I suspect I should set the caps in the middle position, then tune the inductor to the lowest swr and then tweak the caps & inductor back and forth several times for the lowest reading. Help!!

2. I have not idea how much torque I need to turn the caps and inductors. I have very little experience with stepper motors.

3. Any helpful hints in driving the stepper motor with the basic stamp would be great. I know a lot of this depends on the current draw which then depends on required torque. The Basic Stamp application book has an example for diving a unipolar stepper motor with a max current dram of 500 ma. Jameco also sells a little board that has a ADC and 3 stepper motor drivers. Almost perfect for what I want.

Also, I have no emotional attachments to the Basic Stamp, it just seems like the right chip to use. I am open to any other suggestions.

Thanks,
Kory
AC6RN

2889. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: ellis@tiac.net
Message-ID: <56dg4i$9pg@news-central.tiac.net>
Source record: 100774
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

"Eric" <ke4kik@norfolk.infi.net> wrote:

>This is the Hamtpon Roads Radio Association web site you may be interested
>in. We are located in Norfolk Virginia. Let me know what you think!

Very cool!

(it took forevvvvvvvvvvvver to load!)

Ellis

PhotoImpressions: Art Rubber Stamps from your Photographs!
http://www.tiac.net/users/ellis

2890. Re: Digital Audio/data streams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierE0vD83.7xs@netcom.com>
Source record: 100775
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

in <jEEzYaA0exhyEwso@chubs.demon.co.uk>, Steve Simpson wrote:
: Thanks Peter, I've downloaded the App notes from the Motorola WWW site
: and I'm well on my way.
: 'Can't help wondering if their is a very fast Hi Fi version though.

I gather that there's an experimental digital audio broadcast system defined for the VHF audio band in the UK.

You could use the same parts from CD players, but the datastream there is a minimum of 1.4 MBps. And I think the stream coming out of a digital socket on the back of a player so equipped is more than that, as they output more bits for each sample that the CD actually has along with some overhead. Parts used in computer sound cards would also be worth looking at.

Given that sort of bandwidth requirement, systems designed for over the air use will use some sort of compression, and reduced sample rates and sample sizes (compared to CD).

There may be some chips that do NICAM (the digital stereo audio system used on TV in the UK and other places in Europe). Try the Philips web site. There are decoder chips, but the system uses some sort of block compression and an encoder would be nontrivial.

Check out some articles over the past 3 or 4 years in Elektor Electronics. They've had several on NICAM, and copybit "revisers" for CD and DAT systems.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2891. Re: TDR unit from December "Electronics Now"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierE0tn3o.JEo@netcom.com>
Source record: 100776

in <FAUNT.96Nov10184334@netcom16.netcom.com>, Doug Faunt N6TQS +1-510-655-8604 wrote:
: If anyone does a PC board for the little TDR signal generator in the
: December "Electronics Now" page 58, I'd like one. It's almost not
: worth it, but....

If you really want some resolution, try the pulse generator in
"Fast Pulser Scope Calibrator" in the October 1996 issue. That
one does have a kit.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2892. I have a R&D project and need an Elmer!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-13 00:00:00 UTC
From: John Phillips <n9jxu@webslnger.com>
Message-ID: <3289CBC7.2F7C@webslnger.com>
Source record: 100777

My other hobby is model rocketry and I have been flying 25 summers now, and in the winter I turn to ham radio. I would like to pull out the gear in the summer too and need the help of a Elmer. A little background first:
The National Association of Rocketry has contests through out the USA. Models that go the hightest, stay in the air the longest, scale models, and the like are how we compete. The hightest points awarded are for the R&D competion. I would like to marry ham radio and rocketry in my R&D project this year. Many have done so before, like ATV, real-time video, RDF, altimeters, etc... No one has ever work a R&D project for ground based equipment. I would like to have a wireless launch system. Many, many, many problems with a system like this. Safety would be number one. (You wouldn't want any stray RF to activate the launch system when you hooking up the rocket motor!) I need a "Elmer" to help me with this project. I don't have a EE degree, and I can use "off the shelf" equipment. So if you think you would be interested in a project like this let me know.
73 and Clear skies!
John Phillips N9JXU NAR # 30039
4221 Village Lane #52
West Des Moines, IA 50266
n9jxu@juno.com
n9jxu@webslnger.com

2893. Re: Pye M290 low band PMR (UK)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Clive <cousbey@iee.org.uk>
Message-ID: <328B880A.312B@iee.org.uk>
Source record: 100687

Mike Willis wrote:
>
> Mike Stirling wrote:
> >
> > Does anyone have a circuit diagram of any of the Pye M290 series PMR
> > radios that they could E-Mail me, or know where I could get one from?
> >
> > Thanks.
> >
> > /\/\ike
>
> Try HRT. Getting a circuit will be difficult except from Pye service
> centres.

Hi,
I disagree with getting service data for Pye PMR sets, they are often
available at radio rallies, I got one for the M296 that way for 5 pounds.

Clive
G0CHO

2894. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001411960445330001@news.west.net>
Source record: 100688

In article <32875267.19A9@mail.teclink.net>, madison@mail.teclink.net wrote:

> Partial quote from Tom's message:
>
> >>You keep referring to a letter that says nothing<<
>
> Tom, what letter have you been reading? The letter that Rich is
> apparently referring to says [in part] "Both have been badly overheated
> internally, the apparent result of an oscillation condition."
> "Oscillation condition"....."oscillation condition".....hmmm.... Do PA
> tubes normally oscillate? Was he referring to the tubes oscillating at
> HF? The letter says nothing about any probably cause except an
> "oscillation condition". That letter does NOT say "nothing".
>
> Also, the letter from Mr. Foote is *signed*, and we all know exactly who
> wrote it. Unfortunately, we cannot say the same for the unsigned email
> that you posted. Unless someone at Eimac has the username "XXX", then
> the true identity of the sender must have been intentionally hidden at
> some point. Why won't you tell us who wrote it? Is the author of the
> email that you quoted afraid to take responsibility for what he said?
> It looks like it at this point..... Which makes the accuracy of said
> email highly suspect. And, as I see it, the whole case against Mr.
> Foote's credibility *is* that email.
>

Yes indeed. It seems a bit curious that the official Eimac letter from the
anonymous mister XXX has a BOGUS e-mail address.

--
--Rich--
ag6k, 805.386.3734

2895. HELP:TNC Radio interfacing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Gabe Nemeth <gabe@bnr.ca>
Message-ID: <328B1D05.5CD3@bnr.ca>
Source record: 100689
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Hi, and thanks for reading;
I'm interested in information (Books, Web Pages, etc) that detail
to any degree the interfacing of 9k6bps TNCs to FM radios. Does
anyone have or know of a source of this type of information?
Perhaph there is a circuit cookbook showing how it is all done.
Gabe Nemeth VE3SLJ. <gabe@bnr.ca>

2896. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961114150001.KAA22822@ladder01.news.aol.com>
Source record: 100690

Hi Rich,

In a message dated 96-11-14 05:52:20 EST, you write:

>It seems a bit odd that Eimac does not discuss this alleged phenomenon in
>*Care and Feeding of Power Grid Tubes*. Certainly, in tests performed on
>my own amplifiers, I was unable to reproduce the incredulous peak anode
>voltages you said would appear during mistuning of the output network.

If you look at other threads in this homebrew area, you'll find Ray Mack
who observes this effect. Here's what S56A posted:

In a message dated 96-04-14 12:54:03 EDT, Mario wrote:
>Subj: Perpetual motion
>Date: 96-04-14 12:54:03 EDT
>From: s56a@s55tcp.ampr.org (Marijan Miletic)
>To: cq-contest@tgv.com
>CC: W8JITom@aol.com
>
>Tom, W8JI refrained from further discussion of exotic QRO topics but in
>a private email convinced me to repeat his tests on my good, old SB-220.
>
>I made simple 10/1000pF = 1:100 divider from tune cap, used 1N4148 diode
>for a peak rectifier and achieved almost the same results as he did!
>I was initially suspecting that some measurement error was involved...
>
>>I have facilities to measure PA stages, and an actual SB-220.
>>With the amplifier in the SSB position on 7 MHz at 1100 watts output I
>>measured 2.4 kV peak on the tuning cap. When I mistuned the amp by fully
>>meshing the loading cap and adjusting the tuning cap for maximum voltage
>>I measured 3.7 kV peak. The supply voltage was ~ 3kV when mistuned.

>Under above conditions, SB-220 tuning capacitor tested for 3.5kV may arc!

Rich writes:
>I already know that the grid, anode, and cathode currents vary during the
>cycle. It is abundantly clear that this is what the constant current
>curves are all about. However, Eimac's grid dissipation rating is Not
>instantaneous watts. The grid dissipation rating is average watts.

Once again you are confused Rich. You claim understanding, and then
misconstrue results. I plainly explained you are using the correct
(indicated on the meter) RMS current, but the voltage is in error. We can
NOT use the voltage at that point of 150 mA with a positive anode voltage
on the graph, because that is not the operating point. Calculating the
true average RMS cathode RF voltage would require a set of curves far off

the graph!

If the grid is only reaching 150 mA peak on the constant current characteristic curves graph, it may very well be operating at normal or near normal values as an RF PA.

You seem to ignore the fact the cathode is in series with the PA output, and when the tank is underloaded the cathode grid voltage soars and the anode voltage at peaks goes beyond the plotted values.

>Tom: you stated that that the meter-indicated DC grid current was valid in
>such matters. Certainly, the cathode driving voltage is a sinewave, whose
>peak value is around 38v, according to Eimac's graph. The RMS value of a
>38v peak sinewave is in the neighborhood of 27v, is it not?

No. You are mis-using the curves. You are taking the peak current at one point of the operating cycle, using the cathode to grid voltage at that point with 135 volts or so of anode/grid voltage, and claiming a complete analysis. You also made the leap to a sine wave, but without a Fourier or Chaffee analysis you have no idea what the content of the waveform is.

Eimac's constant current curves do not show grossly abnormal operation, and the plot would have to include peak grid currents at least in the range of 500-600 mA down to zero under the conditions of an indicated current of 150 mA. That's because the grid cathode conduction angle is now much less than 180 degrees (and it has grid bias to overcome), and the G-K voltage increases when negative feedback is removed.

If it were a 180 degrees conduction angle sine wave in a fixed resistance, peak grid current would be (150*2.818).

Look carefully at the curves Rich. The tube is not a linear resistance as operating parameters are changed. When the grid is overdriven, the waveform squares (more higher frequency sine waves appear in the Fourier analysis). Energy content increases rapidly, and the 1.414 peak to average current and voltage ratios do not hold true. We have no idea what it is when the peak currents are far off the performance curves given.

How you can misapply this simple graph of constant current charateristics as a linear time constant resistance is fascinating. The curves plainly indicate non-linear voltage/resistance changes and great interaction between the elements of the tube.

If that isn't enough, or if it confuses you, consider this. The exciter supplying 100 watts, and with very low anode current it can't contribute to the RF output. Where does excess drive power, that used to be feedthrough power, go?

In article <328A56CD.C5A@mail.teclink.net>, "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:
>

>Tom, it was you who said that the grid dissipation was "about 4 watts".
>Not Rich.

Tom, you have taken something far from context. I have no time for these little "word games". Rich plainly asked me what the grid dissipation rating of a 3CX800 was, and I replied around 4 watts. After I repeated 4 watts several tmes, he said he meant an 8877, and it was 25 watts. Let's not make this a word game debate by pulling things from the context in which they were said.

I PLAINLY stated the dissipation of the 3CX800 was just under 20 watts when the PA I was testing was mistuned to indicated 150 mA of tube grid current. Read back, rather than wasting time going over the same stuff.

>> QST already in effect did that on page 71 of the Sept 1994 issue Eimac's
>> letter says:
>
>There is no official letter from Eimac on page 71 in my copy of the
>September 1994 issue of QST. . Am I overlooking a correction or addendum
>that appeared in a subsequent issue of QST?

I guess then Rich, we will have to accept your word. As we accept your word on many other "facts":

1.) Eimac rates the 8877 grid at 25 watts, but you know it takes almost 500 watts to damage it.

2.) A geiger counter has fractions of a pico-amp in the gas filled detector tube, but a vacuum filled 3-500 can draw amperes from the same effect.

3.) Gold melts from I^2 *R heating, and not from the E*I of the element, yet that works ok for anode dissipation.

4.) Reid Brandon is not the applications engineer for power grid tubes, yet Bill Foote is.

5.) The tank capacitor has a very low Z at VHF/UHF, yet an oscillation can cause thousands of volts to appear across it

6.) Tank voltage can not overshoot when the tank is mistuned, yet even a spice analysis or a direct measurement can conform it.

7.) Tubes flat-top (power saturate) when overdriven by a few watts, yet have enough reserve to provide many kilowatts of parasitic energy

8.) Electronic overload devices need removed, yet resistors make good fuses.

9.) Eimac's constant current characteristic graph is applicable, by using one point, to calculate a PA's operating parameters.

Those are your claims.

I think this has run its' course. If you'd like to start at the beginning and discuss fundamentals, I'd be happy to spend more time. But I'm afraid without going back to basics, we will never resolve anything.

73 Tom

2897. Hybrids Information / Video Preenphasis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: mramos@originet.COM.BR
Message-ID: <199611141453.MAA10066@netra01.origin.com.br>
Source record: 100691

I got two hybrids, one of them from an "crashed" trunk radio.
This is the SHW5042. I tried at the design-net site(Motorola)
but there's not any reference to this parts. Some catalogs
I have don't mention it too. May be MHW5042? The only
"empiric" information I got was some package info, since
in one Motorola books there's some items with such pin
arrange.
The other one is the PF0031, ordered at RF Parts. Unfortuna-
tely I receive the printed data to the PF0310 (it's a VHF devi-
ce).
Other subject: I did a video amplifier to an 10.25GHz Gunnplexer,
and added pre-emphasis to it. With some Jerrold TVRO satellite
receiver, worked fine, "almost" flat from 15KHz to 4.5MHz.
But I want to be shure about the correct values for a 525 line
pre-emphasis (the CCIR values). I don't want to have as a stan
dard the Jerrold de-emphasis circuit.

Any help? Thanks in advance es Best Regards.

Marcus Ramos, PY3CRX
mramos@originet.com.br

2898. Sola Transformer #71807 needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <56fehk$i3j@dfw-ixnews12.ix.netcom.com>
Source record: 100692

I have decided to put together some of my junk into a CW transmitter for Straight Key Night, as well as the Morrow's I plan to use.

I found a fairly healthy transformer, a Sola model 71807, which has HV windings. I have never seen a Sola with HV before. Does anyone have the ratings of this transformer, I also still have the oil capacitor that matches it.

Is this a good choice for a HV supply, It looks a lot better than the old Zenith TV transformers I have.

Thanks in advance
Glenn Sparks KI5GY

2899. HDB3 encoding and Line Interface Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: whelanj@oasys.dt.navy.mil
Message-ID: <328b3450.520389670@oasys.dt.navy.mil>
Source record: 100693

Good morning, guys. I am reverse engineering a digital communications link. I have come across a chip I cannot find (PMI LIU-01). Has anyone here had experience in the following areas to suggest a replacement?

The comm link I am working on runs 300,000 baud NRZ through a NRZ-to-HDB3 encoder and sends the three level HDB3 down a line. Got that working.

At the receive end the HDB3 is passed through a chip I cannot find, a PMI LIU-01. (I have cobbled up a fixed level recovery circuit + PLL)

PMI was bought by Analog Devices who says they are not going to continue to produce the chip and have no suggestions.

The LIU-01 chip seems to be an AGC amplifier to regulate input level, with a phase lock oscillator recovering clock from the input stream. The LIU-01 chip's output is HDB3+ and HDB3- pulses to be sent on to a decoder.

This stuff is new to me, learning along the way. Has anyone been involved in this area and might have some suggestions? Thanks,

Jerry Whelan AA3H
(whelanj@oasys.dt.navy.mil)
(jerome.whelan@worldnet.att.net)
Jerome (Jerry) H. Whelan, EE, Code 854, Electromagnetic Fields Branch
White Oak Detachment, Carderock Division, Naval Surface Warfare Center
10901 New Hampshire Avenue, Silver Spring, Md. whelanj@oasys.dt.navy.mil
(Voice=301-394-1108) (Fax=301-394-3037)

2900. Re: Hybrids Information / Video Preenphasis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: stevem@best.com
Message-ID: <56flle$sg9@shellx.best.com>
Source record: 100694

In article <199611141453.MAA10066@netra01.origin.com.br>,
Marcus Ramos <mramos@originet.COM.BR> wrote:

snip....

>Other subject: I did a video amplifier to an 10.25GHz Gunnplexer,
>and added pre-emphasis to it. With some Jerrold TVRO satellite
>receiver, worked fine, "almost" flat from 15KHz to 4.5MHz.
>But I want to be shure about the correct values for a 525 line
>pre-emphasis (the CCIR values). I don't want to have as a stan
>dard the Jerrold de-emphasis circuit.
>
>Any help? Thanks in advance es Best Regards.
>
>Marcus Ramos, PY3CRX
>mramos@originet.com.br
>

The ARRL handbooks of the late 80's has the proper values for
the CCIR 525 line pre-emphasis network in the Fast Scan TV
(FMTV) section.

Steve Muther WF6R

2901. need help building a extremely low power 931.2125mhz transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: kc7qzr@geocities.com
Message-ID: <328bc19f.16486538@news.brigadoon.com>
Source record: 100695

Howdy all.. Kc7qzr from Washington again..

I have been toying with the idea of converting my pager to ham bands, but at the moment dont want to spend the dough to get a new board for it..

Instead for experimenting with my pager, i would like to build a 931.2125mhz transmitter. (The Freq of my pager) and i have transmitter software for my pager...

I have a 2 meter transmitter built, it uses a external mic for my htx-202 handheld, midified with a 9 pin serial cord pluged into com1.. the program asks for my pagers id, then asks for the numeric message, then sends it via the com port, to the mic, it clicks the ptt, transmits the packet, and releases the ptt.. works great from what i can see.. BUT.. My pager is still in the 900mhz freq..

Any help would be MOST appreciated!!

btw my pager is a motorola renegade..

ALSO!! I am looking for another pager! any numeric or alphanumeric pager.. Dont need any documentation for it if you dont have it. Just need the pager, looking for a few of them for modification on different freq;s and bands.. May start a amateur paging service for the local hams..

THANKS A MILLION!!!!

Brad
kc7qzr

kc7qzr@geocities.com

2902. Need schematics for 2 meter amp!!! Help new ham!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: kc7qzr@geocities.com
Message-ID: <328abfcf.16021838@news.brigadoon.com>
Source record: 100696

Howdy all, Kc7qzr from Washington here....

I am still new to hamin, just got my ticket 5-17-96..!!

the only radio i have is a handheld ratshack, htx 202 2 meter ..

Its a good little radio, and i bought a external 1/4 wave antenna for it so i can use it in my truck to talk on and make autopatch calls.. it works good. but i need more than 5 watts...

Can someone help me out.. I need Very Plain Jane Schematics here.. I want to go down to radio shack, buy the needed parts and build a 2 meter amp.. If someone out there can help me out with some schematics in a very simple readable format, or can just send me what you got, and i'll get some other ham's in the area to help me with the schematics i would REALLY appreciate it!!

Please help!!

Brad

kc7qzr Washington..

p.s. I would just go buy radioshacks 35 watt amp, but its 100$ and i dont have it! and i want to learn how to do home brew stuff, so i may as well experiment a little and get my hands dirty with the nice sodering gun i bought 8-)

THANKS AGAIN!!!!!

email is kc7qzr@geocities.com

2903. Re: Need schematics for 2 meter amp!!! Help new ham!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <56frlt$mpq@dfw-ixnews10.ix.netcom.com>
Source record: 100697

In <328abfcf.16021838@news.brigadoon.com> kc7qzr@geocities.com
(ThE_BoY) writes:
>
>Howdy all, Kc7qzr from Washington here....
>
>I am still new to hamin, just got my ticket 5-17-96..!!
>
>the only radio i have is a handheld ratshack, htx 202 2 meter ..
>
>Its a good little radio, and i bought a external 1/4 wave antenna for
>it so i can use it in my truck to talk on and make autopatch calls..
>it works good. but i need more than 5 watts...
>
>Can someone help me out.. I need Very Plain Jane Schematics here.. I
>want to go down to radio shack, buy the needed parts and build a 2
>meter amp.. If someone out there can help me out with some schematics
>in a very simple readable format, or can just send me what you got,
>and i'll get some other ham's in the area to help me with the
>schematics i would REALLY appreciate it!!
>
>Please help!!
>
>Brad
>
>kc7qzr Washington..
>
>p.s. I would just go buy radioshacks 35 watt amp, but its 100$ and i
>dont have it! and i want to learn how to do home brew stuff, so i may
>as well experiment a little and get my hands dirty with the nice
>sodering gun i bought 8-)
>
>THANKS AGAIN!!!!!
>
>email is kc7qzr@geocities.com
>
Ramsey has a 2 meter 35 watt amp kit, I don't recall the cost. I built
one for a friend who brought it over, and it seemed to work OK, but I
didn't test it much.

I don't know if they have a web page or not, maybe someone else can
help.

2904. Can I flash the getter again?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96319.212742IFF161@DJUKFA11.BITNET>
Source record: 100698

If a tube develops gas problems can the getter be once more fired to pick up the gas and rescue the tube (assuming it is a type expensive enough to justify the effort.)?

Bob

2905. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <328BAA5E.2781@pactitle.com>
Source record: 100699
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

Eric wrote:
>
> This is the Hamtpon Roads Radio Association web site you may be interested
> in. We are located in Norfolk Virginia. Let me know what you think!
>
> Eric KE4KIK 73!
>
> http://www.infi.net/hrra

I'll go and check it out!
http://www.geocities.com/Hollywood/5860
--
Dave Booth kc6wfs

2906. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <328BAB18.446B@pactitle.com>
Source record: 100700
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

Sounds good!
http://www.geocities.com/Hollywood/5860
kc6wfs

KW5Q wrote:
>
> I have uploaded to Simtel.Net:
>
> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
>
> sbfft11.zip Sound Blaster spectral display and filtering
>
> Features:
> * Sound Blaster 16 (or 100% compatible) input and output.
> * Band widths of 2K, 4K, 8K or 16K Hz.
> * Spectral resolutions of 1 Hz to 16 Hz per pixel.
> * Display of power spectral density with any of 4 color maps in either
> linear or logarithmic scale.
> * Define and use as many as to six filters simultaneously -- band pass,
> band stop, low pass, and high pass.
> * Filters are defined graphically by mouse movement based upon
> the displayed spectrum. Once you see a signal, you can
> quickly define a pass or stop filter around the signal by clicking
> and dragging the mouse.
> * Net filter passband is displayed at all times.
> * Filters can be selectively enabled and disabled by a single
> keystroke.
>
> Special requirements: DOS 3.0 or higher, SB16 or 100% compatible, SVGA,
> VESA modes 101, 105, mouse.
>
> Copyrighted Freeware. Uploaded by the author.
>
> Kevin - KW5Q
>
> kevinm@eden.com
>
> $$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
> Kevin McWilliams

> KW5Q
> Applied Mathematician

2907. Re: transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <56gekj$6ge@news1.mnsinc.com>
Source record: 100701

Riccardio & the group here:
You can get a major list of sources for kits, parts, radios etc., at my web site located at:
http://www.mnsinc.com/bry/

Take a look in the ham radio resources section.
The file you need is called megalist.txt

ngaggiolir@etrurianet.it (Riccardo Gaggioli) whistled a happy tune like:

|>Hello,I need transverters(RX & TX) from 28 MHz to 144,432,1296 and upper
|>frequencies;I am interested in KITs and ready devices:someone can help me?
|>Thank you,
|>IK5WQO Riccardo

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

2908. Re: Need hard to find parts!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <56gf0k$6ge@news1.mnsinc.com>
Source record: 100702

Folks, if you need a more reliable upto date listing of places to buy parts,
there is a file you need called megalist.txt
available at my web site:
http://www.mnsinc.com/bry/
You will find it in the HAM RADIO RESOURCES section.
Enjoy - 73 de AF4K / G3XLQ

Don Wines <dwines@e-tex.com> whistled a happy tune like:

|>woody white wrote:
|>>
|>> macino@ibm.net wrote:
|>> >
|>> > In <327DFDC4.3D2F@awod.com>, T Fultz <tfultz@awod.com> writes:
|>> > >I'd like to learn to build some of my own gear. I've found some
pretty
|>> > >nice projects in a copy of 'Solid State Design' but I don't know
where
|>> > >to find some of the components. Since this copy is a 1978 copy, I'm
|>> > >sure some of the parts listed are going to be next to impossible to
|>> > >find.
|>> > > Some of these components are:
|>> > > Amidon T-50-6 cores
|>>
|>> I think Amidon Associates are still in business. Santa Ana,
California???
|>> They are a small lot reseller. _W_
|>>
|>> > > Millen 22050 4-54pF variable caps
|>>
|>> Mouser Electronics (and others) sells mini and sub-mini caps that will
(I
|>> believe) substitute. _W_
|>>
|>> > > Various Miller inductors
|>> > > and Especially coil stock of all 'shapes and sizes'
|>> > > (who has this stuff anymore)
|>> > >
|>> > >Basically, I'd like to experiment and I can't find anybody with parts
|>> > >anymore. I've been to a number of ham fests and they're just not
around
|>> > >anymore.
|>>
|>> Some 'fests are better than others for this sort of thing...
|>>

|>> There are a number of vendors who don't have too large a minimum order
(or typ.
|>> a $5 surcharge if under).... I have used Mouser Electronics and DigiKey
and
|>> find them very good. Another I have used is Hosfelt Electronics (been a
|>> while).
|>>
|>> Other possibilities (includes surplus vendors): DC Eclectronics, Marlin
P.
|>> Jones, All Electronics, Cumminications Concepts Inc., MCM Electronics, C
& H
|>> Sales. _Woody_
|>>
|>>
|>> --
|>> de Woody (WB4QXE) - woody.white@worldnet.att.net
|>> Electron Microscopist/Microanalysist,
|>> Ham radio "homebrewer", shade tree mechanic,
|>> '90 Nissan 240SX, wish still had my Mcycle too!
|>> http://www.geocities.com/capecanaveral/3722
|>> .

|>The ARRL Handbook (any recent issue) has address for parts suppliers who
|>will honor small orders. Chapter 30 of the 1996 edition. Also there is a
|>list at the following site:
|>
|>http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/general/parts.txt

|>Although this is a fairly old list (1991) it will give a starting point
|>for address, etc. I have personally dealt with All Electronics, Jameco,
|>Mouser, JAN Crystal, Amidon, RADIOKIT and others and have had generally
|>good luck. The only problem with some suppliers such as Mouser is the
|>cost is generally quite high but you can find just about anything you
|>need.

|>GL es 73s,
|>Don, K5DW (ex AA5IE)

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

2909. reference for make a device folowing a radio signal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Eric Gagnon <egagnon@sie.qc.ca>
Message-ID: <328BC1DA.4267@sie.qc.ca>
Source record: 100703
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.misc,sci.electronics.misc,alt.electronics.analog.vlsi,rec.radio.amateur.homebrew

I want to make some device able to folow radio signal in 1/4 mile

distance

if the signal is backward the receiver lit LED backward

if the signal is forward the receiver lit LED foward

if the signal is from left lit left LED

and the same for right.

some people know how to make that device.

or where can i find a documentation on this?

Somebody say is a doppler RDF receivers.

Tanks for rapid respond.

2910. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <328BBB43.237C@pactitle.com>
Source record: 100704
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

I like it!

http://www.geocities.com/Hollywood/5860/
Dave Booth kc6wfs dm04rk
Eric wrote:
>
> This is the Hamtpon Roads Radio Association web site you may be interested
> in. We are located in Norfolk Virginia. Let me know what you think!
>
> Eric KE4KIK 73!
>
> http://www.infi.net/hrra

2911. Re: Need schematics for 2 meter amp!!! Help new ham!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <328BF4E1.6F0A@ipass.net>
Source record: 100705

ThE_BoY wrote:
>
> Can someone help me out.. I need Very Plain Jane Schematics here.. I
> want to go down to radio shack, buy the needed parts and build a 2
> meter amp.. If someone out there can help me out with some schematics
> in a very simple readable format, or can just send me what you got,
> and i'll get some other ham's in the area to help me with the
> schematics i would REALLY appreciate it!!
>
>
> p.s. I would just go buy radioshacks 35 watt amp, but its 100$ and i
> dont have it! and i want to learn how to do home brew stuff, so i may
> as well experiment a little and get my hands dirty with the nice
> sodering gun i bought 8-)

Brad,
I built a single transistor 2M amp a couple years ago... Unfortunately,
the parts alone cost over $100.00 without a case etc... The transistor
was $65.00... Radio shack doesn't even come close to carrying anything
needed for the amp except wire and solder.
You may find a used amp for less than $100.00, but don't count on it...
The ones I have seen were sold before the ink in the ad dried.

Later,
Dave

--
==========
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==========

2912. Re: PCB Designing at high Frequency

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <328BAE88.3490@cam.org>
Source record: 100706

Paul Kein=E4nen wrote:
> =

> Madjid VE2GMI <mboukri@cam.org> wrote:
> =

> >QST presented years ago a technique using isolated wires
> >placed on a PCB to simulate microstrips. The insulation
> >acted as dielectric but the wires were connected to the
> >circuit (at least on one end!). Never tested the technique
> >but seemed very simple to implement.
> =

> Does anybody remember which year this was presented or any other
> information to help to limit the search for this article ?

Hi Paul,

Forced me to go through my pile of old QSTs :)

The Article was published in QST July 1981
"Wire Line - a new and easy Method of Microwave
circuit construction" 2 pages only
by KL7ISA Robert Wilson and Hal Silvermann W3HWC

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

2913. car-alarm type transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: "G. Sargent" <g.sargent@auckland.ac.nz>
Message-ID: <328A4339.403E@auckland.ac.nz>
Source record: 100778

Hi All,

I am trying to find someone who sells car-alarm style remote control transmitters / receivers.

My task is to transmit an alarm indication (or, perhaps some data) with a range of approx. 60 feet.

I'm not an RF guru, so I don't know where to start...

I realise that this is not a 'proper' amature radio topic, but I have been sent here because you Guys and Gals are the experts.

Cheers,
Grant

2914. Great Big 833a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: Rob Prosper <nnpdom@cancom.net>
Message-ID: <01bbd1c0$3cc9ba40$0764facd@nnpdom.cancom.net>
Source record: 100779

I just found a few NOS 833a tubes hiding on a shelf. Hard to believe things this big could be hid.

I have checked all kinds of tube sale lists and have yet to find any to give me an idea of their value. Any assistance in determining an appropriate selling value would be appreciated.

Thanks,

Rob

2915. Re: car-alarm type transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <56drdh$i4p$1@news3.microserve.net>
Source record: 100780

In article <328A4339.403E@auckland.ac.nz>, g.sargent@auckland.ac.nz says...
>
>Hi All,
>
>I am trying to find someone who sells car-alarm style remote control
>transmitters / receivers.
>
>My task is to transmit an alarm indication (or, perhaps some data) with
>a range of approx. 60 feet.
>
>I'm not an RF guru, so I don't know where to start...
>
>I realise that this is not a 'proper' amature radio topic, but I have
>been sent here because you Guys and Gals are the experts.
>
>Cheers,
>Grant
How about a set of those remote control extenders from Radio Shack? You could wire a remote of ANY sort to the transmitter. You would have all sorts of functions then. Just a thought...
TYler

2916. Re: More Amplifier Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961114013000.UAA07927@ladder01.news.aol.com>
Source record: 100781

In article <9610138479.AA847928044@mails.imed.com>, mack@mails.imed.COM writes:

>However, in a lightly loaded network, the impedance can be many times
>higher (let's say 10 times higher). In this case as soon as the tube
>cuts off, the current that is flowing in the plate choke is now
>driving a 10 times higher impedance. This results in an immediate
>increase to 10 times the anode voltage.
>
>This is a simplified example and not entirely accurate in the details,
>but the main point of the reason for an increased voltage remains.
>It's not nearly as magical as it seems.
>
>Ray Mack

Hi Ray,

Actually there are many things going on, and both of our examples were abbreviated, hi/. I posted a longer explaination, but it is floating out in the never never land of AOL.
In any case, the huge flywheel of the tank dominates and sets the load for the choke.

I have a *long* basic language (yuk) program I wrote that calculates the voltage and other parameters, and come pretty close.

(I am really amazed that more people don't understand this stored energy effect, but when I look it isn't in many Handbooks.)

I posted the thing about voltage on a contest group, someone right away came back with "perpetum momentium" or something to that effect. Fortunately, he was receptive to measuring a PA. When he made an actual measurement, he found EXACTLY the voltage predicted for his tube type under a certain load condition...and that anode voltage went negative over a small portion of the cycle.

73 Tom

2917. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001411960227180001@news.vcnet.com>
Source record: 100782

In article <55ka2a$cp@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) wrote:

> In article <measures-0311961215090001@port3.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >
> > I do not deserve credit for the vhf-uhf-parasitic/gold-sputtering
> >theory. It originated at Eimac. I am only the messenger.
>
> Hi Rich,
>
> Eimac claims you are mistaken, and have distorted a letter written by
> someone assigned to answer customer service letters. Anyone with a first
> year physics book can see how unplausable that theory is, and Eimac even
> states the damage is excessive grid current caused, and the only case of
> that they had was in very large transmitting tubes for UHF, and the
> oscillation was microwave heating of the grid.
>
> If we can move beyond that, snip......

I can not move beyond that until I see an official letter from Eimac that
makes this claim.

You said "...only case of
> that they had was in very large transmitting tubes for UHF".
Tom: Was this case in a triode power-grid amplifier tube?
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2918. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001411960251150001@news.vcnet.com>
Source record: 100783

In article <19961112163700.LAA27866@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Rich,
>
> In a message dated 96-11-12 02:48:42 EST, you write:
> >
> >According to Eimac CURVE 005211, "Eimac 3CX800A7 Constant Current
> >Characteristics (Grounded Grid)":
> > around 27vrms of cathode-to-grid driving voltage produces the maximum
> >anode/plate current of 600mA.
> >P=I times E. 27vrms times 150mA = 4.05w(rms).
>
> Rich. This is unbelievable. You have no idea how to use a constant current
> characteristic graph, and you are writing articles implying everyone else
> in the world doesn't know what they are doing!

Hmmm. There seems to be another person writing articles who uses my name. Please direct me to a specific issue of a magazine where one of these counterfeit articles appears.

> The failure to understand simple physics, like photons .or the mechanisims
> of heat generation are one thing, but misapplying a simple operating graph
> is unbelievable!

The lady doeth protest too much, me thinks.

> When the grid current is maximum, anode voltage is below zero in a
> mistuned PA. These conditions are not even plotted on the graph, because
> they are not obtainable in steady state conditions without destroying the
> tube. The graph would be five times larger, or the useful operating area
> would be condensed to the point it was unusable with the performance
> calculator overlay, if Eimac included abnormal operating ranges in the
> data.

It seems a bit odd that Eimac does not discuss this alleged phenomenon in *Care and Feeding of Power Grid Tubes*. Certainly, in tests performed on my own amplifiers, I was unable to reproduce the incredulous peak anode voltages you said would appear during mistuning of the output network.

> You aren't even calculating the values obtained in normal operation
> correctly, because you are mixing peak and RMS values.
> Let me give an example of one thing (out of several) you have done wrong.
> You assumed the average RMS grid current indicated on the meter (150 mA) is the value applied to the graph. The peak grid current is many times that value, and varies throughout the RF cycle

. ...snip...
I already know that the grid, anode, and cathode currents vary during the cycle. It is abundantly clear that this is what the constant current curves are all about. However, Eimac's grid dissipation rating is Not instantaneous watts. The grid dissipation rating is average watts.

In a post dated 3 Nov., Mr. Rauch states:
> Don't overcomplicate grid dissipation Gary. It's given simply as the
> voltage times current at any given instant of time, and the resulting
> average value of dissipation over time. I explained the calculation. It is
> approximated by taking the average voltage grid to cathode voltage over
> the portion of the cycle when the grid is positive compared to the cathode
> (you can use a polarity sensitive and dc biased RMS RF voltmeter to
> measure this), and the average current (which is measured for you on the
> meter).

Tom: you stated that that the meter-indicated DC grid current was valid in such matters. Certainly, the cathode driving voltage is a sinewave, whose peak value is around 38v, according to Eimac's graph. The RMS value of a 38v peak sinewave is in the neighborhood of 27v, is it not?

...snip...

> No. Since you obviously don't understand the dynamics of a PA, the
> dissipation is not 4.05 watts either!

According to Tom Rauch, it should be pretty close to 4.05w.

> >> And yes, it will cause the gold to ball up, evaporate and even flake
> off.
> >> And yes, Eimac will confirm this.
> >>
> >When are you going to publish this confirmation from Eimac that supports
> >your position, Mr. Rauch?
>
> QST already in effect did that on page 71 of the Sept 1994 issue Eimac's
> letter says:

There is no official letter from Eimac on page 71 in my copy of the September 1994 issue of QST. . Am I overlooking a correction or addendum that appeared in a subsequent issue of QST?
Since we are on the subject of the unique-critique by the "recognized experts" (your words, Mr. Rauch), Paul Pagel told me that although his name was on the Technical Correspondence column in the Sept. 1994 issue of QST, he had NOTHING to do with the column. Indeed, this was unique in itself. More than a few readers came away with the impression that the unique-critique was more personal than scientific. I see that Ameritron was on your "recognized experts" list.
.....Congratulations on being recognized as an amplifier expert, Mr. Rauch.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2919. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <56f1bi$pp6$1@news3.microserve.net>
Source record: 100784
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

>>The standard varactor FM modulator does not inherently add pre-emphasis,
>>so an external pre-emphasis network is used to allow PM and FM radios

Being relatively new to this NG, what is pre-and de-emphasis exactly? I know it's used in FM communications, but how and why? Why is it needed? FM commercial stations use it. Why? I'm reading this post on it and I'm kind of lost. Any help would be greatly appreciated. Thanks.
Tyler
N3SPD

2920. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-14 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001411960423310001@news.vcnet.com>
Source record: 100785

In article <19961111193400.OAA05467@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <32875267.19A9@mail.teclink.net>, "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:
>
> >Tom, what letter have you been reading? The letter that Rich is >apparently referring to says [in part] "Both have been badly overheated >internally, the apparent result of an oscillation condition." >"Oscillation condition"....."oscillation condition".....hmmm.... Do PA >tubes normally oscillate? Was he referring to the tubes oscillating at >HF? The letter says nothing about any probably cause except an >"oscillation condition". That letter does NOT say "nothing".
>
> The letter is pretty clear Tom. It mentions Rich wrote an interesting letter about parasitics. It says his tubes were overheated, the "apparent result" of an oscillation condtion.
>
ï¿½ï¿½ RE: the "Interesting Letter" Mr. Foote refers to:

Along with the two, kaput tubes he asked me to send him, Mr. Foote requested that I note any anomalies in the amplifier. One of the more curious things I found was in the MLA-2500's VHF parasitic suppressors. I would have missed this if it hadn't been for an old-timer named 'Digger', W7MOI (RIP). Digger told me that he had seen parasitic suppressor resistors that looked perfect on the outside, but were damaged on the inside. Sure enough, the 100 ohm suppressor resistors were pristine on the outside, but their measured resistance had increased to roughly 400 ohms.

I had seen many carbon-comp resistors that became out of tolerance. The outside of such resistors typically showed signs of overheating, such a bubbling and/or cracks in the molded case, along with discolouration of the marking bands. In my opinion, something pretty strange must have happened to the suppressor resistors. Whatever it was, it must have been Potent and it must have been Quick. Since the suppressor resistors were paralleled with an inductance of less than 0.1 microHenry, which was made out of copper bus wire, it SHOULD have been pretty obvious that a DC arc or 3-30 MHz AC was not involved in damaging the resistors. When Mr. Foote told me about the oscillation condition that had been responsible for gold-sputtering damage to 8877s, the lights finally came on.
---
e-mail copy to Mr. Rauch.

--
--Rich-- ag6k, 805.386.3734

2921. Re: newbee help: What is RIT and VFO?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.94.961115001528.6008B-100000@primeline.net>
Source record: 100637

On 13 Nov 1996, tyler wrote:

#Although I've been a ham for a while, I don't have any HF gear and am
#wondering what an RIT control is on the front of some rigs? Also, my Allied
#communications receiver has an RCA plug on the back with the letters VFO above
#it. Is this Variable Frequency Oscillator? If it is, what is it used for
#exactly? Any help would be greatly appreciated. Thanks
#73 de N3SPD Tyler

RIT: Reciever incremental Tuning. This allows you to finetune your VFO
a few Khz on recieve (some radios have an XIT ,same thing on Transmit)

VFO: Variable frequency oscillator. is the main frequency control for
whatever band you are using. They are built to be rather stable as they
help determine the transmit frequency as well as the recieve.

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

2922. Need Help with MIC wiring

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: gradyr@mindspring.com
Message-ID: <gradyr-1511962130010001@user-168-121-178-82.dialup.mindspring.com>
Source record: 100638

I was wondering if any of you Homebrew Hams could help me a bit.

I have a TRC-469 CB Radio that I would like to hook up a radio shack power Mic to.

The radio's internal's is labeled Uniden.

The radio's microphone jack has 6 wires coming out. A red, black, blue, white, yellow and solid copper.

The standard microphone has an up and down button for channel changes. These are controled by wires white and black. The copper wire is the shield.

The Radio Shack power Mic has a funky DIN Plug on the end of it. With a total of 5 wires that have been identified and labeled as follows:

Wire Color Receive Transmit
==========
Copper pin #1 Shield/Ground Shield/Ground
Red pin #2 Connected to Pin #4 Floating Free
White pin #3 Floating Free Grounded to pin #1
Yellow pin #4 Connected to pin #2 Audio "hot"
Black pin #5 Grounded to pin #1 Floating Free

So the question is, what wires do I hook up the red,blue,yellow wires of the radio to? How would I go about finding out if you don't know? Learning as I go along and having a blast!

TIA,
Grady

2923. Palomar Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: fred.vobbe@wlio.com
Message-ID: <9611151356.0JL2U00@wlio.com>
Source record: 100639

Does anyone have any schematics for the old Palomar tube amplifiers that CBers were using in the 70's? They were the gray box, with about 100+ watts out for 5 watts in.

I would love to get some schematics/diagrams on them, or any amp in the 100-500 watt class that takes about 5-10 watts to drive.

Another ham and I are looking to build from scratch an amplifier for 6 meter use. We were looking over the ARRL diagrams, and got on the subject of those amplifers. I recall a ham in the town where I lived got one of those amplifiers from a CBer that was getting out of the hobby in 1976, and was able to modify the input output tuning for 6 meters, and it worked great.

I would be glad to trade an official NBC 96 Atlanta Olympics poster for a set of prints. I only have 5 left. These are the 3'x2' posters they were selling for $19.95.

Fred Vobbe, W8HDU

+---+
| Frederick R. Vobbe Editor: DX Audio Service |
| Chief Engineer WLIO TV National Radio Club, Inc. |
| NBC Channel 35 Medium Wave DX Listener |
| 1424 Rice Ave Rptr: 443.625+, 145.370-, |
| Lima, Ohio 45805-1949 53.630- pl 100hz |
| Fax: 419-229-7091 Email: w8hdu@wlio.com |
+---+

... W8HDU@WLIO.COM
___ Blue Wave/QWK v2.12

2924. Re: Hybrids Information / Video Preenphasis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: bb@tisc.com
Message-ID: <56ids5$a70@taxis.corp.titan.com>
Source record: 100640

>In article <199611141453.MAA10066@netra01.origin.com.br>,
>Marcus Ramos <mramos@originet.COM.BR> wrote:

>snip....

>>Other subject: I did a video amplifier to an 10.25GHz Gunnplexer,
>>and added pre-emphasis to it. With some Jerrold TVRO satellite
>>receiver, worked fine, "almost" flat from 15KHz to 4.5MHz.
>>But I want to be shure about the correct values for a 525 line
>>pre-emphasis (the CCIR values). I don't want to have as a stan
>>dard the Jerrold de-emphasis circuit.
>>
>>Any help? Thanks in advance es Best Regards.
>>
>>Marcus Ramos, PY3CRX
>>mramos@originet.com.br
>>

525 line pre-emphasis

75 ohm source----|-------274 ohm-----|-------------|
|-------3085pf--------| 75 ohm
| | termimaton
| | |
75ohm 75ohm Ground
| |

|
|
18.7ohm
|
17.35uh
|
Ground
I have the 625 line if you need it!
Bill
Kc6yox

2925. Re: WANTED: references to WWV receiver projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-151196122458@160.205.37.115>
Source record: 100641

In article <3288D276.2781E494@bnl.gov>, "David \"Scott\" Coburn"
<scott@bnl.gov> wrote:

> I am looking for references to WWV receiver projects. Articles, circuits
> in books, etc. If anyone has actually built such a beast and would like
> to chat about it that would be great also. I know you can buy radio-
> clocks that do this (WWVB...), but I'm in this for the learning
> experience.

> Thanks much,

> Scott

Scott, first you might want to look at NIST Special Publication 432 if you
want to gain insight into the data formats used by the WWV and WWVB
services. HTMLized versions of NIST SP432 can be found at:

http://www.boulder.nist.gov/timefreq/

or http://glen-ellyn.iit.edu/~clocks/clocks/clocks.html

as an alternate site.

I'm not quite sure what you intend to do w/ a WWV/WWVB project, but perhaps
what follows will be of some help.

Since you're on Long Island, I'm not sure if WWVB reception will be
adequate for your needs...you might want do a little testing w/ a suitable
VLF receiver borrowed from a friend before going ahead w/ a WWVB project.
If you want to try a WWVB project, Don Lancaster had a pair of articles in
the August & Sept. 1973 issues of Radio-Electronics magazine describing
such a project; his project was intended to be integrated w/ his previous
Superclock III project (see the July & August 1972 issues of
Radio-Electronics) to create a self-setting digital clock. Both projects
have parts which now fall into the "unobtainium" category, so you might
want to treat Lancaster's work as more of a reference. Another WWVB
project alternative can be found in the Jan. thru March 1994 issues of 73
magazine, in a series of articles written by Bob Roehrig, K9EUI. Bob's
project is more oriented towards using the WWVB service as a means of
frequency standard calibration, but the receiver circuitry could be easily
adapted for use w/ a decoder. I've built the receiver & frequency
comparator portions of K9EUI's project, and they do work. There is another
WWVB project described in Ham Radio magazine from sometime in the
mid-'80s; unfortunately I don't have the article citation at hand.

If you want to try a WWV project, IMO the receiver portion is a snap.
Hamtronics (65 Moul Rd., Hilton NY [can't remember phone # or zip code!])

sells a crystal-controlled WWV receiver kit for I think about $60.00 which has gotten at least one positive review in the Ham radio press. An alternative would be one of the varactor-tuned SWL receiver kits sold by Ramsey Electronics (look for their ads in Electronics Now, Popular Electronics, Nuts & Volts, etc.), but I would speculate that the Ramsey receiver isn't as selective as the Hamtronics unit. Then there's always the alternative of using some used commercial SWL receiver, but it'd probably need to be dedicated to WWV reception. Decoding the WWV format is a bit more complicated than the WWVB timecode, but certainly IMO within hobbiest capabilities.

Figuring out how to deal w/ WWV or WWVB signal fading/loss may be the toughest part of the decoder design, and depending on what you want to do w/ the decoded signals you may wind up w/ a microprocessor-based solution (the old Heathkit GC-1000 "World's Most Accurate Clock" was designed around a mask-programmed 3870 microcomputer...and used a second 3870 to handle the optional RS-232 interface). Certainly it's possible to build a self-setting clock which can free run during periods of no reception w/ TTL logic gates, but a project which entails a reliable "on demand" time service via an RS-232 interface to a remote computer would be best implemented w/ some form of uP/uC/PIC.

Good luck -

TGB

\\ The opinions expressed herein are my own. //

2926. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: jmccarty@sun1307.spd.dsccc.com
Message-ID: <56iql6$7d7@sun001.spd.dsccc.com>
Source record: 100642
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <56f1bi$pp6$1@news3.microserve.net>,
tyler <tyler@cyberia.com> wrote:
)
)>>The standard varactor FM modulator does not inherently add pre-emphasis,
)>>so an external pre-emphasis network is used to allow PM and FM radios
)
)Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
)it's used in FM communications, but how and why? Why is it needed? FM
)commercial stations use it. Why? I'm reading this post on it and I'm kind of
)lost. Any help would be greatly appreciated. Thanks.
)Tyler
)N3SPD

It is a noise-reduction scheme. Most of the noise in FM systems is what might be termed "high frequency" or "hiss" (similar to tape). So the high frequencies are "pre-emphasized" (i.e. get more gain than the lower frequencies). Then when played back, the high frequencies are "de-emphasized" (get lower gain). This raises the overall signal/noise ratio.

Similar schemes are used in tape decks, and on vinyl records (RIAA equalization, also called 75us equalization). Dolby is a similar scheme.

Mike
--
----
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

I don't speak for DSC. <- They make me say that.

2927. Re: Can I flash the getter again?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: mays@indigo
Message-ID: <56gd9v$qvc@mark.ucdavis.edu>
Source record: 100707

Depends on the tube, depends on the use. It's common to rebuild higher power tubes and there are companies that do it. Getters do the same basic thing with various differences per design application. Most cases make it a one time flash. Sometimes that "flash" is operation in/with a special gas atmosphere.
A more conventional approach would be to learn more about the various effects of raising and lowering the fillament voltage. There is an entire science to the fillament voltage (way to much for this reply) and it's effects on the operation/emission of the tube. I'm relating this to the smaller tubes which are not normally rebuilt. I've purchased rare/expensive tubes and varied the fillament based on the remaining emission. The tube is still in continous service at it's normal operating parameters. I just keep a closer eye and tighter controls on it.

Best Luck
Skip May
mays@indgo.ucdavis.edu

Bob Mueller (IFF161@DJUKFA11.BITNET) wrote:
: If a tube develops gas problems can the getter be once more fired to pick up
: the gas and rescue the tube (assuming it is a type expensive enough to justify
: the effort.)?

: Bob

2928. Re: HELP:TNC Radio interfacing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: mays@indigo
Message-ID: <56gdes$qvc@mark.ucdavis.edu>
Source record: 100708
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Contact TAPR (Tuson Amateur Packet Radio), they have a web page. Their one of the ones who started all the packet mess and they have projects and information avail for 9600 packet.

73's
Skip May WV6F
mays@indigo.ucdavis.edu

Gabe Nemeth (gabe@bnr.ca) wrote:
: Hi, and thanks for reading;
: I'm interested in information (Books, Web Pages, etc) that detail
: to any degree the interfacing of 9k6bps TNCs to FM radios. Does
: anyone have or know of a source of this type of information?
: Perhaph there is a circuit cookbook showing how it is all done.
: Gabe Nemeth VE3SLJ. <gabe@bnr.ca>

2929. Re: reference for make a device folowing a radio signal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <56gc1e$94a@news05.deltanet.com>
Source record: 100709
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.misc,sci.electronics.misc,alt.electronics.analog.vlsi,rec.radio.amateur.homebrew

Eric Gagnon (egagnon@sie.qc.ca) wrote:
: I want to make some device able to folow radio signal in 1/4 mile

: distance

: if the signal is backward the receiver lit LED backward

: if the signal is forward the receiver lit LED foward

: if the signal is from left lit left LED

: and the same for right.

: some people know how to make that device.

: or where can i find a documentation on this?

: Somebody say is a doppler RDF receivers.

I said that it's a doppler RDF receiver. I also said that the newsgroup
to find more information is the rec.radio.amateur.homebrew or similar
ham newsgroup.

: Tanks for rapid respond.

--
#==#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

2930. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: bc984@lafn.org
Message-ID: <56h5cl$k4l@zook.lafn.org>
Source record: 100710
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

In article <01bbd141$bc5224c0$569300c7@marino.tech.infi.net>,
ke4kik@norfolk.infi.net says...
>
>This is the Hamtpon Roads Radio Association web site you may be interested
>in. We are located in Norfolk Virginia. Let me know what you think!
>
>Eric KE4KIK 73!
>
>http://www.infi.net/hrra
How much do your ISP charge for home page? I'd like to build a Web site for
an open repeater club. 73!

2931. Re: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <328C2BB0.163@rcru.rl.ac.uk>
Source record: 100711

the2x4@aol.com wrote:
>
> In article <32883A56.415E@rcru.rl.ac.uk>, Mike Willis <mjw@rcru.rl.ac.uk>
> writes:
>
> >>
> >> That's not the main problem, though. When I turn on the amp, you can
> see
> >> a blueish glow inside of the tube. It can only be noticed when it's
> dark,
> >> and is hard to see because of the cera
> >
SNIP
>
> Carl

Carl, I did not write this. Please be more careful in future.

2932. Re: More Grid stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov15.091053.13710@ke4zv.atl.ga.us>
Source record: 100712

In article <9610138479.AA847925048@mails.imed.com> mack@mails.imed.COM writes:
>Well, I finally got through a 10 more digests. I think I'm up to 11/5
>now. This topic has generated a bunch of bits!
>
>Tom has quite correctly stated that the kinetic energy is the
>*primary* heat producer. This is the same effect that accounts for
>the lion's share of heat produced in the anode. Gary's analysis
>sounds good in terms of there being very little energy due to the 100
>EV for each electron, but when you consider that 150 mA is a *lot* of
>electrons it quickly adds up! Looked at another way 150 mA into a
>grid at 100V is no different than 150mA into the plate of a receiving
>tube at 100V anode potential. Its still 15W either way.

Not necessarily. The heat energy (joules) imparted to a resistance is
I^2*R*t. The heat energy (joules) due to kinetic strikes is M*V^2*t.
They are not necessarily equivalent. The mass of an electron is 9.1e-31
kilograms. There are 6.24e18 electrons per ampere, or 9.36e17 electrons
per second in a .15 A current flow. That gives a total mass of 8.5e-13
kilograms per second for the current flow. The question is then, what's
the electron velocity in the vicinity of the grid?

If it is less than 5.5e6 m/s, the kinetic energy will be less than the
I^2*R value. But the electron velocity in the vicinity of the grid should
be about 1.3e4 m/s since the potential has had such a short distance to act
in accelerating the electron, about 0.0025 meter. That makes the kinetic
energy contribution over 10,000 times less than the I^2*R value.

Either that or I've analyzed the acceleration rate backwards, and the
kinetic impact energy is 10,000 times the I^2*R loss. In either case,
however, they aren't equivalent.

Note, I said earlier that the energy at the grid is 100 eV, but that's
wrong. An eV is the energy an electron gains falling a distance of 1m
through a potential of 1 volt. The distance is much shorter here, so
the kinetic energy gain is less as well. Or is it more? It's late and
I'm not sure.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2933. Schematic entry, Board layout, and/or Autorouting Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@LaRC.NASA.gov>
Message-ID: <328C69A2.6149@LaRC.NASA.gov>
Source record: 100713

Hi,

Thanks for reading this. I'm looking for Schematic entry, Board layout, and/or Autorouting Software for the PC. I have access to the real tools (Cadence, OrCAD,...) here at work but I want something affordable for personal use at home. SPICE based simulations would be a plus but are not required. Actually I would not mind several different packages if they all worked reasonably well individually and I could easily trasfer files between them. Bottom line, I'd like to hear what folks out there are using that is reasonably priced (I'm not going to spend $14K for OrCAD at home no matter how much I like it or feel the price is reasonable). So, keep the dicussion focussed to "low price" software please.

Thanks,

KO4LW
--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

2934. ATV Equipment, I wish to construct.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: adatghc@aol.com
Message-ID: <19961115134600.IAA21759@ladder01.news.aol.com>
Source record: 100714

I would like to make a ATV transmitter and downconverter. I am willing to use surplus equipment. I have an old military tv transmitter but I think it will never be able to put out color as the voltage swing would have to be to high. I would like plans for scratch built as well as ideas for used/surplus and modifications. As this will be an interesting project if it gets off the ground I would like the responses to this post to be in this forum. E mail is ok too.

Thanks.

Andrew

2935. Re: Can I flash the getter again?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961115135301.IAA21872@ladder01.news.aol.com>
Source record: 100715

In article <96319.212742IFF161@DJUKFA11.BITNET>, Bob Mueller
<IFF161@DJUKFA11.BITNET> writes:

>
>If a tube develops gas problems can the getter be once more fired to pick
up
>the gas and rescue the tube (assuming it is a type expensive enough to
>justify
>the effort.)?
>
>
>
> Bob

Hi Bob,

Don't know what type of tube you are talking about. Small receiving tubes
are initially gettered, big TX tubes are heated and pumped down.

3-500Z's are pumped for several hours, and they also have the gettering
material coated on the anode. So the anode must run red or near red to
activate the getter.

External anode tubes usually have the getter on the end of the filament or
cathode, so they will getter with no HV.

73 Tom

2936. 3-500Z's - whats the difference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Duncan Clark <Duncan@dnamp.com>
Message-ID: <3+k1jAAGoIjyEwsf@dnamp.com>
Source record: 100716

Hi Folks,

There are a number of different 3-500's on the market from genuine Eimac to 'pretenders'. These 'pretenders' are less expensive so what is the catch? Worse perfomance, prone to failure, won't work on 6m or can they used without problems. I am asking on the basis that in the UK we can only run 400W PEP output so they don't get run to the hilt. A single 3-500 run conservatively is more than enough for our licence regs. Given that we tend to pay in pounds what the US pays in dollars ie 1:1 exchange rate (not 1.6:1!), can we safely use non-Eimac 3-500's.

Duncan
G4ELJ

The problem with being on the cutting edge is that you occasionally get sliced from time to time....

Dr. Duncan Clark
DNAmp Ltd.
TEl/FAX 01252376288
http://www.prestel.co.uk/dnamp
http://www.genesys.demon.co.uk

2937. Re: Schematic entry, Board layout, and/or Autorouting Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Dave Hills <dhills@onramp.net>
Message-ID: <328C82AC.3AAE@onramp.net>
Source record: 100717

Joseph M. Zawodny wrote:
>
> Hi,
>
> Thanks for reading this. I'm looking for Schematic entry, Board
> layout, and/or Autorouting Software for the PC. I have access to the
> real tools (Cadence, OrCAD,...) here at work but I want something
> affordable for personal use at home. SPICE based simulations would be a
> plus but are not required. Actually I would not mind several different
> packages if they all worked reasonably well individually and I could
> easily trasfer files between them. Bottom line, I'd like to hear what
> folks out there are using that is reasonably priced (I'm not going to
> spend $14K for OrCAD at home no matter how much I like it or feel the
> price is reasonable). So, keep the dicussion focussed to "low price"
> software please.

Try *WinDraft* and *WinBoard* from "Ivex". http://www.ivex.com They are
shareware, downloadable, reasonably priced, and quite good. $30 each
for 220 pin version. Low cost upgrades for additional pins which you
can purchase by phone.

--
Dave Hills, P.E.
DH Associates
dhills@onramp.net

2938. Re: HELP:TNC Radio interfacing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Dave Maciorowski <wa1jhk@ix.netcom.com>
Message-ID: <328C8E59.4660@ix.netcom.com>
Source record: 100718
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Gabe Nemeth wrote:
>
> Hi, and thanks for reading;
> I'm interested in information (Books, Web Pages, etc) that detail
> to any degree the interfacing of 9k6bps TNCs to FM radios. Does
> anyone have or know of a source of this type of information?
> Perhaph there is a circuit cookbook showing how it is all done.
> Gabe Nemeth VE3SLJ. <gabe@bnr.ca>

Mike's Curtis's 9600 Baud Packet Handbook is a good place to start.
Get it from ftp://ftp.tapr.org/tapr/general/9600baud/96man2x0.txt

In general, crystaled radios and synthesized all-mode radios work the
best. Most of the other synthesized FM radios work, but not very well.
They may say "data ready", but they're not.

Many of us are using either TEKK radios or surplus commercial radios,
eg. Motorola Micor or Mitrek. Mod instructions for these are available.

Dave Maciorowski, WA1JHK
Colorado Repeater Association, Inc.
Serving Colorado with Voice and Data, 6-Meters to 1.2 Gig

Internet: wa1jhk@ix.netcom.com or wa1jhk@amsat.org
CRA: http://www.rmsd.com/hamradio/cra/

2939. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <10435@s55tcp.ampr.org>
Source record: 100719

Tom, W8JI gave my callsign wrongly as S59A and I am the person who thought that instantenous plate voltage can never exceed 2 x DC value as my internal model was strictly linear which is NOT the case with overdriven but lightly loaded tube (or transistor). I Measure-d my SB-220 and found RF voltages exceeding DC with antenna shortened. I almost melted output coax connector but it was worth the effort as a new insight into the actual physics was gained.
Following the claims on some fancy phenomenons from California, I got a feeling that a gentleman lives close to Hollywood. Fuse resistors call for outright disaster with their "speedy" action. At least, don't use flamable ones...
73 de Mario, S56A, N1YU.
P.S. I don't want to get involved in O.J. type proofs from certain letter!

2940. re:4cx250 glows blue-ish. ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Bob Miller <bmiller@calweb.com>
Message-ID: <328CA4FD.4A58@calweb.com>
Source record: 100720

Blue glow would appear to be a normal trait of this family of tubes. A buddy of mine, KD6QFZ, built a dynamic tube tester for this family of tubes and noted that after testing dozens of 4CX250, 4X150, 4CX350s and their 24 volt fil equivs. that all had a purple glow visable through the ceramic material. The glow varied in intensity with plate current flow and was quite bright at full rated plate current. No other abnormal conditions were noted and the tubes performed to specification in RF applications both HF and VHF. I sure would not toss the tubes based on a little inonized gas!

Bob, KE6F

2941. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: DANNY STALLINGS <wstallin@peop.tdsnet.com>
Message-ID: <328CAEBB.2A74@peop.tdsnet.com>
Source record: 100721
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

Jimmy Navarro wrote:
>
> In article <01bbd141$bc5224c0$569300c7@marino.tech.infi.net>,
> ke4kik@norfolk.infi.net says...
> >
> >This is the Hamtpon Roads Radio Association web site you may be interested
> >in. We are located in Norfolk Virginia. Let me know what you think!
> >
> >Eric KE4KIK 73!
> >
> >http://www.infi.net/hrra
> How much do your ISP charge for home page? I'd like to build a Web site for
> an open repeater club. 73!
NICE PAGE BUT TAKES FOREVERE AT 28.8 TO LAOD.
PLEASE VISIT MY HOMEPAGE AT
HTTP://WWW.GEOCITIES.COM/HEARTLAND/3764
DAN-KC4OR

2942. Re: TRIPLE OF BRUGES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: bb@tisc.com
Message-ID: <56id3a$a5s@taxis.corp.titan.com>
Source record: 100722

"Wim Moerman" <wim.moerman@icon.be> wrote:
in the usegroup rec.radio.amateur.homebrew
^^^^^
>The Triple of Bruges (De Brugse Tripel), a beer of the brewery De Gouden
>Boom (The Golden Tree) was awarded the Great Golden Medal 96 from the
>International Institute for Quality Selections. ^^^^^^^^^^
Does this make Amateur radio an olimpic sport??

>The brewery received the award during a session of the jury in Lisbon,
>Portugal.
Was the jury deciding somthing about the WARC 97 confrence:

>The jury praised the rich bouquet of the beer as well as its excellent
>composition.
Does this mean the jurry has decided its safe to drink and contest?

>The jury based its decision not only on taste, but also on laboratory
>anlysis, which gives the contest an objective character.
When i drink it usually comes out the same color to.

>For reactions please contact me on
>wim.moerman@icon.be

Or maby he had to much brew before making this posting 8^>
Im sure it was a simple mistake, as was this reply
Bill
Kc6yox

2943. Re: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001511960826190001@news.vcnet.com>
Source record: 100723

In article <Pine.PCN.3.91.961111150959.7898B-100000@[130.115.53.199]>,
Peter Dingemans <129432pd@mstore.eur.nl> wrote:

> G'day everyone,
>
> A couple of weeks ago I built an amplifier, using a (surplus) 4cx250. The
> problem is: it doesn't work (much). Guess the coils/cap's aren't in the
> band yet.
>
> That's not the main problem, though. When I turn on the amp, you can see
> a blueish glow inside of the tube. It can only be noticed when it's dark,
> and is hard to see because of the ceramic envelope, but is definitely
> there. When I increase anode-current, the glow gets brighter.
>
> I vaguely remember reading something about this a long time ago; in that
> article, they said it was because of poor vacuum. Could this be right,
> i.e. that the tube suffers from poor vacuum? Or am I guessing in the
> completely wrong direction, and is there a blue glow in every VHF power tube?
>
> Hope someone has an answer to this,
>

There are two reasons for a blue glow on a ceramic envelope. The first
reason is ionizing air--i.e., a gassy tube. The second reason is electrons
striking the inside of the envelope. If a blue glow can be seen during
receive, the tube is gassy. If the blue glow occurs only during transmit,
not to worry. The vacuum is good.

When using low screen voltage tetrodes like te 4CX250..., it is important
to use the shunt-type screen V regulator because of the imminent danger of
reverse screen current. A sample circuit can and discussion thereof can be
found at my Website:
the URL is
http://www.vcnet.com/measures/

NOTE: tubes made with manganese-bearing ceramic envelopes (Svetlana and
RCA) are much less likely to glow. Manganese-bearing ceramic can be
identified by a purple colour---as opposed to the white color of pure
aluminum-oxide ceramic material used by other manufacturers.
Manganese-ceramic improves the flowability of the silver-solder that is
used to bond the ceramic envelope to the metal seals.
----
e-mail copy to Mr. Dingemans

--
--Rich-- ag6k, 805.386.3734

2944. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <328CD626.794B@pactitle.com>
Source record: 100724
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

Jimmy Navarro wrote:
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> In article <01bbd141$bc5224c0$569300c7@marino.tech.infi.net>,
> ke4kik@norfolk.infi.net says...
> >
> >This is the Hamtpon Roads Radio Association web site you may be interested
> >in. We are located in Norfolk Virginia. Let me know what you think!
> >
> >Eric KE4KIK 73!
> >
> >http://www.infi.net/hrra
> How much do your ISP charge for home page? I'd like to build a Web site for
> an open repeater club. 73!

Check out http://geocities.com
You can get "free" homepages there!!!
73....
--
Dave Booth kc6wfs
http://www.geocities.com/Hollywood/5860/

2945. Re: 70cm PLL projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Don Labriola <dplabriola@ccgate.dp.beckman.com>
Message-ID: <328CDF9E.2D2@ccgate.dp.beckman.com>
Source record: 100725

Steven Kerns wrote:
>
> Check out the Proceedings of Microwave Update '89, avaliable from
> the ARRL (check out their web page). Pages 179 - 184 describe a
> 500Mhz to 1Ghz circuit that could be modified (or mixed) to get
> you to the 70cm band.
>
> 73 Steven Kerns N3FTI
>
> In article <55qt5t$388@freenet-news.carleton.ca>, ae517@FreeNet.Carleton.CA
> says...
> >
> >
> >Could anyone provide some references to recent construction articles
> >pertaining to 70cm or UHF PLL oscillators?
> >
> >Any tips would be appreciated.
> >
> >tnx de va3rr/aa8lu
You might check out http:\www.natsemi.com and look for their PLLatium
line of PLL's. They go all the way to 2GHz. Application notes might give
a good lead. Most of their parts are available for 1 or 2 samples (right
through their bulletin board). Have fun!

73's de W6QS Don .... No affiliation with Nat Semi. Opinions are my own.
Usually!

2946. Re: Beefing up a twin 3-500Z amp...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001511960734140001@news.vcnet.com>
Source record: 100726

In article <56bn3j$qn2@vtc.tacom.army.mil>, wx8l@vtc.tacom.army.mil (Sean McCarthy) wrote:

> Anyone have any experience beefing up a 2 X 3-500Z amp? (Drake L4-B)
>
> I'm wondering what the best power supply configuration would be for
> maximum capability.
>
> Thoughts so far are 3500V @ 1A CCS using a Dahl Hypersil.
> (multi tap or variac for adjustment???)
>
> Any insight or preferably experience would be apprieciated.
>

I know some hams who were successful in using 4kV in the Drake L4-B. The factory-stock bandswitch, tuning capacitor, and blocking capacitor can withstand the increased voltage. With a triode, increasing the anode supply voltage means increased gain. This means that the 3-500Zs can be driven to full output with around 100w instead of the typical 125w. There is, however, a trade-off to more gain.

Even though intermittent vhf parasitic oscillation is rare in the L4-B, with a substantive increase in supply voltage--and gain--, more instances of such oscillation have been reported. This problem can be lessened by using lower vhf-Q parasitic suppressors. With lower vhf-Q suppressors, the vhf load R on the anodes decreases. Less vhf load R means less vhf gain, and improved vhf stability. (see "Parasitics Revistited" in the Sept. and Oct. 1990 issues of QST.)

Another problem is that the factory-stock relay in the L4-B is not quick enough to keep up with modern radios. Thus, high speed t-r switching is needed to avoid hot switching. See the Jan. 1994 issue of QST magazine, "The Nearly Perfect Amplifier". Additional info on high speed switching can be found at my Website. Info on the somewhat-surprising pep capabilities of Peter Dahl's Hipersilï¿½ transformers is also available. See *Amplifiers*..... the URL is
http://www.vcnet.com/measures/

A multitap secondary HV transformer is the most efficient and cost effective means of reducing the anode supply voltage. Peter Dahl charges little for each additional secondary tap. For CW, RTTY, and FM, a 60% secondary tap is about right.
---
e-mail copy to Mr. McCarthy

--
--Rich-- ag6k, 805.386.3734

2947. Re: Need schematics for 2 meter amp!!! Help new ham!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: "Richard F. Gillette" <r.f.gillette@ieee.org>
Message-ID: <328CF6A5.B10@ieee.org>
Source record: 100727

Call Communications Concepts, Dayton OH. They have nice kit/s
513-426-8600, ck if they have email, I did not. W9PE

--
Richard F. Gillette P.E., Board Member, Harper C.C. \\////
RF gillette inc. PO Box 1605, Palatine, IL 60078-1605 (OO)
r.f.gillette@ieee.org, v)847-526-2626, f)847-526-2944 oo00=={}==00oo=

2948. New Eimac 4CX250A and Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <19961115230800.SAA01576@ladder01.news.aol.com>
Source record: 100728

I have a new in original box Eimac 4CX250a and SK620 socket.

Will sell both for $75 postpaid

Email to

pbunn624@teleplex.net

2949. @@@@@ FT-51R - Looking for 200/800/900 Mhz mods -HELP! @@@@@

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: "Gary E. Warnick" <kuhuna@dvsdghse.com>
Message-ID: <01bbd349$1d211000$12d594cd@max>
Source record: 100729

Please e-mail me.
kuhuna@dvsdghse.com

Thanks!!!!!
DE KE6JZS

2950. Home made paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Monty Wilson <nospam@see.signature.part>
Message-ID: <E0xoJH.E27@twisto.eng.hou.compaq.com>
Source record: 100730

I would like to put together small and inexpensive iambic paddles for the car. I use a Brass Racer at the house but I wanted to see what I could put together myself for mobile use. I'm experimenting with double-sided copper PC board from Radio Shack, but it is very thick and doesn't have much "flex" to it, so I'm afraid if I proceed with that plan my hand will become fatigued if I use it long.

I'd like to find some material I could use for switches that wouldn't take too much force to actuate and could last many thousands of closures and openings.

Has anyone invented this wheel already?

--
.........Monty.
mwilson @ flex.net (with spaces deleted)

2951. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: nrhblack <nrhblack@condate.com>
Message-ID: <01bbd345$d788ede0$46d6e9ce@nrhblack.mpath.com>
Source record: 100731
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

R. L. Measures <measures@mail.vcnet.com> wrote in article
<measures-ya023180001211961704110001@news.vcnet.com>...
> In article <55remb$9ik_002@ppp22.arcos.org>, tunedin@arcos.org (.) wrote:
> Failing that, I am going to sue
> > >you in the District of Columbia for libel.
>
> In California, it is against the law to threaten to sue.
>
> --
> --Rich-- ag6k, 805.386.3734
>

hmmm, interesting, I'm not finding that!
California's laws are in the hierarchy starting at
http://www.leginfo.ca.gov/calaw.html
Perhaps I have overlooked the relevant code?

Henry Black G4NOC

2952. Re: Vibroplex web page up...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: "Mitch, W4OA" <w4oa@vibroplex.com>
Message-ID: <01bbd34c$838c3600$3900cace@michelle>
Source record: 100732
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

Mitch, WA4OSR <w4oa@vibroplex.com> wrote in article
<327A9C39.6632FF49@vibroplex.com>...
> The Vibroplex web page is now up at-
> http://www.vibroplex.com
>
> check it out, and give me your feedback...
>
> thanks,
> mitch
> --
> -------- * * * VIBROPLEX - The oldest name in ham radio! * * ---------
> Felton "Mitch" Mitchell, WA4OSR The Vibroplex Co., Inc.
> w4oa@viborplex.com 11 Midtown Park, E.
> 334-478-8873, FAX 334-476-0465 Mobile, AL 36606-4141
>

oops, gave my wrong email address... correct address is:
w4oa@vibroplex.com or
fmitch@maf.mobile.al.us

mitch, w4oa

2953. DSP IF query.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: BOB DUCKWORTH <bob@atl.org>
Message-ID: <328C9C39.F15@atl.org>
Source record: 100733

Been off the net for a couple of months.

Curious as to the state of the art in I.F DSP for RX, TX, and TXR
projects.

I know WJ has a the HF1000 but have no details.

How is A/D being done? Parts?
What sort of IF freqs?
What sort of roofing filters?
Dynamic range and intermod?

Algorithms!!!!
DSP processors???
(Any of the telco stuff being used?)

Anybody building anything with DSP IF?

-bob
WB4MNF
bob@atl.org

2954. Re: 12v antenna rotator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: "Robin E. Midgett" <rmidgett@edge.net>
Message-ID: <328D5E0D.951@edge.net>
Source record: 100734

Raymond Ciaccio wrote:
>
> Jeff Groberman wrote:
> >
> > I want to use an antenna rotator at our cottage. We only have 12V DC.
> > Does anyone have a plan for, know of, want to sell a 12 volt antenna
> > rotator?
> Try using an old wiper motor off a car. You my need to drop the voltage
> some to slow it down. Idea from "73 Amateur Radio Today" mag. November
> issue 1996, Page 61.

One option is to use a small inverter; my partner & I run an old CDR
rotator on a 150Watt inverter along with 3 flourescent lights in a van
set up for VHF+ contesting; the added convienence of the inverter is
great. They are available at Walmart for $60-$80.
--
73, Robin KB4IDC

2955. 6 Meter 100 watt Amplifier Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: pbunn624@aol.com
Message-ID: <19961115231300.SAA01637@ladder01.news.aol.com>
Source record: 100735

I still have a few PC boards and parts kits for the 6 Meter 100 watt amplifier I published in QST in Oct. 1990. Ten watts in , 100 watts out.

Kit includes PC board and all board mounted components, Add a $10 die cast box, two mini toggle switches, and a heat sink and you choice of RF and Power Connectors for a 100 watt "Brick for Six"

Kit is $125 postpaid to US and Canada

Pat Bunn, N4LTA

Email pbunn624@teleplex.net

2956. Does RF Parts have web site?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-15 00:00:00 UTC
From: Allan Dobler <doblera@cadvision.com>
Message-ID: <328D64E7.468E@cadvision.com>
Source record: 100736

Hi, does RF Parts in San Marcos, Ca. have a web site?

--
73

Allan

VE6AQK@VE6YYC.#SAB.AB.CA

doblera@cadvision.com

You should always be aware that statistics can be manipulated...
84% of people already know that!

2957. Re: Schematic entry, Board layout, and/or Autorouting Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961116011400.UAA03675@ladder01.news.aol.com>
Source record: 100643

In article <328C69A2.6149@LaRC.NASA.gov>, "Joseph M. Zawodny"
<J.M.Zawodny@LaRC.NASA.gov> writes:

>Hi,
>
> Thanks for reading this. I'm looking for Schematic entry, Board
>layout, and/or Autorouting Software for the PC. I have access to the
>real tools (Cadence, OrCAD,...) here at work but I want something
>affordable for personal use at home. SPICE based simulations would be a
>plus but are not required. Actually I would not mind several different
>packages if they all worked reasonably well individually and I could
>easily trasfer files between them. Bottom line, I'd like to hear what
>folks out there are using that is reasonably priced (I'm not going to
>spend $14K for OrCAD at home no matter how much I like it or feel the
>price is reasonable). So, keep the dicussion focussed to "low price"
>software please.
>
> Thanks,

I have just finished a product review for WinBoard and WinDraft
by IVEX (these programs are also offered by NTE!)

I liked both programs!

If you use OrCAD, you will be happy to note that the OrCad
libraries may be imported into these programs. The programs
are available as demo "shareware," with a 100-pin limitation.
Otherwise, you pay-for-what you need; and can upgrade by
purchasing a new serial number.

My product review of the IVEX programs will appear in the upcomming
Winter issue of Communications Quarterly Magazine, and also were
mentioned in my Radio Connection column in the Oct. Popular
Communications Magazine.

Peter Bertini, K1ZJH
Senior Technical Editor -- Communications Quarterly Magazine
The Radio Connection -- Popular Communications Magazine

--proud members of the CQ family--

Peter

2958. IC-736 Computer Control

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: John Luebs <jkluebs@sprynet.com>
Message-ID: <01bbd368$0cfa2440$fdefaec7@76714610>
Source record: 100644

I have an IC-736 HF/6 rig. I'm building a simple CI-V interface out of a 7805, MAX232, and 5-1uf caps. I know that the connection on the radio is a 1/8 inch stereo jack. How are the wires (RX,TX,GND) connected to the plug?

Thanks
John Luebs

2959. Is it possible to modify a "Rabbit" for ATV?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: "Jon Arndt (N0SGM)" <holmes@concentric.net>
Message-ID: <01bbd36f$f9097dc0$b271adce@default>
Source record: 100645

1. Is it possible to modify an ordinary "Rabbit" for ATV use?
2. Can the receiver module be modified to tune across the entire 902 Mhz band?
3. Can the transmit module be modified to xmit in the 1200Mhz band by multiplying the IF differently?
4. If the above is possible can the receive module be modified to tune the 1200 Mhz band?

Any suggestions would be appreciated.

Jon Arndt (N0SGM)

2960. Re: 3-500Z's - whats the difference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961116052900.AAA08128@ladder01.news.aol.com>
Source record: 100646

Hi Duncan,
In article <3+k1jAAGoIjyEwsf@dnamp.com>, Duncan Clark <Duncan@dnamp.com>
writes:

>There are a number of different 3-500's on the market from genuine Eimac
>to 'pretenders'. These 'pretenders' are less expensive so what is the
>catch?

If you ran low HV and dissipation, I think you could get away with the
Chinese 3-500Z's. If not, be careful.

You can have problems with any brand, even Eimac went through periods of
internal gas and weld problems, but all in all the tubes made by Amprex
and Varian are many times better than Chinese 3-500Zs.

The Chinese tubes have poor fitting components (like anode connectors),
gas troubles, and weak envelopes. Emission drops rapidly, and the anodes
won't stand 500 watts of dissipation for long. Even if the anode does, the
glass fails. I still look at samples on occasion, and they are improving..
but they still have a distance to go.

73 Tom

2961. ***FOR SALE*** Satellite Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: newsat@ix.netcom.com
Message-ID: <56jj4o$gc6@dfw-ixnews10.ix.netcom.com>
Source record: 100647
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,

Used

Toshiba TRX 80 with VC2+ $275
Panasonic 4500 with VC2+ $275
VC2+ descrambler $150

Receiver/VC2+/new fedhorn/new 20 degree LNB/new 24" actuator/new
7.5' Perfect Ten mesh dish Complete system for only $625

E-mail reply please Thanks, Maura

2962. Visit www.hamradio-online.com - always something new

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <56jjf0$48h@kanga.accessone.com>
Source record: 100648
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Due to other obligations and the worst case of the flu virus in 23 years, updates to our Ham Radio Online web site have been a little slower than normal this month. But we are still busy adding new stories:
- just added an overview of GPS and GLONASS navigation technologies
- We've republished an excellent article from Richard Perez of Home Power Magazine detailing what happened with lightening blew out radio telephone service and started a forest fire - and the surprising role that ham radio operators played in controlling the fire.
- For history buffs, we're running a story on the importance of Morse Code back in 1871 during the Great Chicago Fire.

And as usual, we have real-time propagation and aurora condition reports, disaster situation reports, equipment info, links to other sites, and so much more.

Ham Radio Online is a self funded, classy online "magazine" devoted to ham radio. Stop on by and enjoy at http://www.hamradio-online.com

We should be back to our regular update schedule very soon.

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

2963. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
Message-ID: <328D6AA9.1B01@TECLink.net>
Source record: 100649

> If you look at other threads in this homebrew area, you'll find Ray Mack
> who observes this effect. Here's what S56A posted:
>

Tom, Rich didn't ask "who else has seen the effect", he said
(paraphrased) "it's funny that ***EIMAC*** didn't write about it in
their material".

Please address *his* comment.

> In article <328A56CD.C5A@mail.teclink.net>, "Tom C. Brown, Jr."
> <madison@mail.teclink.net> writes:
> >
> >Tom, it was you who said that the grid dissipation was "about 4 watts".
> >Not Rich.
>
> Tom, you have taken something far from context. I have no time for these
> little "word games".

My apology here, Tom. I don't have time for word games either. I
misinterpreted your statement to mean that the tube's rated grid
dissipation was not 4 watts, when what you were actually saying was that
"at this point" (paraphrased, and referring to some particular point on
the graph) the dissipation was not 4 watts. My fault. I misinterpreted
your statement.

>
> I think this has run its' course. If you'd like to start at the beginning
> and discuss fundamentals, I'd be happy to spend more time. But I'm afraid
> without going back to basics, we will never resolve anything.
>

OK, Tom. Let's start with something VERY fundamental:

For the umpteenth time: WHO IS "XXX" AT EIMAC THAT WROTE THE EMAIL YOU
QUOTED???

That's a pretty simple question, but you keep ignoring and evading it.

If we are going to discuss this rationally, then let's dispense with the
cloak and dagger secrecy, OK?

Rich is not hiding anyone's identity. I can't believe that you have no
idea who sent you that email from Eimac. So, please tell us who wrote
it. Why not?

That oughta be pretty simple from what I can see from here......

73, Tom KJ5IE

2964. Please Help - looking for 150MHz FM transmitter schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: erazmus@wantree.com.au
Message-ID: <56juq9$vkr@news.wantree.com.au>
Source record: 100650

Hi,

I'm looking for a schematic for a 150MHz FM transmitter for 100mW output, running off a battery DC supply from 5V to 12v and want to modulate the transmitter by a bitstream generated by a PC or micro.

Anybody know where I can find a schematic for this ??

Given the recent overload in news-groups could some-one email me ?

Rgds

Mike
erazmus@wantree.com.au

2965. Re: your LISTSERV request "help with auto tuner design"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: Listserv@ucsd
Message-ID: <199611160306.TAA25341@mail.ucsd.edu>
Source record: 100651

```
The mailing list "with" could not be found.
You may use the INDEX command to get a listing
of available mailing lists.
```

2966. Re: Club WWW site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: Slipstreem <me@infi.net>
Message-ID: <01bbd3a6$1c1cc520$569300c7@marino.tech.infi.net>
Source record: 100652
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateu

> Very cool!
>
> (it took forevvvvvvvvvvvver to load!)
>
> Ellis

Yeah, I've gotten a couple of responses to this so I tweeked it a bit but still not sure if it's any better, I think I need to make my main banner smaller as it seems a bit large I will work on this hopefully this weekend and see if it gets better. I'ma bit spoiled as I have a fast dedicated connection so I move stuff through rather quickly. Sorry for the inconvenience folks :)

Later Eric KE4KIK

2967. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: "Phil, AC6LS" <ac6ls@amsat.org>
Message-ID: <328D81DE.3623@amsat.org>
Source record: 100653
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

KW5Q wrote:
>
> I have uploaded to Simtel.Net:
> sbfft11.zip Sound Blaster spectral display and filtering
> Copyrighted Freeware. Uploaded by the author.
>
> $$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
> Kevin McWilliams
> KW5Q
> Applied Mathematician

thanks for the info, I think I will give it a try....

73 de Phil x^n + y^n = z^n AC6LS
licensed HP48 user

2968. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001611960220390001@news.vcnet.com>
Source record: 100654

In article <19961114150001.KAA22822@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Rich,
>
> In a message dated 96-11-14 05:52:20 EST, you write:
>
> >It seems a bit odd that Eimac does not discuss this alleged phenomenon in
> >*Care and Feeding of Power Grid Tubes*. Certainly, in tests performed on
> >my own amplifiers, I was unable to reproduce the incredulous peak anode
> >voltages you said would appear during mistuning of the output network.
>
> If you look at other threads in this homebrew area, you'll find Ray Mack
> who observes this effect. Here's what S56A posted:
>
> In a message dated 96-04-14 12:54:03 EDT, Mario wrote:
> >Subj: Perpetual motion
> >Date: 96-04-14 12:54:03 EDT
> >From: s56a@s55tcp.ampr.org (Marijan Miletic)
> >To: cq-contest@tgv.com
> >CC: W8JITom@aol.com
> >
> >Tom, W8JI refrained from further discussion of exotic QRO topics but in
> >a private email convinced me to repeat his tests on my good, old SB-220.
> >
> >I made simple 10/1000pF = 1:100 divider from tune cap, used 1N4148 diode
> >for a peak rectifier and achieved almost the same results as he did!
> >I was initially suspecting that some measurement error was involved...
> >
> >>I have facilities to measure PA stages, and an actual SB-220.
> >>With the amplifier in the SSB position on 7 MHz at 1100 watts output I
> >>measured 2.4 kV peak on the tuning cap. When I mistuned the amp by fully
> >>meshing the loading cap and adjusting the tuning cap for maximum voltage
> >>I measured 3.7 kV peak. The supply voltage was ~ 3kV when mistuned.

.......Tom said:
"The RF voltage in a tank can soar to several times the HV supply when the tank is underloaded."

My dictionary says:
SEVERAL: Being of a number more than two or three but not many.
Thus, several times 3kV is more than 9kV. 3.7kV is what was measured.
What is the point in citing a test that disproves your statement, Tom?
Furthermore, the cases of destructive arcing I am familiar with did not occur during tuneup.

> >Under above conditions, SB-220 tuning capacitor tested for 3.5kV may arc!

My SB-220's tuning capacitor does not arc during mistuning with 100w drive. However, with Heath's factory-stock high vhf Q parasitic suppressors, the tuning capacitor infrequently arcs, but not during mistuning, during normal operation. With lower vhf Q suppressors, this is not the case. Why do we need higher vhf Q if we are trying to build a vhf dampening device, Tom?

Tom has argued that virtually all of the vhf current passes through the suppressor resistor, and that virtually none of the vhf current passes through the suppressor inductor. Is this the case? In a typical 8877 vhf parasitic oscillation suppressor, the resistance is around 50 ohms and the inductance is roughly 45nH. A typical anode resonant frequency for an 8877 amplifier is about 100MHz. The reactance of a 45nH inductance at 100MHz is 30 ohms. If a 50 ohm resistance is connected in parallel with a 30 ohm inductance, which component will carry the most current, Tom?

Tom: What is the identity of Eimac's Mr. XXX? Why does Mr. XXX list a bogus e-mail address?

---

e-mail copy to Mr. Rauch

--

--Rich-- ag6k, 805.386.3734

2969. Re: 4cx250 glows blue-ish: what's wrong?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: rdcole@mindspring.com
Message-ID: <56kgd7$qge@camel2.mindspring.com>
Source record: 100655

Peter Dingemans <129432pd@mstore.eur.nl> wrote:

Peter,
For what it's worth, I found that 4CX250B tubes would become gassy in about 6 to 8 months of operating in a broadcast enviroment. Since these are surplus tubes that may be the problem if they were used. I used a bunh of Surplus tubes but they were new in the sealed can when I put them in the transmitter. As to the Blue Glow, I never looked at a 4CX250 when operating as they were in the RF Cavity. But based on experiance with Glass tubes I would suspect a Blue glow as a gassy tube.

Ron
N5HYH

2970. FS: vac variable cap's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <328d060c.42557812@fvnews.com>
Source record: 100656

Jennings: 1000 pf fixed 10,000 volt $75 shipped
Jennings: 75 pf vaccumm variable 20,000 volts $60 shipped
Jennings <VC-50> 55 +2-5mmfds 20,000 volt $30 shipped
2 - WE 50uuf 5AMF 5,000 volt $23 each shipped
Aircraft Radio corp. <GE> 100mmf voltage ? $18 shipped

Visit my Web Page.....
==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

2971. FS: NEW OLD STOCK ARCO 304M CERAMIC TRIMMER CAP'S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <328d051d.42318888@fvnews.com>
Source record: 100657

New Old Stock (NOS) Arco 304M ceramic trimmer cap's.
100-550pf.
10 or more $1 ea. plus $3 shipping

Visit my Web Page.....
==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

2972. FS/Trade: homebrewing parts, equipment, manuals, & much more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <328d0757.42888900@fvnews.com>
Source record: 100658

THINK OF THIS AS A TRUNK SALE AT A HAM FEST.....
YOU'D MAKE OFFERS THERE, IF YA THOUGHT A PRICE WAS HIGH.....

i'm not hard to deal with.... I am not a business...just a ham who
enjoy's the hobby.
And like most ham's, accumulate alot of stuff...which i don't need. so
i use this, the Internet, to
trade or sell it.
My address & phone number, are in my sig.
if you call, and the phone is busy, it means i'm on the computer
(internet) send email
and let me know your trying to call.....(gotta get another line 8-)
****
TRADES: THING'S I'M LOOKING FOR
*I am in need of 2 - 32mb 72 pin simms 60 or 70 ns (both the same)
*flatbed color hi res scanner (1200 x 1200 or better)
*2 meter allmode base (older 10-25 watt..i.e. kenwood ts-700s, etc.)
*6 meter allmode base (same as above)
*Capacitance checker digital *must* be able to check air variables
range pf thru mmfd
* TUBES; 100TH, 250TH, 2A3,
* TUNNING UNITS TU 47 - TU 54
* BC-610E COILS & CRYSTAL BOX (BX-34-B)
* ORIGINAL MANUALS, WHAT DO YOU HAVE?
* NORTHEREN RADIO VFO MODEL 115..RACK MOUNTED UNIT☐
* EARLY HAMMARLUND, HAMMARLUND/ROBERTS, ROBERTS/HAMMARLUND
SALES LIT., MANUALS, SHORTWAVE CATALOGS
CAPACITOR CATALOGS, ECT....
*other trade items considered...email what you have & what you want to
trade for...
****

I HAVE :

elctro eng. works Modulation Reactor type e12497 21henry 1.5adc
3,000vrms 34 ohm dcr
$250
electro eng. works reactor High Voltage DC filter choke type 11654-a
3henry 360 cps
6.7 dcr ind rms 375 pk 7,500 v $150
ADC class reactor type 900304-2 10 hen. 1.0 amp dc, 350 ohm dc
res 4.0kv ins
choke 10HY @ .2ADC $150
UTC AR-409

RCA A.C. VOLTAGE PICK-UP MI-27516 $20
GE model 9T51Y6171, pri. v. 120/240 sec. v. 12/24 kva .250 80
C rise $50
magnetic control # 34321-U coil v. 115, (have 2) $20 ea.
STANDARD ELECT. adjust-o-volt type 520BU, input 230 output 0-270
max kva .81 3a $50
Filiment transformer 12.6v @ 29a $50
3x3000T1 tube marked: "rebuilt by Econco" (condition unknown) $100
(deal pending)
Condenser Products KMOC 25M005ES .05 MFD @ 25,000 VDC (NEW)
NON-PCB $20
blower 1.5 hp 3ph cabable 120 cfm $150
ceramic standoff's, feedthru's, all sizes and shapes

tunning coils, all below come with standoff's, strips/taps
used with each
sorry no extra tap connectors availible
****only have 1 of each coil****

2> EFJ $50 EDGEWOUND 24 TURNS 7 7/8" DIA COIL LENGTH 7 5/16"
INTERNAL DRUM ELECTRIC
OPERATED

3> EFJ $50 EDGEWOUND 34 TURNS 8 " DIA. COIL LENGTH 8 3/8"
NO DRUM INSIDE

4> EFJ $50 EDGEWOUND 15 TURNS 5 3/8 DIA. COIL LENGTH 3
1/8"
NO DRUM INSIDE

5> MULTRONICS $50 TUBULAR COIL 3/8"DIA STOCK 4 TURNS 8" DIA
COIL LENGTH 2 7/16"

x) = QUANITY
Magnetic breakers 2)- rated at 70 Amp's each $50 ea
Allen-Hart contactor up to 50A $30
EFJ # 145-101-13 HV contactor (rca # 1K703) $50
6A, 10A, & 30A relays $5, $5, $10

Tubes: Filiments tested good...condition unknown:
3) 4-65A 19) 4-125A/4D21/6155 2) 4-250A

RCA Part #'s: 3) 218346 n.o.s. 4) 218347 n.o.s. $5 ea.
have 120 more of above, used, mounted 20 per board, have 6
boards $25 ea board
****
Resistors all between the stars.....total approx 25..all for $29
shipped
these have the metal end caps with ceramic in between
Large 1.25" dia. x 11 7/16 L`
4) 500 WL 1) 250 ohm 1) 1600 ohm 1) 8000 ohm
1) 1400 ohm 1) 3100 ohm
Medium size: 1.25" x 7.5"

2) 80,000 ohm 1) 40,000 ohm 3) 31,500 ohm
3/4" x 5 3/16"
2) 5,000 ohm
3/4" x 4.5" 1) 8,000 ohm

1/2" x 3" 1) 6,300 ohm 1) 8,000 ohm

GLOBAR type A 15,000 ohms
OHMITE MULHI 250 ohms
35,000 ohm
IRC (2) type 4 1/2 EA 2,500 ohm 65W

****
>>> I WILL CONSIDER ALL TRADES OFFERED <<<<
>>>>>>>>> DON'T BE AFFRAID TO ASK <<<<<<<<<
>>ESPECIALLY LOOKING FOR MANUALS<<
>>>> Price's are NOT written in stone<<<<<
>IF YOU FEEL THEY'RE HIGH, MAKE AN OFFER<
****

Jennings: 1000 pf fixed 10,000 volt $75 shipped
Jennings: 75 pf vaccumm variable 20,000 volts $60 shipped
Jennings <VC-50> 55 +2-5mmfds 20,000 volt $30 shipped
2 - WE 50uuf 5AMF 5,000 volt $23 each shipped
Aircraft Radio corp. <GE> 100mmf voltage ? $18 shipped

AIR VARIABLE CAPACITORS
Still have some left, e-mail or call with your needs.
HAVE THEM WITH AND WITHOUT SHAFT'S $5 - $30 EA.

Thordarson #T-47109 xfmr. $45 +
it's taps are marked as follows:

2.5V 10A
O CT O
O

o o o
10v ct 3.25a

o o o o
5v 3a 5v 3a

o o o o
PRI 6.9v 1a

UTC XFMR # S-55 6.3V @ 3A $12 + SHIPPING
INDUCTOR 1-2 = 630T 2-3= 2200T $12 SHIPPED
CHOKE C-2987 16HY @ 50MA $10 +
CHOKE N.I.B. 6-X-3 HF 8.5 HY @ 50 MADC $10 +
XFMR 10.2 CT @10A & 10.2 CT @ 5A $20 +
FIL. XFMR 6.3 @ 3A $10 +

1 BAG OF 20 NEW CAP'S (made in USA) 1200 MFD @ 75 VDC $18.00 ship'd

RELAYS 34 total
NEW IN BOX MIL. SPEC. # MK 1007, 12 VDC, 120 OHMS, DPDT $33 shipped

ROLA HEADSET ADAPTERS - FOR HEADSETS HS-33 OR HS-38
HIGH TO LOW IMP. MC-385-A & MC-385-C $8 PR.

ALL CERAMIC ITEMS ARE PLUS SHIPPING

CERAMIC INSULATOR'S - STANDOFF'S AND FEED THRU'S TO MANY TO LIST
(various sizes & shapes)

CERAMIC COIL FORMS 15 total...all for $50 shipped
L x Dia. in inches
x / = quanity of each
2/ 5 x 1.25
1/ 5 x 2
1/ 5.25 x 1-7/16
1/ 3.5 x 1-7/16
1/ 3 x 1-11/16
1/ 2.25 x 1-5/16
1/ 4-7/8 x 2-1/16
3/ 3.75 x 2
1/ 6-3/8 x 2
1/ 6 x 3 (1)-has slight cracking,epoxy would fix on inside
1/ 6.5 x 4 has inner ceramic form, adjustable sliding tap
1/ 6 x 4 dual sliding taps, w/inner coil that rotates via outside
gear

RF CHOKE FORMS SMALL RESISTOR STYLE 20 FOR $1.00 +

TORROIDAL COIL FORMS, 6 SIZES, 1 @ 5/8", 1@ 13/16", 4@ 1",5@ 1 1/4"
3@ 9/16", 3@ 2" total 17.....all for $23
shipped

ARCO CERAMIC TRIMMERS # 304M (NOS) 100-550 pf (10 or more $1 ea
plus $3 shipping

RELAYS - MANY TYPES, PULL'S, 6A, 10A, 30 A..... INQUIRE

7 PIN WAFFER for tubes (?), unknown, have raised center hub ???
make offer

******* MANUALS *******
ask for either 'manual list' or 'Hammarlund manual list'
ALWAYS LOOKING FOR & TRADING FOR ORIGINAL MANUALS

WILL SELL/TRADE ALL THE FOLOWING MANUALS AS 1 LOT
ALLIANCE TENNA-ROTOR SERVICE MANUAL
AEROTRON 600TT 25 COPY
AMCOMM BSM15/BSM15C
ALPHA SS-80H COPY
CARL CORDOVER CPO-4
CESCO DUAL FYRE BEAM
ELECTRA
BEARCAT 3 BC3-L,H,U,L/H,L/U,H/U

BCL=BCH-BCU SERIES 2

MILITARY

TM-11-2241 CV-116 FREQ. SHIFT CONVERTER
TM-11-300L FREQ. METERS- SCR-211K, SCR-211L
NAVSHIPS 900,013 TIMING CIRCUITS
RADAR (MIT)
TM-11-2241
TM-11-5820-498-12
TM-11-5820-401-10-1
EE-150-JA-OP1-010-E154
TO-31R2-2VRC-191
COLLINS 51X1A (NOT A TYPE-O)
COLLINS 951A-1
LM-7
MN-5
TYPE CRR-74028 HEDTRODYNE FREQ. METER
NAVY CMX-50128A
TM-11-666 ANTENNAS & PROPAGATION (225PGS)
MOTOROLA
HT SERIES
OPTIMA 16
PAGEBOY 148-174 MC
RAY JEFFERSON 1425 TITAN
RCA SSB-1 MARK 2A

REGENCY
AR-2
RC-600
HR-212
TME-8H
TM SERIES
MR-10
MR-10B
MR-10D
MR-33D

SONAR FM-3601
SONAR BR-20
TPL 80 TO 120 WATT VHF AMP COPY

END********

BOOKS TAKE ALL 6 FOR $25 SHIPPED
hard covers all in nice condition

the cathode ray tube at work
rider
18th printing 1944

industrial electronic control
cockrell

1st edition 1944

microwave transmission
slater
1st edition 1942

strength of materials testing
i.c.s. staff
1930

vacum tube voltmeters
rider
8th printing 1944

frequency modulation
rider
10th printing 1942

TEN-TEC & AMECO ARE New Old Stock

TEN-TEC 241 CRYSTAL OSCILLATOR 33.00

AMECO:
PS-2 POWER SUPPLY 25.00
CHT CONVERTER 15.00
CG CONVERTER 450-470mc 15.00
CLG CONVERTER 75meter 15.00
ADVANCED CODE SET- 78 RPM's NOS 20.00

B&W 1KW 1:1 balun 40M N.O.S.(new old stock) 35.00

SP-600/SP-200 FRONT PANEL REFINISHING...$89.00
PLUS YOUR PANEL EXCHANGE□
THIS PRICE INCLUDES RETURN SHIPPING

****
LOOK FOR UP-DATES AS THINGS COME AND GO

Oil filled Cap's: quanity $50 for all SHIPPED
cont. U.S.
.05-3.5MFD @ 1000 VDC 3
2.0 @ 1500 DC 1
2.0 @ 2000 VDC 2
4 MFD @ 1500 VDC 2
8 MFD @ 1000 VDC 1
3 MFD @ 2000 VDC 1
4 MFD @ 2000 VDC 1
1 UF @ 2500 VAC 1
1.12 @ 600wvdc / .03 @1400 1
.5 - 3.5 MFD @ 1000 WVDC 3

CAPACITOR'S: (PULL'S) CAN & AXIAL TYPE......INQUIRE

S meters "DB from 50 microvolts. (155:1)" these are new meters, round face,
2 1/8" panel opening. . 10 - N.O.S. availible 13.00 ea.
shipped

Eico -- model 488 wired electronic switch...new in box
this is added to a single trace scope, to give dual trace..
$24 shipped

EF JOHNSON: NEW OLD STOCK PARTS
all plus shipping

116-214 Knob 13/16" tall x 1/2" dia. skirt
is 3/4" dia. $4.00 each
22.778 Mica 150 mmf @ 1200 vdcw
$3.00
22.1465 Switch ceramic
$12.00
104-251 Coupling ceramic 3/8" x 3/8" both sides
$8.00
104-251-2 Coupling ceramic 1/4"x1/4" both sides
$8.00
104-262 Coupling ceramic 1/4"x1/4" round ceramic
$8.00
116-265 Vernier dial like kw matchbox type
$15.00
116-285 Vernier dial ?
$12.00

(+ = PLUS SHIPPING)☐
METERS VARIOUS INQUIRE $4 EA. +
PATCH PANEL'S 96 1/4" JACKS - RACK MOUNT'S $25 +
NATIONAL NCL-2000 AMP WORKING $650 +
HAMMARLUND CABINETS FOR HQ-110C & 110A $40
HAMMARLUND CABINET FOR HX-500
$50
HAMMARLUND CABINET FOR HQ-129X PAINTED BLUE $25
HAMMARLUND CABINET FOR HQ-129X DARK GREY $40
HAMMARLUND 'S' METER N.O.S. - SP200/400/129X
$33
BELL LAB'S AMP - 2 MIC, 1 PHONO, BASS & TREBLE ....
DECO STYLE CABINET 6L6 amp $65
MEASURMENTS MODEL M468 SIGNAL GEN. 149-166 MHZ
NOT TESTED $20
ROTRY SWITCHES INQUIRE VARIES
CHASIS MNT FUSE HOLDERS PULLS, MANY STYLES 4 FOR $2.OO
DOWKEY 230V N CONNECTORS N.O.S. $30 ship'd
SHURE MODEL 450 DESK MIC (LOOKS LIKE 444) $25
KENWOOD TH-77A HT 2/440 1 BAT, KSC8 CHARGER
AND MANUAL.... unit *UNLOCKED*
120-136mhz, 136-178/9mhz, 800-949mhz
also 440mhz but where it starts/goes too, i

don't know $300
will consider older 2 m almode i.e. Kenwood
TS-77S as trade

original new old stock Hammarlund manual's
i still have a few of these left.
at $13 each shipped, for new old stock manuals, if nothing else
you should pick up 1 or so, for trade material..
you can't buy copies for this.....
whats left:

HQ-145A
HXL ONE AMP (1.5KW VERSION)
HX-50
HX-500

DON'T BE AFFRAID TO MAKE OFFER'S...CASH/TRADE !!!!
--------------- List ends here -------------

Visit my Web Page.....
==]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

2973. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <328dd54a.3597915@news.frazmtn.com>
Source record: 100659

On 15 Nov 96 04:55:34 GMT, s56a@s55tcp.ampr.ORG (Marijan Miletic)
wrote:

>Tom, W8JI gave my callsign wrongly as S59A and I am the person who thought that
>instantenous plate voltage can never exceed 2 x DC value as my internal model
>was strictly linear which is NOT the case with overdriven but lightly loaded
>tube (or transistor). I Measure-d my SB-220 and found RF voltages exceeding DC
>with antenna shortened. I almost melted output coax connector but it was worth
>the effort as a new insight into the actual physics was gained.
>Following the claims on some fancy phenomenons from California, I got a feeling
>that a gentleman lives close to Hollywood. Fuse resistors call for outright
>disaster with their "speedy" action. At least, don't use flamable ones...
>73 de Mario, S56A, N1YU.
>P.S. I don't want to get involved in O.J. type proofs from certain letter!

Mario, without a doubt, your test method is without peer! I would
never have thought to short an antenna that was connected to a "over
driven", un-loaded SB-220 to compare the DC with the un-loaded RF
voltage. By the way, what was the exact magnitude of the RF voltage
and the instrument used to measure it? Or, was "almost" melting the
output connector the guage you used to determine the RF voltage was
twice the DC voltage?
Jesse, W6KKT (50 miles north of Hollywood)

2974. Re: Does RF Parts have web site?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <56kreq$vg8@li.oro.net>
Source record: 100660

Allan Dobler <doblera@cadvision.com> shared these priceless pearls of wisdom:

->Hi, does RF Parts in San Marcos, Ca. have a web site?

I don't know; I searched for an hour the other day and came up dry. I saw the owner's picture on the cover of a magazine last week, and it brought to mind the last time he and I worked together was on the board of directors of the San Diego VHF Club back in the early '60s. If you find a site, tell Merit to drop me a line.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

2975. Re: Need schematics for 2 meter amp!!! Help new ham!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <328DF2BF.6A66@wco.com>
Source record: 100661

Do you have a FAX number? I'll fax you a schematic. No scanner on this end for JPG or GIF.

But you can get the Ramsey kit for about $35. It's a 10X Amp with a max out of about 35 Watts. so 1 in may get
you 10 out, 3 to 5 in gets you 30 to 35 out.

I have one and aside for the TX/RX switching the project took me about 25 minutes.

Jim..
kb6zop

2976. WANT.. Pages 57 thru 64 from Jan 85 , 73 Magazine.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <328DF41B.30AA@wco.com>
Source record: 100662

I have this issue but I am missing the plans for the 6 meter project... Please if you have this issue,
mail a fellow HB'er a copy of these pages...
Pgs 57 thru 64.. Or just pages 59 and 60.
Thanks in advance..

Jim..
KB6ZOP

2977. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <56l2bl$bvk@li.oro.net>
Source record: 100663

w6kkt@frazmtn.com (W6KKT Jesse) shared these priceless pearls of wisdom:
->Hi Tom, what timeing would you recommend for the close / open and how
->would the average ham go about achieving it?
->73, Jesse, W6KKT

You say you don't want to use a DPDT relay at the input/output. Is this for cost or ease of design? If the cost of the relay isn't a big deal, use a DPDT relay with one set of contacts passing DC to the relay you want to close second. Then even if the DPDT relay fails, you won't blow up the whole amplifier because the second relay will never come on. Of course, one SET of the contacts on the DPDT could fail and cause catastrophe, but I'd gamble this way instead of some sort of timing circuit.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

2978. spike arrestor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: mayen1@tcs.ITis.COM
Message-ID: <199611161914.NAA04885@tower.itis.com>
Source record: 100664

Hello, I posted this once before and got a few replies but they weren't good enough. I hope someone can help me out.

I have a repeater that we want to put a ten meter link on it it all works fine except for when we come out of transmit on the ten meter transmitter, when it goes back to recive (it is a tranciever) a strong spike comes out of the audio line. I need to supress it. for it blows out audio mixer chips. I tried the back to back diode thing. that did help and may keep the chip from blowing now but the pulse is still quite strong. Does anyone have an idea to lower this more?
Thanks.
Joe WB9SBD

2979. FAX SSTV RTTY WEFAX with SoundBlaster: OK!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: "Brian E. Cauchi" <briane@dream.vol.net.mt>
Message-ID: <01bbd3f3$91a45400$1623a6c2@gateway>
Source record: 100665
Cross-posted to: alt.ham-radio.digital-voice,es.rec.radio.amateur,fido7.hamradio,rec.radio.amateur,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,su.org.ham

Hello.
I've just updated my FTV program, which does FAX & SSTV using a SoundCard, to decode Baudot using the same (FM) demodulation engine.

Here is a run down of the more interesting features:

(1) It keeps the demodulated signal in memory, so that the signal can be analysed again at a different keying rate or polarity! Garbage can be resampled on the fly, which means that minutes of received signals decoded at the wrong baud rate or keying polarity are recovered, on the fly, while still receiving.

(2) Keying rate and polarity are analysed automatically - standard baud rates are automatically set following analysis.

(3) Tuning oscilloscope available at all times, without loss of copy.

(4) Program works in real time.

(5) I wrote it, and I love it - I myself can't believe it works so well!

Download your copy of FTV from my web site, at:
http://www.geocities.com/SiliconValley/2504

System requirements, and the standard features of FTV are described in the following page:
http://www.geocities.com/SiliconValley/2504/ftv.htm

By the way, AM signals from low orbiting weather satellites are also decoded - no extra interfaces needed. Demodulation mode is user selectable in software.

Hope you all have a load of fun receiving 'words and pictures' - I hope to get some feedback !

All the best from Brian, 9H1JS, on the Island of Malta.

2980. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <328E1C61.4014@mail.teclink.net>
Source record: 100666

Marijan Miletic wrote:
>
> Tom, W8JI gave my callsign wrongly as S59A and I am the person who thought that
> instantenous plate voltage can never exceed 2 x DC value as my internal model
> was strictly linear which is NOT the case with overdriven but lightly loaded
> tube (or transistor). I Measure-d my SB-220 and found RF voltages exceeding DC
> with antenna shortened. I almost melted output coax connector but it was worth
> the effort as a new insight into the actual physics was gained.
> Following the claims on some fancy phenomenons from California, I got a feeling
> that a gentleman lives close to Hollywood. Fuse resistors call for outright
> disaster with their "speedy" action. At least, don't use flamable ones...
> 73 de Mario, S56A, N1YU.
> P.S. I don't want to get involved in O.J. type proofs from certain letter!

Hi Mario-

I understand what you measured, and I don't dispute your findings at all. However, while Tom has been talking about "shorted loads" and that sort of thing, Rich has been discussing arcs and other misbehavior that have happened in amps where the antenna was NOT shorted, damaged or compromised in any way. And, while the high anode voltage mentioned in this thread was indeed there, it was with one or more of the tuning capacitors WAY out of tune, and actually adjusted for max anode voltage.

Once again, this does not dispute Rich's claim.

Rich was talking about an amp arcing and otherwise having problems in a properly configured system, and while in normal operation.

Measuring the anode voltage under abnormal conditions does not in any way prove that the same anode voltage exists under normal conditions.

Am I missing something here?

73, Tom KJ5IE

PS: I say, keep the electronic grid protection and add the carbon "fuse resistors" if the amp is unstable. You just can't have too much grid protection, or tube protection in general. But, Rich's claim that the electronic protection may be insufficiently robust for a cataclysmic failure sounds correct to me.

2981. Re: Vibroplex web page up...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: jmaass@freenet.columbus.oh.us
Message-ID: <56l7cr$6d7@login.freenet.columbus.oh.us>
Source record: 100667
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

References: <327A9C39.6632FF49@vibroplex.com> <01bbd34c$838c3600$3900cace@michelle>
Distribution:

Mitch, W4OA (w4oa@vibroplex.com) wrote:

: Mitch, WA4OSR <w4oa@vibroplex.com> wrote in article
: <327A9C39.6632FF49@vibroplex.com>...
: > The Vibroplex web page is now up at-
: > http://www.vibroplex.com
: >
: > check it out, and give me your feedback...
: >

: oops, gave my wrong email address... correct address is:
: w4oa@vibroplex.com or
: fmitch@maf.mobile.al.us

: mitch, w4oa

Suggest retail prices for wach of the keys would be nice...
--
Jeff Maass (jmaass@freenet.columbus.oh.us) Amateur Radio K8ND
USPSA/IPSC # L-1192 NROI/CRO NW of Columbus Ohio

2982. Re: 3-500Z's - whats the difference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <$edyOCALeXjyEwe+@ifwtech.demon.co.uk>
Source record: 100668

Duncan Clark wrote:
>I am asking on the basis that in the UK we can
>only run 400W PEP output so they don't get run to the hilt.

And we never exceed the speed limit either... :-)

73 from Ian G3SEK

2983. Wilkinson Combiner or 1/4 Wave Sections ? Opinions ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <56j0up$940@buffnet2.buffnet.net>
Source record: 100669

Hi All,

Ok here is the deal. I'm looking to increase my output on 2 M by 3dB.
I'm planning to mount another MRF-151G on my current heat sink.
What is the cleanest way to split/combine the inputs & outputs.
The design is based on the Motorola app. note.
The simplest I can think of would be 1/4 wave sections of 59U.
I've seen four port devices that when one port is terminated in 100
ohms one port is an imput and the other two are in quadrature.
Something like a wilk combiner.

Any ideas ??

Thanks

daveb@buffnet.net

2984. Schematic:Amateur Amplifier SC-100T-BIL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: Don Mohlmaster <Master@sunline.net>
Message-ID: <328DC552.3CD0@geocities.com>
Source record: 100670
Cross-posted to: rec.radio.cb,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I'm in need of the layout of the linear in the title
SC-100T-BIL If anyone can be of help I would Appriciate it..
SoulKeeper

2985. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: jimford@netcom.com
Message-ID: <328e440e.293683@10.0.2.1>
Source record: 100671

This is a good question. I wrote a letter to ARRL with an answer from the Lab Supervisor Ed Hare. His answers were that we've always done it that way and we don't want to get anybody to go ballistic with changes. I hope you write a letter to him as well. My letter showed where their own publications as well as the commercial world do it different than they do. Even an article about measuring Intermod in QEX didn;t use their method. You certainly have hit on a sore spot. Thanks Jim Ford, N6JF jimford@netcom.com

On Sun, 10 Nov 1996 15:46:10 GMT, w6kkt@frazmtn.com (W6KKT Jesse) wrote:

>
>Does anyone know why when the ARRL labs test, revue and publish IMD
>findings on new transceivers, and linear amplifiers they compare the
>IMD products to the sum of the two tones (PEP output of the two tones
>combined)? Doing the test this way makes the IMD measurements look
>6db better than what they actually are (compared to commercial
>standards).
>73, Jesse, W6KKT

2986. Re: HDB3 encoding and Line Interface Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: Osmo.Vuorio@tele.telebox.fi
Message-ID: <56ljk2$r97@hiisi.inet.fi>
Source record: 100672

In article <328b3450.520389670@oasys.dt.navy.mil>, whelanj@oasys.dt.navy.mil (Jerome H. Whelan) says:

..
>The LIU-01 chip seems to be an AGC amplifier to regulate input level,
>with a phase lock oscillator recovering clock from the input stream.
>The LIU-01 chip's output is HDB3+ and HDB3- pulses to be sent on to a
>decoder.

Yes, the normal hdb3 decoder has the two datalines and a clock.
You may find some info from http://www.level1.com/products.html

Osmo

2987. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com.DELETE-FOR-EMAIL>
Message-ID: <328E5FB2.14757DD3@primenet.com.DELETE-FOR-EMAIL>
Source record: 100673
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

tyler wrote:
>
> Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
> it's used in FM communications, but how and why? Why is it needed? FM
> commercial stations use it. Why? I'm reading this post on it and I'm kind of
> lost. Any help would be greatly appreciated. Thanks.
> Tyler
> N3SPD

Starting with the answer -- pre-emphasis and de-emphasis is used because it increases the signal to noise ratio of the the received signal.

Basically the logic goes like this: the noise Power Spectral Density (PSD) in an FM system is proportional to the square of the frequency and the PSD of signal is directly proportional to the frequency. So if one were low pass filter the output of the FM receiver (de-emphasize) one would eliminate more noise power than signal power which is a good thing... Having done that, the transmitter is high pass filtered (pre-emphasized) to make the audio response flat.

73's,
Bob
WA3TGF

2988. Electronics Directory

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-16 00:00:00 UTC
From: Todd Peterson <elab@netins.net>
Message-ID: <328EA2A6.58F7@netins.net>
Source record: 100674

Greetings!

E-LAB Digital Engineering, Inc. is pleased to make freely available our new
Electronics Internet Resource Directory!

This directory is a collection of many internet sites of use to
electronics builders, designers, and engineers. It is divided into
40 categories, with each category containing many hot-links to companies
and/ or web pages containing information on topics from Compilers to
Code Examples to Components Distributors.

The directory is available at http://www.netins.net/showcase/elab
You WILL want to set a bookmark!

We also invite you to check out our products, such as our new line of
integrated circuits for embedded design.

Thanks,

Todd Peterson
E-LAB Digital Engineering, Inc.

2989. Any mod info for Kenwood TS-60 Transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: mikedrum@ix.netcom.com
Message-ID: <56nadb$on9@sjx-ixn3.ix.netcom.com>
Source record: 100587
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

Greetings,

I am looking for any mod info on the Kenwood TS-60 six meter all mode transceiver. I was unable to get any applicable info from Kenwood's web site on this transceiver, so I now turn to the internet for help.

Any info would be appreciated. All reply's will be answered.

Thanks.

Mike>

2990. Want Kenwood IF-10D Computer Interface.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: mikedrum@ix.netcom.com
Message-ID: <56na4m$qk@sjx-ixn2.ix.netcom.com>
Source record: 100588
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

Greetings,

I want to buy a Kenwood IF-10D Computer interface for my TS-60. If you have one for sale please contact me at my Email address and let me know the details. I will answer all reply's sent.

Thank You.

Mike>

2991. Commercial VHF low radios. Which ones have easily scavenged PAs for 6 FM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: PCG@zipnet.net
Message-ID: <56nd5c$68n@news.ziplink.net>
Source record: 100589

Greetings fellow home brew mavens.

In an effort to populate a new VHF band in the New England area, members of our local 2 M repeater society are going to assemble some Ten Tec 6M FM kits as a group project. We have about ten people who are interested.

Since the kits possess finals that put out about 5 W, we need to find a 6M FM amp kit to accompany these radios. A fellow ham suggested that many solid state commercial boat anchors have PAs that can easily be removed and adapted for use with these Ten Tec units. He seemed to think that Micors, and certain other GE units might provide the needed parts, already assembled into an easy to remove module.

Can anyone provide concrete details on exactly what radios could be scavenged in this fashion? We would like to find something that will generate 100 watts of output power.

Thanks
Chris
N1AUP

2992. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001711960850510001@news.vcnet.com>
Source record: 100590

In article <19961117011000.UAA24623@ladder01.news.aol.com>, w8jitom@aol.com
wrote:

> In article <measures-ya023180001611960220390001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >.......Tom said:
> > "The RF voltage in a tank can soar to several times the HV supply
..snip....
several times 3kV is more than 9kV.
>
> Two times 3 KV is six, not nine.
>
3.7kV is what was measured. Neither 6kV nor 9kV was measured. In my
opinion, most people would take 'a couple of times' as around 6kV, and take
'several times' as around 9kV.

> RE the SB-220, here is what I said:
> In article <5549of$269@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
> writes:
>
> >Eventually, if equilbrium isn't acheived first in dissipative losses,
> >something gives.

The measurement of 3700v-p was made in equilibrium.

> >The SB-220, when improperly loaded, can produce over 4 kV peak on the
> >input end of the tank. The tube peak anode voltage is over 7 kV. Until
> >something "gives" or the energy falls back in equilbrium, the voltage
> >builds. Unfortunately it is often the tuning capacitor or bandswitch that
> >arcs.

This voltage does not 'build' in my SB-220, or in my other amplifiers
either Interest on a savings account builds.
Why mention the anode voltage when we are talking about the peak voltage
on the tune capacitor?
None of this discussion about deliberate mistuning really matters, Tom.
In the SB-220, tune capacitor arcing occasionally occurs during normal
operation, not during experiments where the tune and load controls are
mistuned for maximum voltage across the tune capacitor.
My SB-220 tune capacitor used to arc occasionally until I lowered the
VHF-Q of the VHF parasitic oscillation suppressors. After lowering the Q
of the VHF parasitic suppressor, the pecuilar tune-capacitor double-peak in
40m tuneup disappeared. Other folks have experienced similar results. In
the Drake L4-B, the tune-capacitor double-peak in 15m tuneup disappears
when lower Q suppressors are installed.

snip,,
>
> >Tom has argued that virtually all of the vhf current passes through the
> >suppressor resistor, and that virtually none of the vhf current passes
> >through the suppressor inductor. Is this the case?
>
> No, I argued that the dominant Q determining component at VHF and higher
> was the resistor, not the inductor. I've said repeatedly the primary path
> for VHF and UHF signals is through the resistor, and the primary path for
> HF signals is through the coil ### IN A PROPERLY DESIGNED SUPPRESSOR ####

When you telephoned me in 1990, you talked about properly designed parasitic suppressors. However, you offered no information about such animals. You brought up the subject of proper suppressor design again here, and yet you still provide no information.

If an 8877's VHF parasitic oscillation suppressor resistor is 50 ohms and the (paralleled) suppressor inductor is 30 ohms, the lion's share of the VHF current would seemingly pass through the 30 ohm inductor and the lesser, remainder of the total current would seem to pass through the resistor. However, perhaps I am in error.

Tom: Are you suggesting that the primary path of VHF current is through the paralleled 50 ohm resistor? If you maintain that most of the VHF current passes through the 50 ohm resistor, Tom, please show us the mathematical solution that led you to your conclusion.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

2993. Wanted: Schematic for pjt

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: fred.vobbe@wlio.com
Message-ID: <9611171051.0F9BS00@wlio.com>
Source record: 100591

Does anyone have any schematics for the old Palomar tube amplifiers that CBers were using in the 70's? They were the gray box, with about 100+ watts out for 5 watts in.

I would love to get some schematics/diagrams on them, or any amp in the 100-500 watt class that takes about 5-10 watts to drive.

Another ham and I are looking to build from scratch an amplifier for 6 meter use. We were looking over the ARRL diagrams, and got on the subject of those amplifers. I recall a ham in the town where I lived got one of those amplifiers from a CBer that was getting out of the hobby in 1976, and was able to modify the input output tuning for 6 meters, and it worked great.

I would be glad to trade an official NBC 96 Atlanta Olympics poster for a set of prints. I only have 5 left. These are the 3'x2' posters they were selling for $19.95.

Fred Vobbe, W8HDU

+---+
| Frederick R. Vobbe Editor: DX Audio Service |
| Chief Engineer WLIO TV National Radio Club, Inc. |
| NBC Channel 35 Medium Wave DX Listener |
| 1424 Rice Ave Rptr: 443.625+, 145.370-, |
| Lima, Ohio 45805-1949 53.630- pl 100hz |
| Fax: 419-229-7091 Email: w8hdu@wlio.com |
+---+
___ Blue Wave/QWK v2.12

2994. Re: car-alarm type transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <qH3b0TAEJwjyEwM3@ddwyer.demon.co.uk>
Source record: 100592

In article <328A4339.403E@auckland.ac.nz>, "G. Sargent"
<g.sargent@auckland.ac.nz> writes
>Hi All,
>
>I am trying to find someone who sells car-alarm style remote control
>transmitters / receivers.
>
>My task is to transmit an alarm indication (or, perhaps some data) with
>a range of approx. 60 feet.
Farnell and Maplin resell excellent SAW stabilised double superhet
modules from Radiotek (UK) 250uW at 418/433MHz range 200 metres.
Douglas Dwyer Frequency Precision Ltd. Reply via demon or
101505.3427@compuserve.com phone/fax +44(0)1837810590
http://ourworld.compuserve.com/homepages/Frequency_Precision/

2995. Re: Need schematics for 2 meter amp!!! Help new ham!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Karl Martin Gjestrum <kytdalen@applause.no>
Message-ID: <328F6251.7A9@applause.no>
Source record: 100593

>
> Can someone help me out.. I need Very Plain Jane Schematics here.. I
> want to go down to radio shack, buy the needed parts and build a 2
> meter amp.. If someone out there can help me out with some schematics
> in a very simple readable format, or can just send me what you got,
> and i'll get some other ham's in the area to help me with the
> schematics i would REALLY appreciate it!!
>
> Please help!!
>
> Brad
>
> kc7qzr Washington..
>
> p.s. I would just go buy radioshacks 35 watt amp, but its 100$ and i
> dont have it! and i want to learn how to do home brew stuff, so i may
> as well experiment a little and get my hands dirty with the nice
> sodering gun i bought 8-)
>
> THANKS AGAIN!!!!!
>
> email is kc7qzr@geocities.com

Hello congratulation with your licence . I got mine 1.5 years ago and
for some monts ago I wanted to do the same. I have some scematics in
norvegian!!!! And I can scan them in and mail them if you want to.

I also have the htx 202 2 meter .
I have blowed my final transitor twise. The second time it was when
tuning up a my homemade PA using low power... So be careful... looks
like Radioshack "forgot" to make SWR protection
to sell more transistors. I would suggest you used a other radio
tuning up your PA. I saw some posting abuot expensive parts...
Go to a junk party or whatever you call it. And get some old commersial
overstock. Or try to get the parts needed from a local home-brewing
freak.

Or by a used PA as I did. Got it for 30 usd and it cost about 400 usd
new. It gives 85 w a nice power...

Im sure you know someone with the house filled with ham-gear.
Ask if they have anything they dont need.

Ham meetings are great ...easy to get low price gear

Hope this helped, best 73 de LA7EJA

2996. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961117190300.OAA10108@ladder01.news.aol.com>
Source record: 100594

In article <328eecbe.3191735@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

W8JI wrote>
>>An oscillator either oscillates or it doesn't. It doesn't suddenly "ring"
>>or "gong" into oscillation. Photons won't suddenly cause a circuit to
>>oscillate, neither will keying transcients.
>
>Tom, are you absolutely sure it's impossible for a unstable amplifier
>to start into oscillation intermittently from switching transcients?
>73, Jesse, W6KKT

Let me explain that in a very clear statement Jesse, then there will be no misunderstanding.

If a PA is unstable, and is properly tested or analyzed, any instability or potential instability will show up. If you read back here, and in published text, virtually all of Measure's claims are based on the concept that a tube change, a photon strike, a keying transcient, or some other trigger mechanism sends an PA that behaves well into a sudden oscillation.

We know a few things, or at least can prove a few things. We can inject the anode circuit with a known VHF voltage and measure voltage distribution along the component chain. I did that, and always do that (with a sweep oscillator), in many PA's. I've yet to see a halfway decent layout have a voltage INCREASE, or even a constant voltage, along the tank.

We can measure the tank capacitor, and determine the reactance over a very wide frequency range We can measure the switch contacts and determine the RF voltage available to cause an arc at various frequencies.

We can accurately determine the VHF and HF impedances, feedthrough power, and loss, and from that estimate stability of the PA.

So we can accurately measure many many things that determine stability and what the results of instability will be.

Part of normal testing is raising and lower high voltage, varying bias, and changing input and output loads as operating parameters are changed.

If an amplifier was unsatble, or at the edge of stability, it would show up very clearly in many of these normal tests. It would show up in normal daily operation.

From all of this, it is very safe to say a stable PA doesn't suddenly break into an uncontrolled VHF oscillation when "bumped" by things that go on day after day in normal operation. PA's are either stable, or they are not.

Let me give you an example of an unstable PA, the Dentron Clipperton L. Virtually all Clipperton L's oscillate when the bandswitch is on 15 and ten meters if the loading control is too far closed. The oscillation is in lower VHF to upper HF, and will destroy the suppressor resistors from high energy levels in the tank. But the oscillation is repeatable, and easy to define. The circuit faults contributing to the instability can easily be determined, and nothing about the instability is magic.

When a PA is unstable, it can be made to repeat that instability over and over. The causes of that instability can be determined, and components effected by that instability can be determined by measurement.

It is virtually impossible for a stable PA to go along operating for days, weeks, and years, and suddenly break into an uncontrolled oscillation. The only exception I can think of is component failure as a trigger (ie a ground lead "falls off" a critical location in the PA).

None of this "parasitic stuff" makes sense at all Jessie.

73 Tom

2997. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961117190300.OAA10111@ladder01.news.aol.com>
Source record: 100595

In article <XHUoYEAt3ujyEwqq@ifwtech.demon.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:

>
>Because the voice modulation is wideband rather than single-tone, you
>can't see distinct peaks from the separate orders of IPs. The output
>looks very much like a noise-sideband plot, a continuous line with a
>general downward trend at each side of the main signal. There are
>statistical fluctuations because the analyser may not be looking at a
>particular frequency when a very short peak occurs, but those errors are
>reduced if you run the test for a longer time.
>
>The main virtue of this method is that it simulates on-air use under
>much more realistic conditions than a static two-tone test. I don't
>think it completely replaces the traditional test method, but it's
>certainly a valuable addition to it.
>
>Any comments, please - particularly from somebody who has tried it?
>
>73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
>Professionally:
>IFW Technical Services Clear technical English - world-wide.
>
>

Hi Ian,

As Jesse will confirm, I explained virtually the same thing to him in
private conversation.

When I test a PA for IMD, I use either a variety of tone spacings and
levels, and a variable level two tone test (I call it a three tone test,
although the extra "tone" modulates the two higher tones at less than a
few Hz). I select the worse case result as the spec, and give both the
standard rating and worse case. I always use the industry standard of -dB
below one two of two equal tones.

The reason for using this more complicated method is simple. IMD is often
produced by poor voltage regulation as the power is varied. A standard two
tone test will not show this flaw.

73 Tom

2998. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: George Warner <warnergt@ptd.net>
Message-ID: <328F5E98.7CBC@ptd.net>
Source record: 100596
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Bob Doyle wrote:
>
> tyler wrote:
> >
> > Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
> > it's used in FM communications, but how and why? Why is it needed? FM
> > commercial stations use it. Why? I'm reading this post on it and I'm kind of
> > lost. Any help would be greatly appreciated. Thanks.
> > Tyler
> > N3SPD
>
> Starting with the answer -- pre-emphasis and de-emphasis is used because
> it increases the signal to noise ratio of the the received signal.
>
> Basically the logic goes like this: the noise Power Spectral Density
> (PSD) in an FM system is proportional to the square of the frequency and
> the PSD of signal is directly proportional to the frequency. So if one
> were low pass filter the output of the FM receiver (de-emphasize) one
> would eliminate more noise power than signal power which is a good
> thing... Having done that, the transmitter is high pass filtered
> (pre-emphasized) to make the audio response flat.
>
> 73's,
> Bob
> WA3TGF

You have your high-pass and low-pass filters backward - if you can call
them that. The receiver deemphsizes the high frequencies. That is,
high
frequencies are attenuated; this more closely resembles a low pass
filter.
Conversely, the transmitter emphasizes the high frequencies as in a high
pass filter.

George Warner
warnergt@ptd.net

2999. Need Mic/Keying Circuit for Icom 2SRA / Delta 1A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: sidener@saucer.cc.umr.edu
Message-ID: <56nmrs$320@hptemp1.cc.umr.edu>
Source record: 100597

Hi,

I am looking for the keying circuit for the delta 1A or 2SRA.

These radios use a single "stereo" 1/8 th inch jack.

I would like to connect a non-Icom speaker-mic to the radio but I don't know the PTT connection or pinout.

If you could help me please e-mail.

Thanks,

Scott Sidener N0WFL

3000. Re: Commercial VHF low radios. Which ones have easily scavenged PAs for 6 FM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Andy Brinkley <brinkley@ols.net>
Message-ID: <328F8E90.3D03@ols.net>
Source record: 100598

PCG #1 wrote:
>
> Greetings fellow home brew mavens.
>
> In an effort to populate a new VHF band in the New England area, members of our
> local 2 M repeater society are going to assemble some Ten Tec 6M FM kits as a
> group project. We have about ten people who are interested.
>
> Since the kits possess finals that put out about 5 W, we need to find a 6M FM amp
> kit to accompany these radios. A fellow ham suggested that many solid state
> commercial boat anchors have PAs that can easily be removed and adapted for use
> with these Ten Tec units. He seemed to think that Micors, and certain other GE
> units might provide the needed parts, already assembled into an easy to remove
> module.
>
> Can anyone provide concrete details on exactly what radios could be scavenged in
> this fashion? We would like to find something that will generate 100 watts of output
power.

Chris -
I've never tried it but what you want to do should work. If you are interested
I have a number of Motorola Mo-Com 70 42-50 mhz 100 watt mobiles and some GE
MASTR PRO 42-50 MHZ mobiles FS.

TNX

Andy Brinkley

****
"brinkley@ols.net"
****

NC Certified Firefighter III / Fire Service Instructor II / EMT-A
FCC Licensed Technician
Amateur Call N4ROX

3001. FT-51 Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: rdgrantii@aol.com
Message-ID: <19961117201800.PAA11489@ladder01.news.aol.com>
Source record: 100599

If anyone has this radio and can receive 800 MHZ, PLease e-mail me.

I would like to get a copy of your radio's settings and solder points..

Thanks

RDGRANTII@AOL.COM

3002. Re: Commercial VHF low radios. Which ones have easily scavenged PAs for 6 FM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <328FF48E.18A0@worldnet.att.net>
Source record: 100600

Re: GE Amp modules... Beware of overdirve damage from the TenTec ans
most of the PA strips require about 250 mw of drive. You could use an
attenuator.... Also there are 50 stripline points between many stages.
Some have a jumper strap in-line. Just cut (or remove jumper) strip and
feed where the TenTec drive is appropriate. Woody

Andy Brinkley wrote:
>
> PCG #1 wrote:
> >
> > Greetings fellow home brew mavens.
> >
> > In an effort to populate a new VHF band in the New England area, members of our
> > local 2 M repeater society are going to assemble some Ten Tec 6M FM kits as a
> > group project. We have about ten people who are interested.
> >
> > Since the kits possess finals that put out about 5 W, we need to find a 6M FM amp
> > kit to accompany these radios. A fellow ham suggested that many solid state
> > commercial boat anchors have PAs that can easily be removed and adapted for use
> > with these Ten Tec units. He seemed to think that Micors, and certain other GE
> > units might provide the needed parts, already assembled into an easy to remove
> > module.
> >
> > Can anyone provide concrete details on exactly what radios could be scavenged in
> > this fashion? We would like to find something that will generate 100 watts of output
power.
>
> Chris -
> I've never tried it but what you want to do should work. If you are interested
> I have a number of Motorola Mo-Com 70 42-50 mhz 100 watt mobiles and some GE
> MASTR PRO 42-50 MHZ mobiles FS.
>
> TNX
>
> Andy Brinkley
>
> ***************************************
> "brinkley@ols.net"
> ***************************************
>
> NC Certified Firefighter III / Fire Service Instructor II / EMT-A
> FCC Licensed Technician
> Amateur Call N4ROX

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3003. Re: car-alarm type transmitters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Raymond Ciaccio <rciaccio@pop.mhv.net>
Message-ID: <328F5B1E.59E6@pop.mhv.net>
Source record: 100601

Douglas Dwyer wrote:
>
> In article <328A4339.403E@auckland.ac.nz>, "G. Sargent"
> <g.sargent@auckland.ac.nz> writes
> >Hi All,
> >
> >I am trying to find someone who sells car-alarm style remote control
> >transmitters / receivers.
> >
> >My task is to transmit an alarm indication (or, perhaps some data) with
> >a range of approx. 60 feet.
> Farnell and Maplin resell excellent SAW stabilised double superhet
> modules from Radiotek (UK) 250uW at 418/433MHz range 200 metres.
> Douglas Dwyer Frequency Precision Ltd. Reply via demon or
> 101505.3427@compuserve.com phone/fax +44(0)1837810590
> http://ourworld.compuserve.com/homepages/Frequency_Precision/
>
Try Radio Shack.$200. Expensive but it works. I Have one myself, xmits
on 10 meters and puts out about 4 watts to a pager. The distance of a
CB radio, (approx).
Ray

3004. Re: Wilkinson Combiner or 1/4 Wave Sections ? Opinions ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <328f92e8.8825201@news.santafe.edu>
Source record: 100602

daveb@buffnet.net (daveb@buffnet.net) wrote:

>Hi All,
>
>Ok here is the deal. I'm looking to increase my output on 2 M by 3dB.
>I'm planning to mount another MRF-151G on my current heat sink.
>What is the cleanest way to split/combine the inputs & outputs.
>The design is based on the Motorola app. note.
>The simplest I can think of would be 1/4 wave sections of 59U.
>I've seen four port devices that when one port is terminated in 100
>ohms one port is an imput and the other two are in quadrature.
>Something like a wilk combiner.
>
>Any ideas ??
>
>Thanks
>
>daveb@buffnet.net
>
>
I'd recomend you consider a quadrature combiner. I t requires a 90
degree hybrid in the input and the output, arranged so that the phases
all add up correctly. The coupler is most easily made from Sage
Wireline which you can get from Sage Laboratories (508) 653-5671.

I have used the line at the 150 W level at 300 MHz and it works fine.
You can cut your own or for a few bucks they will supply you with the
line pretrimmed and stripped. Basically, its two wires inside a shield
with the impedances arranged so that a quarter wavelengthmakes a 30
dB, 90 degree coupler. Thier catalog has an eplanation of how it
works. The advantage of this kind of coupler is that mismatched power
from unbalance between the two amplifiers ends up in the waste load.

It's a 4-port device and can be used as a splitter with two equal
outputs and an isolated output that just sees mismatched reflected
power from the two loads and a combiner with two inputs, a sum output
and a difference output.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3005. FS Unassembled Heathkit 5mhz O-Scope Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Joe Giraudo <giraudo@sierra.net>
Message-ID: <328F9419.4712@sierra.net>
Source record: 100603
Cross-posted to: rec.radio.amateur.homebrew,rac.radio.amateur.swap,rec.radio.swap

I have a Bell & Howell / Heathkit 5 mhz portable Oscilloscope that has never been assembled. It is still in the original box, but the manual is incomplete. The faceplace identifies it as a Bell & Howell Model 10D-4540. I don't know if this is the Heathkit Number also.
All warranty cards and some assembly instructions are in the box.

Proceeds to local Ham Club. Anyone interested? This unit is in Elko Nevada, Not close to most of you guys...73 Joe

3006. FS Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Joe Giraudo <giraudo@sierra.net>
Message-ID: <328F9314.2C92@sierra.net>
Source record: 100604
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

I have the following tubes available

Number QTY
6SH7 46
5Y3GT 34
6SH7GT 116
6AT6 26
12AT7 13

All or part for sale. Proceeds to local Amateur Radio Club.

Any interest? Make offer

3007. HELP LPT CW interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Raj Singh <singhraj@cadvision.com>
Message-ID: <328FC02A.4EC5@cadvision.com>
Source record: 100605

Hi and thanks for reading this. I hope you can help me figure this out.

I want to key the rig from the parallel port of the computer with a logging program like CT. The rig is a Kenwood TS-830S which uses negative keying. I built a K3KU type parallel interface which should key both
positive and negative keyed rigs. When I attach everything, it imediately keys the rig.

I don't know enough about transistors to figure this out on my own in real life. If you are familiar with the CT manual. It calls for a PNP and a NPN transistor. I am using a 2N5401 and a 2N5551.

Thanks in advance
Raj VE6RAJ

3008. Re: newbee help: How to match a 50 ohm line to a whip on a cordless phone?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: PCG@zipnet.net
Message-ID: <56ncon$68n@news.ziplink.net>
Source record: 100606

In article <56cm2r$8cp$6@news3.microserve.net>, tyler@cyberia.com says...
>
>How do you match impedances from a cordless phone whip antenna to a 50 ohm
>line? Any help would be greatly appreciated. Thanks.
>73 de N3SPD Tyler

I usually have the most problem getting the stupid plastic cases open.

The articles that I have seen suggest that you remove the whip from the base,
and replace it with a chassis mounted bnc connector. You don't have to
worry about impedance matching since power output is so low. Let us
know how well the external antenna works (how much it improves reception).

Chris
N1AUP

3009. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Tom <tomc@tiac.net>
Message-ID: <328FF831.50A@tiac.net>
Source record: 100607
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

M Simon wrote:
>
> I would say:
>
> I am sorry I stated your apparent conflict of interest as
> fact.
>
> Simon
>
> ---
>
> tunedin@arcos.org (.) wrote:
>
> >In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> > "James S. Kaplan" <kg7fu@combined.com> wrote:
> >>ARRL lawyer to sue member
> >>
> >>The following is a copy of a message I received today from
> >>ARRL General Counsel Christopher D. Imlay N3AKD:
> >>
> >>
> >>To: James S. Kaplan, KG7FU
> >>Copies: Mary Lou Brown, NM7N
> >> Terry Baun
> >> John Poray
> >>Date: July 16, 1996
> >>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
> >>**********
> >>
> >> Jim, I have just finished reading your article in the July,
> >>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
> >>my clients, the American Radio Relay League, Inc. and the Society
> >>of Broadcast Engineers, Inc. should cooperate in certain government
> >>relations projects, specifically spectrum protection. You note that
> >>I serve as the General Counsel for both organizations. You then
> >>jump from that argument to the following, which I quote:
> >>
> >> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
> >> perhaps both ARRL and SBE should be seeking more
> >> effective counsel. No offense Chris, but we have work to
> >> do. We should not only be sending a message to the FCC
> >> and Congress, but to other radio industries.

> >>
> >> (emphasis in original)
> >>
> >>It is not useful for me to educate you on the subject of your
> >>article to correct the errors in it, and I do not intend to do so.
> >>What I do intend, however, is for you to print a retraction, in
> >>unambiguous terms, in a form acceptable to me, and to furnish to
> >>me, in writing, an assurance that such will be printed in the next
> >>Chapter Newsletter for Chapter 124. Failing that, I am going to sue
> >>you in the District of Columbia for libel.
> >>
> >> I have no intention of allowing you to falsely allege that I
> >>have a conflict of interest in representing two of my best clients,
> >>especially in an SBE publication. You are not entitled to damage my
> >>reputation as a lawyer, which you have done in your article, or to
> >>infer (without any basis at all) that I have violated the canons of
> >>ethics governing attorneys, by which I govern my actions.
> >>
> >> I will await your response.
> >>
> >>Chris Imlay, N3AKD
> >>
> >Great response! People need to express their thoughts and opinions without the threat
> >of legal action!
>
> >Dave
> >tunedin@arcos.org
>
> In the end people get the government they deserve.
>
> Read "The Weapon Shops of Isher" by A.E. vanVogt
>
> SimonI respectfully disagree. Chris was right to defend his professional
reputation, even if the threat to it was from someone who obviously
lacked any understanding about the ethical rules Chris was mentioning.
As for the threat of legal action..."if you don't want to run with the
big dawgs, stay on the porch."

BTW, if you want to "tweak" someone, please do it to someone other than
those trying so hard to defend our favorite radio service from those who
would like to end it.

73 from WA1NVS

3010. 800 MHz modifications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Dan Heim <dheim@utkux.utk.edu>
Message-ID: <328FE336.2315@utkux.utk.edu>
Source record: 100608

If anyone can help me - I am looking for a scanner or radio currently sold or easy to get that can be easily modified to receive the entire 800MHz - 900MHz radio ban. Please e-mail me with any info
dheim@utkux.utcc.utk.edu

3011. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: Bob Doyle <doyle@primenet.com.DELETE-FOR-EMAIL>
Message-ID: <328FE591.509D71E4@primenet.com.DELETE-FOR-EMAIL>
Source record: 100609
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

George Warner wrote:
>
> Bob Doyle wrote:
> >
> > tyler wrote:
> > >
> > > Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
> > > it's used in FM communications, but how and why? Why is it needed? FM
> > > commercial stations use it. Why? I'm reading this post on it and I'm kind of
> > > lost. Any help would be greatly appreciated. Thanks.
> > > Tyler
> > > N3SPD
> >
> > Starting with the answer -- pre-emphasis and de-emphasis is used because
> > it increases the signal to noise ratio of the the received signal.
> >
> > Basically the logic goes like this: the noise Power Spectral Density
> > (PSD) in an FM system is proportional to the square of the frequency and
> > the PSD of signal is directly proportional to the frequency. So if one
> > were low pass filter the output of the FM receiver (de-emphasize) one
> > would eliminate more noise power than signal power which is a good
> > thing... Having done that, the transmitter is high pass filtered
> > (pre-emphasized) to make the audio response flat.
> >
> > 73's,
> > Bob
> > WA3TGF
>
> You have your high-pass and low-pass filters backward - if you can call
> them that. The receiver deemphsizes the high frequencies. That is,
> high
> frequencies are attenuated; this more closely resembles a low pass
> filter.
> Conversely, the transmitter emphasizes the high frequencies as in a high
> pass filter.
>
> George Warner

Yup. Exactly right. Isn't that what I said?

Bob
> warnergt@ptd.net

3012. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: david@djwhome.demon.co.uk
Message-ID: <E0zqyq.J7H@djwhome.demon.co.uk>
Source record: 100610
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

[Dropping sci.electronics.misc - incompatible with a specific sibling.]

In article <56f1bi$pp6$1@news3.microserve.net>,
tyler <tyler@cyberia.com> wrote:
>
>Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
>it's used in FM communications, but how and why? Why is it needed? FM

The noise in FM channels is frequency dependent. Pre-emphasis boosts
the audio in the the frequency range where the noise is greatest, but
the audio tends to be weak, and de-emphasis corrects this in the
receiver. It is also done for tape recordings and vinyl disks.

If I remember correctly, it is the high frequencies that are boosted.

Actually, I believe, pre-emphasis produces a similar (if not identical)
effect to using phase, rather than frequency, modulation.
--
David Woolley, London, England david@djwhome.demon.co.uk
(Sending any email to this site constitutes a licence to copy it to any
company which might reasonably be assumed to have transported it or
might reasonably be assumed to service any addresses quoted in it. 15Sep1996)

3013. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961117011000.UAA24623@ladder01.news.aol.com>
Source record: 100675

Hi Rich,

I can see this is like pulling teeth with a tweezer. Let's cover one area at a time.
In article <measures-ya023180001611960220390001@news.vcnet.com>, measures@mail.vcnet.com (R. L. Measures) writes:

>.......Tom said:
> "The RF voltage in a tank can soar to several times the HV supply when the
>tank is underloaded."
>
>My dictionary says:
>SEVERAL: Being of a number more than two or three but not many.
>Thus, several times 3kV is more than 9kV.

Two times 3 KV is six, not nine. Several times is any amount more than two or three times.

>3.7kV is what was measured.

RE the SB-220, here is what I said:
In article <5549of$269@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:

>Eventually, if equilbrium isn't acheived first in dissipative losses,
>something gives.
>The SB-220, when improperly loaded, can produce over 4 kV peak on the
>input end of the tank. The tube peak anode voltage is over 7 kV. Until
>something "gives" or the energy falls back in equilbrium, the voltage
>builds. Unfortunately it is often the tuning capacitor or bandswitch that
>arcs.
>
>This effect can be measured and documented, it is not a matter guessing
<<End of my statement>>.

Mario measured ~3.7 kV, within 500 volts of what I measured for Heath during tests of SB-220's and SB-221's. Now let's compare that to your claims.

In a message dated 96-11-07 12:03:17 EST, Measures wrote:

> However, I do know that in a 3-500Z g-g amplifier that uses a 3000V anode
>supply, the negative-going change in anode voltage during the conduction
>cycle of the 3-500Z is about 2700vp (volts peak), which coincides with the

>peak in anode current. At this peak, the anode to (grounded)grid voltage
>is about 300v. {3000v minus 300v = 2700v} When the amplifier is
>underloaded, the tube saturates, and the anode to grid voltage (at the
>anode current peak) is about 150v. In other words, the negative-going
>change in anode voltage is about 2850vp. It's a long way from 2850vp to
>the 5500v or more needed to arc the bandswitch.

So you claim about 2850 volts peak, and I said a SB-220 can produce over 4000 under conditions of improper tuning. Mario verified 3700 volts in a crude single test. The plate tuning cap had a minimum spec voltage of 3.5 kV at Heath, and the bandswitch was speced at the same voltage between the ten meter tap and the rotor. In a steady state test of one PA, Mario verified a voltage exceeding Heat's minimum QC spec breakdown rating of the tuning cap and switch.

My data comes from a series of tests on six PA's, three 220's and three 221's. I measured as high as 4300 volts peak tank voltage when some PA's were mistuned.

>Tom has argued that virtually all of the vhf current passes through the
>suppressor resistor, and that virtually none of the vhf current passes
>through the suppressor inductor. Is this the case?

No, I argued that the dominant Q determining component at VHF and higher was the resistor, not the inductor. I've said repeatedly the primary path for VHF and UHF signals is through the resistor, and the primary path for HF signals is through the coil ### IN A PROPERLY DESIGNED SUPPRESSOR #### .

Before we start on that, let's clear up this other stuff. We now seem to just go in circles, and that is a waste of time. If you'd like to discuss parasitic suppressor behavior, continue the SB-220 test discussion, or discuss PA's that can produce up to 10 times the dc supply voltage we can do any of that. Take your pick.

After that we can move on to your other questions, but let's agree on things and get them out of the way so we quit running in a closed loop.

73 Tom

3014. Battery Charger

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: georgehe@unix.asb.com
Message-ID: <E0zrpq.56n@news2.new-york.net>
Source record: 100676

Thanks for reading this. I use a car battery for standby/emergency use with my gear. I am painfully aware that regular lead acid batteries are a poor choice for this purpose, but they are plentiful and cheap.

I'm looking for a "battery maintainer" circuit. The circuit would trickle charge the battery up to the ideal voltage, then shut down and light a charged led. If the battery voltage drops a volt or so the trickle charger kicks in to keep it up.

This device is sold commercially as a "battery maintainer" for RV or Marine batteries in the off season. Costs about 40$ too !

I would like to built one of these things in a nicer case with a few customizations. (minor stuff- switch and meter)

Any help would be appreciated. Any pearls of wisdom (other than the obvious) would also be appreciated too !

I'm into ARES/RACES and this sort of stuff is nice for the niche, so to speak.

73, George

n2oeo@kc2fd.#nli.ny.usa
georgehe@unix.asb.com

3015. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961117023100.VAA26165@ladder01.news.aol.com>
Source record: 100677

In article <328dd54a.3597915@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

>Mario, without a doubt, your test method is without peer! I would
>never have thought to short an antenna that was connected to a "over
>driven", un-loaded SB-220 to compare the DC with the un-loaded RF
>voltage. By the way, what was the exact magnitude of the RF voltage
>and the instrument used to measure it? Or, was "almost" melting the
>output connector the guage you used to determine the RF voltage was
>twice the DC voltage?
>Jesse, W6KKT (50 miles north of Hollywood)

Hi Jesse,

One manufacturer requires a short load test on ever PA leaving the factory, as well as an open load at full drive, to weed out close wires and weak components in tanks.

The goal is to make sure the plate tuning cap or an intentional gap arcs before the switch, and any weak components (like padding capacitors) fail.

One process of designing a new **Amateur** PA is to run 15% more than rated HV, short the load, and apply full drive. Components are sized to just barely be beyond arcing under that condition. Commercial units enjoy more protection and margin.

73 Tom

3016. Re: Antenna relays

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961117023101.VAA26162@ladder01.news.aol.com>
Source record: 100678

In article <56l2bl$bvk@li.oro.net>, jim@rst-engr.com (Jim Weir) writes:

>You say you don't want to use a DPDT relay at the input/output. Is this
>for cost or ease of design? If the cost of the relay isn't a big deal,
use
>a DPDT relay with one set of contacts passing DC to the relay you want to
>close second. Then even if the DPDT relay fails, you won't blow up the
>whole amplifier because the second relay will never come on. Of course,
>one SET of the contacts on the DPDT could fail and cause catastrophe, but
>I'd gamble this way instead of some sort of timing circuit.
>
>Jim

That still requires a delay included for the output relay, and supply
voltage for the input relay must be taken from across the output relays
souces (but without the delay) and routed via an extra set of contacts on
the output relay to the input relay.

The output relay needs to always close first, and open last.

73 Tom

3017. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961117030900.WAA26873@ladder01.news.aol.com>
Source record: 100679

In article <328E1C61.4014@mail.teclink.net>, "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:

>I understand what you measured, and I don't dispute your findings at >all. However, while Tom has been talking about "shorted loads" and that >sort of thing, Rich has been discussing arcs and other misbehavior that >have happened in amps where the antenna was NOT shorted, damaged or >compromised in any way.

How does Rich know the load was good and the amp was tuned correctly Tom? Was he actually at the person's house watching everything, including SWR and exciter peak power, when the failure occured?

For two examples:

1.) Many exciters output short bursts of higher than normal drive power before the ALC kicks in.

2.) Sometimes the loading cap may flash over, this unloads the tank.

3.) The antenna relay may not "hit" right.

>And, while the high anode voltage mentioned in >this thread was indeed there, it was with one or more of the tuning >capacitors WAY out of tune, and actually adjusted for max anode voltage.

No, it can happen with NORMAL tuning if the load moves the correct direction. It can even happen if the exciter spikes the PA **without** any load fault.

>Once again, this does not dispute Rich's claim.

It's a lot like arguing religion or UFO's isn't it. Even if the claim flys in the face of science, there will be people who believe.

>Rich was talking about an amp arcing and otherwise having problems in a >properly configured system, and while in normal operation.

He doesn't know that unless he was there with test equipment hooked up. I doubt he even has the correct equipment, maybe he can give us an idea of what he has for measurement devices.

>Measuring the anode voltage under abnormal conditions does not in any >way prove that the same anode voltage exists under normal conditions.

>Am I missing something here?

Yes.

1.) How an oscillator works.

An oscillator either oscillates or it doesn't. It doesn't suddenly "ring" or "gong" into oscillation. Photons won't suddenly cause a circuit to oscillate, neither will keying transcients.

2.) Grid dissipation

Varian rates their 8877 grids at 25 watts, even though Rich claims almost 500 watts is required to hurt them. He claims the gold melts from I^2 R losses, when the primary heat mechanism is electron bombardment.

3.) Impedances

The impedance of the plate capacitor. It is impossible for the tube to excite the bandswitch or tuning cap with enough VHF energy to make them arc.

4.) Emission limitations

The 3-500Z saturates at about ten amperes of cathode current even if the grid is pulled to thousands of volts positive, yet Rich claims the tube will draw hundreds of amperes in a parasitic.

5.) Gold migration.

Rich claims gold only leaves the grid when it "boils", yet gold migration occurs even if the gold is still a solid.
>
>PS: I say, keep the electronic grid protection and add the carbon "fuse
>resistors" if the amp is unstable. You just can't have too much grid
>protection, or tube protection in general.

Wrong. Carbon resistors on the grid are idiotic for protection. The current required is too large, the time delay too long, and if the resistor opens the grid is free to float high.

Secondary emission in an operating tube can cause this effect, as can leakage.

>But, Rich's claim that the
>electronic protection may be insufficiently robust for a cataclysmic
>failure sounds correct to me.

Me too, but Rich seems to want to throw the baby out with the water. The correct solution is to add an energy absorbing type resistance in the anode, and properly protect the grid overload system.

The primary mode of grid failures, as Varian claims and experience verifies, are load faults or mistuning. Varian even mentions that in service bulletins. Rich confuses anode to grid faults due to gassing.... with parasitics.

73 Tom

3018. Re: NBFM modulator: design wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: "Marc H. Popek" <LVMarc@worldnet.att.net>
Message-ID: <01bbd438$0c079060$23ea93cf@162137421worldnet.att.net>
Source record: 100680
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

The european are measurably more deviant than US counterparts. however the more open lifestyle and lais-faire attitude enable coping with "normal" life.

John EVANS <IFANS@CN.MSM.CERN.CH> wrote in article
<328A0036.7E13@CN.MSM.CERN.CH>...
> As an aside, could somebody please tell me the frequency deviation
> for a commercial (European) FM station? Thank you, John.
>

3019. Good source for amplifier tips (part4)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbd443$d4572980$5a229bcf@kn6dv.qnet.com>
Source record: 100681

For those who are interested in the on going discussion, I have uploaded
"part 4".
Also you will fine the letter from Eimac (to AG6K) here.:
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3020. Re: Pye M290 low band PMR (UK)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: wautelet@innet.be
Message-ID: <AEB484329668D1FE@pool02a-216.innet.be>
Source record: 100682

In article <32872E5B.4FE0@rcru.rl.ac.uk>,
Mike Willis <mjw@rcru.rl.ac.uk> wrote:

>Mike Stirling wrote:
>>
>> Does anyone have a circuit diagram of any of the Pye M290 series PMR
>> radios that they could E-Mail me, or know where I could get one from?
>>
>> Thanks.
>>
>> /\/\ike

Ypu can try Mauritron Technical Services
8 Cherry Tree Road
Chinnor, Oxon, OX9 4QY
Tel : 01844-351694 Fax:01844-352554

They have plenty old manual or copies availble but not cheap.

Or Ham Radio Today.

(BTW, I'm using a MX290 on 2 meter and a M296 on 70cm).

Have a nice day,
Thierry.

Email : year2238@club.innet.be
Ham : ON7KL PowerMac User

3021. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <56mg3n$c3d@kirin.wwa.com>
Source record: 100683
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

I would say:

I am sorry I stated your apparent conflict of interest as
fact.

Simon

---

tunedin@arcos.org (.) wrote:

>In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>,
> "James S. Kaplan" <kg7fu@combined.com> wrote:
>>ARRL lawyer to sue member
>>
>>The following is a copy of a message I received today from
>>ARRL General Counsel Christopher D. Imlay N3AKD:
>>
>>
>>To: James S. Kaplan, KG7FU
>>Copies: Mary Lou Brown, NM7N
>> Terry Baun
>> John Poray
>>Date: July 16, 1996
>>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
>>**
>>
>> Jim, I have just finished reading your article in the July,
>>1996 Water Cooled Newsletter, page 6. In it, you argue that two of
>>my clients, the American Radio Relay League, Inc. and the Society
>>of Broadcast Engineers, Inc. should cooperate in certain government
>>relations projects, specifically spectrum protection. You note that
>>I serve as the General Counsel for both organizations. You then
>>jump from that argument to the following, which I quote:
>>
>> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
>> perhaps both ARRL and SBE should be seeking more
>> effective counsel. No offense Chris, but we have work to
>> do. We should not only be sending a message to the FCC
>> and Congress, but to other radio industries.
>>
>> (emphasis in original)
>>
>>It is not useful for me to educate you on the subject of your

>>article to correct the errors in it, and I do not intend to do so.
>>What I do intend, however, is for you to print a retraction, in
>>unambiguous terms, in a form acceptable to me, and to furnish to
>>me, in writing, an assurance that such will be printed in the next
>>Chapter Newsletter for Chapter 124. Failing that, I am going to sue
>>you in the District of Columbia for libel.
>>
>> I have no intention of allowing you to falsely allege that I
>>have a conflict of interest in representing two of my best clients,
>>especially in an SBE publication. You are not entitled to damage my
>>reputation as a lawyer, which you have done in your article, or to
>>infer (without any basis at all) that I have violated the canons of
>>ethics governing attorneys, by which I govern my actions.
>>
>> I will await your response.
>>
>>Chris Imlay, N3AKD
>>
>Great response! People need to express their thoughts and opinions without the threat
>of legal action!

>Dave
>tunedin@arcos.org

In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

3022. Low Frequency Reception Boston Area

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: ashlock <ashlocks@mdc.net>
Message-ID: <01bbd46e.1e9b35c0$0bf042ce@comp-1>
Source record: 100684

Is anyone in the Boston area receiving by 1 watt beacon on 187.55 kHz? The ID is "WA" and runs continuously.

My signal typically gets out about 50 miles from my home base in Andover, MA, with good receiving equipment, and favorable conditions.

3023. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <328eecbe.3191735@news.frazmtn.com>
Source record: 100685

On 17 Nov 1996 03:06:56 GMT, w8jitom@aol.com wrote:

>An oscillator either oscillates or it doesn't. It doesn't suddenly "ring"
>or "gong" into oscillation. Photons won't suddenly cause a circuit to
>oscillate, neither will keying transcients.

Tom, are you absolutely sure it's impossible for a unstable amplifier
to start into oscillation intermittently from switching transcients?
73, Jesse, W6KKT

3024. Re: ARRL IMD MEASUREMENTS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-17 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <XHUoYEAt3ujyEwqq@ifwtech.demon.co.uk>
Source record: 100686

Gary Coffman wrote:

>>>Because that's the right way to do it. Unfortunately, right or nor,
>>>it is not the standard way to do it.
>>
>>There is no right way to make a measurement, only a standard way.
>
>I disagree. The right way to make a measurement is the way which
>gives the correct value. Any other way, whether you call it standard
>or not, is the wrong way.

And someone else in turn will disagree with that...

>For example, I could say that the standard
>way to read the static electric field is to hold the probes of a
>VOM in the air. But that would give an incorrect reading of the
>static field, so it is the wrong way to make the measurement.

Now that's true - but it has nothing to do with this discussion. Gary's example is merely an inaccurate measurement.

This thread is about two measurement methods that are both defined, and that definition re-stated along with the results: either "X dB below PEP" or "X dB below either of two equal tones". Measurement accuracy is a separate issue that applies equally to both methods.

We could continue to discuss which is the "better" or the "more useful" or the "more appropriate" measurement to make, but neither measurement is "wrong".

Let's change the subject: how good are two-tone methods anyway?

If we are concerned with the ability of one SSB (voice) user to interfere with users on nearby frequencies, measurement of exclusively low-order intermod proucts with static tones is a pretty poor method.

Most amateur reviews (and some professional specifications) concentrate far too much on low-order products. We usually see reports of 3rds and 5ths with a tone separation of about 1kHz, and maybe a plot out to +/- 10kHz, but that's all.

Wideband splatter is caused by much higher-order IPs than the ones we usually measure, and published test results don't usually show whether those IPs drop quickly into the noise or tend to remain at audible levels over a very wide bandwidth. Also, many transmitter / power-supply combinations will give quite different IMD performance when allowed to settle to steady two-tone conditions than when they're being kicked

around by a pulsed two-tone signal or real voice modulation.

You can see a much more realistic picture of spectrum occupancy by setting a modern spectrum analyser to "peak hold" mode, and leaving it to run for several minutes of normal voice modulation. What comes out is an envelope plot of the highest signal levels seen at any time, as a function of frequency.

Because the voice modulation is wideband rather than single-tone, you can't see distinct peaks from the separate orders of IPs. The output looks very much like a noise-sideband plot, a continuous line with a general downward trend at each side of the main signal. There are statistical fluctuations because the analyser may not be looking at a particular frequency when a very short peak occurs, but those errors are reduced if you run the test for a longer time.

The main virtue of this method is that it simulates on-air use under much more realistic conditions than a static two-tone test. I don't think it completely replaces the traditional test method, but it's certainly a valuable addition to it.

Any comments, please - particularly from somebody who has tried it?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3025. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961118001500.TAA16346@ladder01.news.aol.com>
Source record: 100611

In article <measures-ya023180001711960850510001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

W8JI initially said re SB-220:
>> >The SB-220, when improperly loaded, can produce over 4 kV peak on the
>> >input end of the tank. The tube peak anode voltage is over 7 kV. Until
>> >something "gives" or the energy falls back in equilbrium, the voltage
>> >builds. Unfortunately it is often the tuning capacitor or bandswitch
that
>> >arcs.
>
>This voltage does not 'build' in my SB-220, or in my other amplifiers
>either

Everything from photons to grid dissipation is different in you
amplifiers, it only makes sense that PA voltage behaves differently there
also.

> Why mention the anode voltage when we are talking about the peak voltage
>on the tune capacitor?

Why not? It gives users a feel for the stress on the tube.

> None of this discussion about deliberate mistuning really matters, Tom.

It does. If tuning is correct at a given output but...

1.) The antenna relay fails to transfer and/or the loading cap arcs.
2.) Excessive RF drive is applied.
3.) Something in the antenna or tuner arcs

tank voltage and anode voltage can soar. This can cause the tube or tank
components to arc over.

>In the SB-220, tune capacitor arcing occasionally occurs during normal
>operation, not during experiments where the tune and load controls are
>mistuned for maximum voltage across the tune capacitor.

I would suggest someone tune the PA properly then, or correct the ALC
overshoot in the exciter.

> My SB-220 tune capacitor used to arc occasionally until I lowered the
>VHF-Q of the VHF parasitic oscillation suppressors. After lowering the Q

>of the VHF parasitic suppressor, the pecuilar tune-capacitor double-peak
in
>40m tuneup disappeared. Other folks have experienced similar results.
In

>the Drake L4-B, the tune-capacitor double-peak in 15m tuneup disappears
>when lower Q suppressors are installed.

Of course, it lower HF tank Q.

>Tom has argued that virtually all of the vhf current passes through the
>> >suppressor resistor, and that virtually none of the vhf current passes
>> >through the suppressor inductor. Is this the case?
>>
>> No, I argued that the dominant Q determining component at VHF and
higher
>> was the resistor, not the inductor. I've said repeatedly the primary
path
>> for VHF and UHF signals is through the resistor, and the primary path
for
>> HF signals is through the coil ### IN A PROPERLY DESIGNED SUPPRESSOR
####
>
>When you telephoned me in 1990, you talked about properly designed
>parasitic suppressors. However, you offered no information about such
>animals. You brought up the subject of proper suppressor design again
>here, and yet you still provide no information.

Rich, read back. I described methods used to design suppressors. Unlike
you, I believe each system is different, and requires different solutions.
What works best in an 8877 does not work at all with a 3CX1200A7. The
design is dependent on the self-neutralizing frequency of the tube and the
layout.

>If an 8877's VHF parasitic oscillation suppressor resistor is 50 ohms
and
>the (paralleled) suppressor inductor is 30 ohms, the lion's share of the
>VHF current would seemingly pass through the 30 ohm inductor and the
>lesser, remainder of the total current would seem to pass through the
>resistor. However, perhaps I am in error.

Actually, if the grid is properly grounded and the anode leads are short,
the 8877 requires no suppression at all in many cases. When it does
require suppression, it is generally at UHF. So that would be a poor case
study of VHF suppression.

> Tom: Are you suggesting that the primary path of VHF current is through
>the paralleled 50 ohm resistor? If you maintain that most of the VHF
>current passes through the 50 ohm resistor, Tom, please show us the
>mathematical solution that led you to your conclusion.

Let's look at a typical suppressor such as the SB-220, AL-80, or SB-1000
suppressor, since a 3-500Z almost always needs a suppressor in the 100-
130 MHz area. Will that be ok?

73 Tom

3026. Is it possible to modify VCR "Rabbits" for ATV use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: "Jon Arndt (N0SGM)" <holmes@concentric.net>
Message-ID: <01bbd4fe$ad9c3d60$bd72adce@default>
Source record: 100612

1. Is it possible to modify an ordinary "Rabbit" for ATV use?
2. Can the receiver module be modified to tune across the entire 902 Mhz band?
3. Can the transmit module be modified to xmit in the 1200Mhz band by multiplying the IF differently?
4. If the above is possible can the receive module be modified to tune the 1200 Mhz band?

Any suggestions would be appreciated.

Jon Arndt (N0SGM)

3027. Re: home made paddle

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: w1gak@mindport.NET
Message-ID: <199611180358.WAA05579@Eden.mindport.net>
Source record: 100613

Used one a few years ago made with some pc board and a cmos nand gate. The conductivity of my hand turned it on. It was in one of the ham mags. The metal made my hand cold.

3028. Re: Home made paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: Cliff Davies <cliffd@zetnet.co.uk>
Message-ID: <19961118120731682 95@zetnet.co.uk>
Source record: 100614

In message <E0xoJH.E27@twisto.eng.hou.compaq.com>
Monty Wilson <nospam@see.signature.part> writes:

> I'd like to find some material I could use for switches
> that wouldn't take too much force to actuate and could last
> many thousands of closures and openings.

> Has anyone invented this wheel already?

Many times :-)
Try using two micro switches back to back and mounted on a very small
board complete with strap and some 'Velcro', remember seeing it in a
recent QST.

Regards
Cliff GI3HNM

3029. Cyber Image

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: Embroider <djliu@execulink.com>
Message-ID: <01bbd50a$909e3fe0$1506a6c7@djliu.execulink.com>
Source record: 100615
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.a

Good news.
Fellow surfers, you could order real cool T-shirts or/caps with
a fantastic embroidery on: the graphic is a surfer surfing on www,
embroidered like waves on the sea in the virtual world, the word
cyber-surfer is lively located on the corner of the design. The whole
embroidery creation is just a piece
of art that reflects your spirit and your feeling.(Three colors of the
design will change
according to the colour of your ordered garment.)
If you want to personalized the garments, please add one dollar to the
price and specify the fonts you like, we will embroider your name on.
If you do not care about our graphic but want a phrase to be embroidered
such as CYBER-PUNK, PUNK@WWW.NET, WILD NETTER, NET HACKER or whatever you
want, just write to us, we will make you excited.
Caps, white, black, blue, yellow, red, purple, green and
brown, with ajustable buckle one size fits all.
T-shirts, white, black, blue, yellow, red, ash and natural, with M, L,
XL & XXL.

Please give yourself a treat or give your loved one a personalized X-mas
gift!

Both the T-shirts and the caps only cost U.S. $7.5/ Cdn $9.5 including
postage (even international!)
Please order by mail with check or money order to Power Vision Embroidery
Co. The address is:
****
Power Vision Embroidery Co.
101-1600 Adelaide Street North
London Ontario N5X 3H6 Canada
****
Please write your return address as clear as possible for quick
delivery.
Thank you.

3030. Re: Home made paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <56prua$2ai@sf18.dseg.ti.com>
Source record: 100616

Hi, Monty.

I made a very tiny paddle for portable QRP work. I used some old switch
contacts from Turner CB-type desk microphones. Relay contacts snatched
from old open-frame relays could be used also.

73!
Dean KC5NG

In article <E0xoJH.E27@twisto.eng.hou.compaq.com>, nospam@see.signature.part
says...
>
>I would like to put together small and inexpensive iambic
>paddles for the car. I use a Brass Racer at the house but
>I wanted to see what I could put together myself for mobile
>use. I'm experimenting with double-sided copper PC board
>from Radio Shack, but it is very thick and doesn't have
>much "flex" to it, so I'm afraid if I proceed with that plan
>my hand will become fatigued if I use it long.
>
>I'd like to find some material I could use for switches
>that wouldn't take too much force to actuate and could last
>many thousands of closures and openings.
>
>Has anyone invented this wheel already?
>
>--
>.........Monty.
>mwilson @ flex.net (with spaces deleted)
>
>

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3031. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001811960651460001@news.vcnet.com>
Source record: 100617

In article <56746n$50e@opal.southwind.net>, nv0y@horizon.hit.net (Mike Foley) wrote:

> In article <199610171243.FAA04002@mail.ucsd.edu>,
> modinaf@swsupp.ico.olivetti.COM (Fabrizio MODINA) says:
> >
> >Hi All!
> >I`m looking for address of dealer or producer a roller inductor to
> build a
> >tuner for hf bands.

Variable inductors (up to 40 Amperes), fixed inductors, variable capacitors: Multronics @ 516-957-7200, 80 East Montauk Highway, Lindenhurst, Long Island, N.Y. 11757. Be sure to short the unused turns, Fabrizio.

--
--Rich-- ag6k, 805.386.3734

3032. IMD measurements

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9610188483.AA848337945@mails.imed.com>
Source record: 100618

Ian suggested using a spectrum analyser set to peak hold mode as a
means of getting an indication of what a signal does to its neighbors.

It's funny he should mention that. I did it just 2 weeks ago.
Unfortunately, I didn't take any quantitative measurements, I was
just playing around. I need to put the directional coupler in the
line soon and re-run the tests during a QSO looking out over 100 KHz.
I can then correlate the results to a 2 tone test.

I'll post the results when I have them.

Ray
WD5IFS
mack@mails.imed.com

3033. Re: Home made paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <56pue1$edh@dfw-ixnews5.ix.netcom.com>
Source record: 100619

In <E0xoJH.E27@twisto.eng.hou.compaq.com> Monty Wilson
<nospam@see.signature.part> writes:
>
>I would like to put together small and inexpensive iambic
>paddles for the car. I use a Brass Racer at the house but
>I wanted to see what I could put together myself for mobile
>use. I'm experimenting with double-sided copper PC board
>from Radio Shack, but it is very thick and doesn't have
>much "flex" to it, so I'm afraid if I proceed with that plan
>my hand will become fatigued if I use it long.
>
>I'd like to find some material I could use for switches
>that wouldn't take too much force to actuate and could last
>many thousands of closures and openings.
>
>Has anyone invented this wheel already?
>
>--
>.........Monty.
>mwilson @ flex.net (with spaces deleted)
>
>
I built one a while back, but I haven't used it much. One day I was in
the garage, and noticed the laminage on the edge of the workbench (an
old desk with fake formica top) was peeling off. I pulled it off and
tried to decide what to do with it, it seemed about the right
flexability for a key, so I picked up some microswitches out of the
junk box with both NO and NC contacts, I glued a piece of 3/8 or so
wood between the pieces of laminate, glued that to a piece of PC board
perfboard, and mounted the two microswitches so the laminate held them
open, and connected the wires to the NC contacts. I put a piece of
velcro on the bottom, and stuck it to the console. It seemed OK, but
I'm not spoiled by something like the brass racer, I have a Scotkey
which is interesting, but not that good of a key. I don't know the
life of the microswitches either.

Good luck, if you come up with a design you might post it. One group
built a straight key out of hacksaw blades, and published it in QST a
few years ago.

KI5GY Sparky

3034. Microwave Antenna Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: James Mills <jmills@eleceng.ucl.ac.uk>
Message-ID: <329088EF.5C4F@eleceng.ucl.ac.uk>
Source record: 100620

Hello Everybody,

Does anybody know of some good software / shareware for microwave
antenna and circuit design for microstrip work.

Regards

Jon Mills

j.mills@eleceng.ucl.ac.uk

3035. Re: your LISTSERV request "help lpt cw interface"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: Listserv@ucsd
Message-ID: <199611181708.JAA10724@mail.ucsd.edu>
Source record: 100621

```
The mailing list "lpt" could not be found.
You may use the INDEX command to get a listing
of available mailing lists.
```

3036. Re: Any mod info for Kenwood TS-60 Transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: Clif <avvid@onramp.net>
Message-ID: <3290746D.CF0@onramp.net>
Source record: 100622
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

MICHAEL J DRUM wrote:
>
> Greetings,
>
> I am looking for any mod info on the Kenwood TS-60 six meter all mode
> transceiver. I was unable to get any applicable info from Kenwood's web
> site on this transceiver, so I now turn to the internet for help.
>
> Any info would be appreciated. All reply's will be answered.
>
> Thanks.
>
> Mike>

There is one technical bulletin and one parts change bulletin out on the
TS-60. There are no mod sheets. What do you want it to do???

Clif
avvid@onramp.net
AVVid is an authorized Kenwood and Icom Service Center

3037. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: rnh@gmrc.gecm.com
Message-ID: <56putl$fh1@miranda.gmrc.gecm.com>
Source record: 100623
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Mike McCarty (jmccarty@sun1307.spd.dsccc.com) wrote:

[snip explanation pre-/de-emphasis used to increase signal/noise ratio]
>Similar schemes are used in tape decks, and on vinyl records (RIAA
>equalization, also called 75us equalization).

For vinyl, the maximum undistorted recording level depends on frequency,
so the RIAA equalization is tailored to reflect that, rather than simply
matching the signal and noise spectra. I thought it was more complex
than the simple 75 (or 50? depending which ITU region you're in) microsecond
curve generally used for FM?

>Dolby is a similar scheme.

Not really, except that its effect is to increase the S/N ratio -
unlike passive filtering, it works by active compression/expansion of
the signal (either just the high frequencies, or in several bands, depending
on which kind of Dolby you use.)

--
Richard Herring | richard.herring@gecm.com | Speaking for myself
GEC-Marconi Research Centre | Not the one on TV.

3038. Re: 3-500Z's - whats the difference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001811960938480001@news.vcnet.com>
Source record: 100624

In article <19961116052900.AAA08128@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Duncan,
> In article <3+k1jAAGoIjyEwsf@dnamp.com>, Duncan Clark <Duncan@dnamp.com>
> writes:
>
> >There are a number of different 3-500's on the market from genuine Eimac
> >to 'pretenders'. These 'pretenders' are less expensive so what is the
> >catch?
>
....snip...
>
> The Chinese tubes have poor fitting components (like anode connectors),
> gas troubles, and weak envelopes....snip......

The weak envelope problem in Chinese 3-500Zs was reported to QST staffer Rus Healy, NJ2L, by Vectonics, a Canadian Manufacturer of HF amplifiers. Rus told me that the glass would mysteriously melt in certain areas for no apparent reason. Naturally, the molten glass is forced towards the vacuum by the atmospheric pressure, until the resultant glass bubble pops. This problem appears to have been caused by an intermittent oscillation condition somewhere around 150Mhz. The cure was to improve the dampening ability of the VHF parasitic suppressor by lowering its VHF-Q.
Since Eimac 3-500Zs have not, to my knowledge, ever had such a problem during intermittent VHF oscillations, chances are that Eimac uses a glass recipe which provides a minimal dissipation-factor (D-factor) at VHF.

The Chinese amplifier-tube manufacturers are not exactly 'pretenders', Duncan. A tube dealer told me that Eimac engineers went to China--at the request of the U.S. Government--and showed the Chinese how to manufacture 3-500Zs, et cetera. I have a friend who services commercial FM broadcast transmitters that use 8877s. He tells me that the currently-made Chinese 8877s last as long as the Eimac 8877s. This was not the case in the beginning.
---
e-mail copy to Mr. Clark and Mr Rauch

--
--Rich-- ag6k, 805.386.3734

3039. Re: Home made paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: wcm1@cornell.edu
Message-ID: <wcm1-1811961401400001@bill.ee.cornell.edu>
Source record: 100625

In article <E0xoJH.E27@twisto.eng.hou.compaq.com>, Monty Wilson
<nospam@see.signature.part> wrote:

> I would like to put together small and inexpensive iambic
> paddles for the car. {snip, snip}
>
> I'd like to find some material I could use for switches
> that wouldn't take too much force to actuate and could last
> many thousands of closures and openings.
>
> Has anyone invented this wheel already?

An approuch I saw a long time ago in QST which I tried and liked was
to bolt two regular practice straight keys (J-38's were $1.25 apiece then,
but any practice key would do.) back to back on a piece of 3" aluminium
Tee bar which is then strapped to the transmission hump of the car or
ballasted with a railroad sleeper plate and sat on the seat. The two
sides of the key are independently adjustable for spacing and tension and
even cheapie keys will hold up for a long time once you get the
adjustments right. KA1UL

3040. Want: VHF / UHF SWR Meter plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: Bob Berg <bberg@connix.com>
Message-ID: <3290A998.26AB@connix.com>
Source record: 100626

hello,
Looking for plans to build a VHF/ UHF 2m-70cm SWR Meter.
up to 50 Watts power handling capabilities.
Does anyone have any plans or know how to build one. Any information
would be greatly appreciated.
Thanks
N1YCH
Bob Berg
bberg@connix.com

3041. Re: Home made paddles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: griffin@jgfl1.allcon.com
Message-ID: <E12tHu.9w@jgfl1.allcon.com>
Source record: 100627

Monty Wilson (nospam@see.signature.part) wrote:
> I would like to put together small and inexpensive iambic
> paddles for the car. I use a Brass Racer at the house but
[...]

How about two microswitches back to back with a piece
of (whatever) in between. Or you could mount the micro-
switches on a T with the handle sticking out. Just
make sure you can operate safely while driving.

Just my $.02,
Jens, DB9LL
--
at work: jg@combtx.com, bofh@combtx.com (http://barbara.combtx.com/~jg)
at home: griffin@jgfl1.allcon.com
at play: jg@beach, griffin@rpg, db9ll@g-qrp/darc
"You beeped me for WHAT?"

3042. Re: 3-500Z's - whats the difference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961118182900.NAA03307@ladder01.news.aol.com>
Source record: 100628

I'd certainly like to hear an detailed explaination of how parasitics cause glass to fail, that might be as interesting as the photon tale.

BTW, all the Chinese 8877's I saw were relabeled Eimac tubes, some with manufacturing dates (in the serial numbers) as much as 8 years old. It doesn't surprise me life improved after they went through the old tubes and got into newer batches, since the early ones were from batches manufactured when Eimac had G-K shorts from heat dam and material troubles.

73 Tom

3043. YIG oscillators home brew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: msimons <msimons@IAEhv.nl>
Message-ID: <01bbd588$29793b20$2d4697c2@marc'scomputer>
Source record: 100629

Hi there RF anthousiasts,

Is anyone aware of the existance of YIG - oscillators? Are there any surplus components around to make your own? I want to try out something with it. The surplus HP types still go for over $200 and up. Did someone try out to make his own? Let me know!

msimons@IAEhv.nl

3044. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <56qeie$scu@lace.colorado.edu>
Source record: 100630

In article <measures-ya023180001811960651460001@news.vcnet.com>,
R. L. Measures <measures@mail.vcnet.com> wrote:

> Be sure to short the unused turns,
>

Many articles using air-wound coils direct one to short unused turns,
and you do too. I see how the voltage would be high at the end, like a
Tesla coil, but it seems like it would also lower the Q, possibly a lot.
Shorting unused turns on an inductor-with-a-core amounts to having a
transformer with a shorted secondary - which is no good! What
are the pros of shorting turns? (And how much does it lower Q?)

Bruce
N6URH

3045. Syncronous Noise Blanker Idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: frohro@wwc.edu
Message-ID: <frohro-1811961442450001@hrf.wwc.edu>
Source record: 100631

Hi,

The other day I had an idea. The idea was for a syncronous noise blanker. At home I am plagued by QRN coming from a substation about a mile north of my QTH. I've tried SEM's QRM Eliminator (which uses another antenna to pick up the nearby noise, adds it in with the signal from the main antenna, and amplitude and phase controls to sum the noise to zero), but it didn't solve my problem. I never could get another antenna to pick up the QRN from a mile away anywhere near as well as my four element quad.

So anyway, my idea is this: Assuming the noise is coming from arcing of a 60 Hz source, actually the same 60 Hz source I'm powering my radio on, and assuming it happens on peaks, then it will happen 120 times a second. Why not build a blanker that triggers on the 60 Hz line signal and that has an adjustable blanking interval time and adjustable delay from the trigger? Has anyone tried this? What kind of results were had?

Thanks!

Rob KL7NA/W7

--
Rob Frohne
E.F. Cross School of Engineering
Walla Walla College
204 S. College Ave.
College Place, WA 99324

frohro@wwc.edu
http://www.wwc.edu/~frohro

3046. Need background about Mocom

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: derekt@col.hp.com
Message-ID: <56qn9r$epg@nonews.col.hp.com>
Source record: 100632

A friend has come across a hand full of UHF Mocom 70 radios. He asked
if they can be used as repeaters.
I have worked with Mitreks and Micors but know nothing about Mocoms.
Was wondering if anyone here could fill me in? My first thought is that the
Mocom was the model before the Micor. Is this correct? Do the make a
reasonable repeater? How about a link radio?

3047. transformers for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: kq4zd@southeast.net
Message-ID: <31fec3a0.638297@news.jaxnet.com>
Source record: 100633

Have 1100 V 800 MA cont duty and 5VCT 15A transformers for sale. All
with 115VAC primarys. 1100V are 89.95 plus shipping and 5VCT are
29.95 plus shipping. E-mail is KQ4ZD@southeast.net if interested.
All transformers are new.

3048. Re: Low Frequency Reception Boston Area

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-18 00:00:00 UTC
From: Phil <pmetcalf@xyplex.com>
Message-ID: <56q9ig$ras@cronkite.xyplex.com>
Source record: 100634

I live in Worcester, MA.

I'll give it a try and get back to you.

How long has it been up?

Phil KA1NHZ

3049. Re: 3-500Z's - whats the difference?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961119035300.WAA16043@ladder01.news.aol.com>
Source record: 100537

I will be off net two or three days.

73 Tom

3050. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961119035300.WAA16042@ladder01.news.aol.com>
Source record: 100538

I will be off net two or three days.

73 Tom

3051. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961119035200.WAA16040@ladder01.news.aol.com>
Source record: 100539

In article <56qeie$scu@lace.colorado.edu>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:

>Many articles using air-wound coils direct one to short unused turns,
>and you do too. I see how the voltage would be high at the end, like a
>Tesla coil, but it seems like it would also lower the Q, possibly a lot.
>Shorting unused turns on an inductor-with-a-core amounts to having a
>transformer with a shorted secondary - which is no good! What
>are the pros of shorting turns? (And how much does it lower Q?)
>
>Bruce

There is so much flux leakage in an air wound coil, Q reduction is not drastic. Especially since without shorting turns both series resonance and voltage breakdown problems get worse.

You may still have problems at the range above 15 MHz with unwanted series resonance, even with the unused turns shorted.

73 Tom

3052. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961119035300.WAA16041@ladder01.news.aol.com>
Source record: 100540

In article <19961118001500.TAA16346@ladder01.news.aol.com>,
w8jitom@aol.com writes:

>
>Let's look at a typical suppressor such as the SB-220, AL-80, or SB-1000
>suppressor, since a 3-500Z almost always needs a suppressor in the 100-
>130 MHz area. Will that be ok?
>
>73 Tom

I will be off-net for two or three days.

BTW, Tom Brown keeps asking who my sources at Eimac were. I can not give that information out (as I have said) because they really don't want to be involved in this.
They did say they will consider making one more final statement as soon as they have time, if Mr. Measures agrees to accept their position as the final word on this subject.

Anyone doubting Eimac's position can investigate things on their own. I wouldn't wish the kind of technical nonsense being argued here on anyone.

My opinion is anyone believing fantasies about 25 watt grids handling 500 watts, VHF energy making tuning capacitors arc, VHF parasitics causing glass to melt, Photons making tubes on standby arc over, not understanding grid dissipation, and so on..... is far beyond any help I can offer.

This thread has outlived any usefulness.

73 Tom

3053. Re: Syncronous Noise Blanker Idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961119043400.XAA16888@ladder01.news.aol.com>
Source record: 100541

Interesting idea. Ideally, the blanking should
be applied well ahead of the IF filter stages,
preferably using a pin-diode attenuator right
at the RFA stage. You might consider using
multivibrator synced to the AC line, and having
some way to delay or advance the timing -- this
would allow you start the blanking at a precise
point on the AC crest just before the "breakdown"
that is causing the noise starts. Having a variable
blanking width might also be useful. Chances are once
the breakdown occurs, the arc will substain over a considerable
portion of the downside of the AC cycle due to the
conductive nature of the ionization of the air.
That may be the bugaboo -- the arc
duration may last for a considerable portion of the AC cycle.

Let us know how the project works!

BTW, Collins used a TRF receiver in the 40 mhz
range in their blanker design. Had the unit, but
never tried it.

Peter, K1ZJH

3054. Semi-Rigid ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: ubas@rzstud1.rz.uni-karlsruhe.de
Message-ID: <56sff9$g7m@nz12.rz.uni-karlsruhe.de>
Source record: 100542

Hello.

Were can I get Semi-Rigid cables made of stainless steel (not copper!).

73, Ralf, DF1IAZ

--
Ralf Haueisen *** eMail ubas@rz.uni-karlsruhe.de

3055. Re: Semi-Rigid ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <56sici$as5@sjx-ixn4.ix.netcom.com>
Source record: 100543

In <56sff9$g7m@nz12.rz.uni-karlsruhe.de>
ubas@rzstud1.rz.uni-karlsruhe.de (Ralf Haueisen) writes:
>
>Hello.
>
>Were can I get Semi-Rigid cables made of stainless steel (not
copper!).
>
>73, Ralf, DF1IAZ
>
>
>--
>Ralf Haueisen *** eMail ubas@rz.uni-karlsruhe.de
Ralf,

I'm not sure what you mean exactly by semi rigid cable, if you want a very stiff Stainless Steel cable made of multiple wires, go to a marine shop specializing in Sail Boats, many of the cables are fairly rigid and all are Stainless Steel.

Glenn Sparks KI5GY

3056. WANTED: Plans for a tube/xtal transmitter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: "Thomas J. Alessi" <Tom@Alessi.Com>
Message-ID: <3291D972.480B@Alessi.Com>
Source record: 100544

Hi guys (and girls)
I am looking for a winter project to keep me busy. I am looking for plans for a crystal control, tube transmitter (& PS) maybe 10 or 20 watts. I used to have old handbooks and such, but I can't find anything.

If you have a descent project please contact me by E-Mail and I will make arrangement to get them from you.

Thanks in advance.

Tom - K1TJ
--

Thomas J. Alessi, 147 Joffre Avenue, Stamford, Connecticut 06905-2933
203.977.5200 * Tom@Alessi.Com * http://alessi.com/tom

3057. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001911960910190001@news.vcnet.com>
Source record: 100545

In article <19961118001500.TAA16346@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180001711960850510001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
.....snip.....
> > My SB-220 tune capacitor used to arc occasionally until I lowered the
> >VHF-Q of the VHF parasitic oscillation suppressors. After lowering the Q
>
> >of the VHF parasitic suppressor, the pecuilar tune-capacitor double-peak
> in
> >40m tuneup disappeared. Other folks have experienced similar results.
.....snip.......
> Of course, it lower HF tank Q.

On 40m?........I don't think so, Tom. // A double-peak has nothing to do with the operating Q of the tank. A double-peak is an indicator that an anomaly is present.

> >>......... I argued that the dominant Q determining component at VHF and higher
> >> was the resistor, not the inductor. I've said repeatedly the primary path
> >> for VHF and UHF signals is through the resistor, and the primary path
> for
> >> HF signals is through the coil ### IN A PROPERLY DESIGNED SUPPRESSOR
> ####
> >
> >When you telephoned me in 1990, you talked about properly designed
> >parasitic suppressors. However, you offered no information about such
> >animals. You brought up the subject of proper suppressor design again
> >here, and yet you still provide no information.
>
> Rich, read back. I described methods used to design suppressors. Unlike
> you, I believe each system is different, and requires different solutions.
> What works best in an 8877 does not work at all with a 3CX1200A7. The
> design is dependent on the self-neutralizing frequency of the tube and the
> layout.

Still no specifics.on the 'PROPERLY DESIGNED SUPPRESSOR'. All I have seen and heard since 1990 has the appearance of ersatz-esoterica......

> >If an 8877's VHF parasitic oscillation suppressor resistor is 50 ohms
> >and the (paralleled) suppressor inductor is 30 ohms, the lion's share of the
> >VHF current would seemingly pass through the 30 ohm inductor and the
> >lesser, remainder of the total current would seem to pass through the

> >resistor. However, perhaps I am in error.
>
> Actually, if the grid is properly grounded and the anode leads are short,
> the 8877 requires no suppression at all in many cases. When it does
> require suppression, it is generally at UHF. So that would be a poor case
> study of VHF suppression.

Who says that no suppression is needed for the 8877? The mysterious Mr. XXX? It is my opinion that this is porcine shampoo.
The gold-sputtered 8877 grid that is shown on page 16 of the Sept. 1990 issue of QST, was of a failed tube that was removed from a commercially-made 8877 HF amplifier that used a relatively high VHF Q parasitic suppressor. The failure occured during normal operation with normal drive. The failure did not occur during tuneup.
Tom: does the Alpha 77 8877 amplifier utilize a VHF parasitic oscillation suppressor?
Tom: does the Dentron DTR-2000 8877 amplifier utilize a VHF parasitic oscillation suppressor?
Tom: does Henry Radio utilize a VHF parasitic oscillation suppressor in their 8877 amplifiers?
Tom: does the Ameritron AL-1500 8877 amplifier utilize a VHF parasitic oscillation suppressor?

> > Tom: Are you suggesting that the primary path of VHF current is through
> >the paralleled 50 ohm resistor? If you maintain that most of the VHF
> >current passes through the 50 ohm resistor, Tom, please show us the
> >mathematical solution that led you to your conclusion.

Tom did not solve this problem. Apparently, Tom either 1. didn't have the time, or 2. he does not know how to solve this problem, or 3. he is fearful that the answer might jeopardize his title as one of the "amplifier experts". (See QST, Sept. 1994, page 71, col. 3)

The original problem:
==========
Tom has argued that virtually all of the vhf current passes through the suppressor resistor, and that virtually none of the vhf current passes through the suppressor inductor. Is this the case? In a typical 8877 vhf parasitic oscillation suppressor, the resistance is around 50 ohms and the inductance is roughly 45nH. A typical anode resonant frequency for an 8877 amplifier is about 100MHz. The reactance of a 45nH inductance at 100MHz is 30 ohms. If a 50 ohm resistance is connected in parallel with a 30 ohm inductance, which component will carry the most current, Tom?
==========
One solution: Apply 1VRMS to the parallel L-R circuit. The current through the R is 1V/50 ohms = 20mA. The current through the L is 1V/30 ohms = 33.33mA. The total current is 20 mA plus 33.33 mA = 53.33mA. Thus, 33.33/54.33 = 0.625, or 62.5%, of the total VHF current flows through the inductor, and 20/53.33 = 0.375, or 37.5% of the total VHF current flows though the resistor.

Tom stated:
> >>I've said repeatedly the primary path
> >> for VHF and UHF signals is through the resistor, and the primary path for
> >> HF signals is through the coil.

If 62.5% of the VHF current flows through the inductor ("coil"), and 37.5%
of the VHF current flows through the resistor, Tom, please explain how the
primary path for the VHF current is through the resistor?

ï¿½ Note to Tom Rauch---after we discuss the above analysis, I plan on
presenting a similar analysis for the 3-500Z parasitic suppressor that you
mentioned in your reply.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

3058. Rotator Controllers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: craigg@fast.co.za
Message-ID: <32920145.0@206.103.128.3>
Source record: 100546

Does anyone have any designs for controllers that will work with
programs that support the KCT and SAS1(I think....)controllers?
Even the handshaking that goes on would be a place to start.
Regards
Craig Gibson

3059. Re: FS Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: jarjwr <jarjwr@xpressweb.com>
Message-ID: <3291FD1D.12F9@xpressweb.com>
Source record: 100547
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap,rec.radio.swap

Joe Giraudo wrote:
>
> I have the following tubes available
>
> Number QTY
> 6SH7 46
> 5Y3GT 34
> 6SH7GT 116
> 6AT6 26
> 12AT7 13
>
> All or part for sale. Proceeds to local Amateur Radio Club.
>
> Any interest? Make offer
Joe Our club has about 1000 tubes of the TV type for sale. If you find
an interested party, please pass this along. Thanks Jim

3060. b&w inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: patol@indigo.ie
Message-ID: <56t27e$qbv@niamh.indigo.ie>
Source record: 100548

does any one know if its possible to buy the B&W inductors used in lots
of ARRL projects outside the USA, eg in england ?

pat ei8cz

3061. * Digital T-Hunting page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: rbarris@quicksilver.com
Message-ID: <rbarris-ya023280001911961446300001@news.quicksilver.com>
Source record: 100549
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have put up a new T-Hunt Web Page. Rather than write yet another introduction to T-Hunting, I start it off with some links to some known good T-Hunt pages, and then follow up with some stuff about the T-Helper and T-Helper Pro RDF projects. Hopefully by this time next year I will have a few new projects to write about as well.

http://www.quicksilver.com/~rbarris/

There is a link to the T-hunt section right there on the home page.

Hope you all like it. I previewed it on both Mac and Windows versions of Netscape 2.02/3.0 and everything looks OK here, but do let me know if you spot anything strange. I did get a couple reports of one animated GIF looking funny on Internet Explorer but OK on Netscape.

73 de KD6IFZ

Rob Barris
Quicksilver Software Inc.
rbarris@quicksilver.com
* Opinions expressed not necessarily those of my employer *

3062. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: Tim Connolly <kb8eht@access.mountain.net>
Message-ID: <32926A98.5214@access.mountain.net>
Source record: 100550
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

KW5Q wrote:
>
> I have uploaded to Simtel.Net:
>
> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
>
> sbfft11.zip Sound Blaster spectral display and filtering
>
> Features:
> * Sound Blaster 16 (or 100% compatible) input and output.
> * Band widths of 2K, 4K, 8K or 16K Hz.
> * Spectral resolutions of 1 Hz to 16 Hz per pixel.
> * Display of power spectral density with any of 4 color maps in either
> linear or logarithmic scale.
> * Define and use as many as to six filters simultaneously -- band pass,
> band stop, low pass, and high pass.
> * Filters are defined graphically by mouse movement based upon
> the displayed spectrum. Once you see a signal, you can
> quickly define a pass or stop filter around the signal by clicking
> and dragging the mouse.
> * Net filter passband is displayed at all times.
> * Filters can be selectively enabled and disabled by a single
> keystroke.
>
> Special requirements: DOS 3.0 or higher, SB16 or 100% compatible, SVGA,
> VESA modes 101, 105, mouse.
>
> Copyrighted Freeware. Uploaded by the author.
>
> Kevin - KW5Q
>
> kevinm@eden.com
>
> $$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
> Kevin McWilliams
> KW5Q
> Applied Mathematician

Could you explain what this software is used for, thanks!
Sounds like something I have been interested in.

-- Tim Connolly
-- Vienna Computer Services & World Wide Web Advertising
-- http://www.midohiovalley.com/vcs
-- mailto:kb8eht@access.mountain.net

3063. Linling radios together

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: cpierce@usit.net
Message-ID: <cpierce-1911962204240001@col-max85.dynamic.usit.net>
Source record: 100551

Does anyone have a diagram to connect two vhf radios together using the
mic connections only to make a temperary repeater for emergency use?????

Any sugestions would be appreciated.

Thanks

Charles KD4HHX

3064. Re: Semi-Rigid ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.202.00F11B78@azstarnet.com>
Source record: 100552

In article <56sff9$g7m@nz12.rz.uni-karlsruhe.de> ubas@rzstud1.rz.uni-karlsruhe.de (Ralf Haueisen) writes:
>From: ubas@rzstud1.rz.uni-karlsruhe.de (Ralf Haueisen)
>Subject: Semi-Rigid ?
>Date: 19 Nov 1996 14:16:09 GMT

>Hello.

>Were can I get Semi-Rigid cables made of stainless steel (not copper!).

>73, Ralf, DF1IAZ

>--
>Ralf Haueisen *** eMail ubas@rz.uni-karlsruhe.de

Ralf,

Are you speaking of coax with an outer SS conductor?

Wes ,N7WS

3065. Re: Syncronous Noise Blanker Idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: bart@wb6hqk.ampr.org
Message-ID: <E13tpv.6oC@wb6hqk.ampr.org>
Source record: 100553

In article <frohro-1811961442450001@hrf.wwc.edu>,
Rob Frohne <frohro@wwc.edu> wrote:
>Hi,
>
>The other day I had an idea. The idea was for a syncronous noise
>blanker. At home I am plagued by QRN coming from a substation about a
>mile north of my QTH. I've tried SEM's QRM Eliminator (which uses another
>antenna to pick up the nearby noise, adds it in with the signal from the
>main antenna, and amplitude and phase controls to sum the noise to zero),
>but it didn't solve my problem. I never could get another antenna to pick
>up the QRN from a mile away anywhere near as well as my four element
>quad.
>
>So anyway, my idea is this: Assuming the noise is coming from arcing of a
>60 Hz source, actually the same 60 Hz source I'm powering my radio on, and
>assuming it happens on peaks, then it will happen 120 times a second. Why
>not build a blanker that triggers on the 60 Hz line signal and that has an
>adjustable blanking interval time and adjustable delay from the trigger?
>Has anyone tried this? What kind of results were had?

I tried it years ago with favorable results when I had a local single
phase arcing problem. Depending on where the arcing is actually
occuring in the substation, the arcing may be at a 360 Hz rate
corresponding to the voltage peaks of each of the three phases. Due to
voltage breakdown differences in the individual phases you can expect the
noise pulses not to be uniformily spaced in time. This means you might
need three (or six) individual phasing controls making for tricky adjustment.

I suspect a properly adjusted noise blanker followed by one of the modern
DSP noise cancellation filters might be a better way to go these
days but I don't have any experience with the DSP units as of yet.

bart wb6hqk

bart@wb6hqk.ampr.org

3066. Re: Folded Dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: Stephen Dobak <sdobak@ptd.net>
Message-ID: <32910717.41BD4C12@ptd.net>
Source record: 100635

450 ohm line worked file for me, I used 16 gauge stranded conductors
used an electrical 1/2 wave for feed to reflect the antennas
impedance at the shack (450 ohm) and went to a 4-1 to the rig.
Had a 1-1 swr at 1850 and was well under 2-1 across the entire band.
Worked like a champ

--
/-------------\
|Steve Dobak |
| WB3AMG :-) |
^^^^^^^^^^^^^^^

3067. Re: Wilkinson Combiner or 1/4 Wave Sections ? Opinions ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-19 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3291276f.11488183@news.santafe.edu>
Source record: 100636

jpotter@jpaw.com (Jim Potter) wrote:

>I'd recomend you consider a quadrature combiner. I t requires a 90
>degree hybrid in the input and the output, arranged so that the phases
>all add up correctly. The coupler is most easily made from Sage
>Wireline which you can get from Sage Laboratories (508) 653-5671.
>

OOPS! That was their FAX number. Voice number is 508-653-0844. Sorry
for the confusion.

Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3068. need tank circuit for 160-10m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Ron Hanes <elect-ron@worldnet.att.net>
Message-ID: <329402B8.265E@worldnet.att.net>
Source record: 100487

A friend of mine is seeking a tank circuit for 160-10m
for a 4-1000
He said B&W used to make one.
He uses his station to aid missionarys and their families overseas.
His e-mail address is KB9KSL@juno.com
thanks,
Ron Hanes

3069. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: "George J. Molnar" <gmolnar@cyberportal.net>
Message-ID: <3293D031.9B5@cyberportal.net>
Source record: 100488

John Mcleod wrote:
>
> Does anyone know :
>
> Is it possible to use my 30Mhz SWR meter to measure the swr in the
> 6 meter band ? What is it that determines the bandwidth of the meter ?
> Would I have to change the sensor head, or do I just have to bite the
> bullet and spend out money for a new one ?
>
It might work just fine, depending on the construction of the bridge.
The actual SWR values will probably be skewed somewhat, though. As a
relative indicator, you'll probably be able to get away with 6m on a
1-30 MHz designed unit, but not much higher.
As the frequency applied diverges from the design limits, the meter will
show progressively more error, up to the point where no useful
information is available. On some bridges, the sensor coil can actually
become an appreciable part of a wavelength. At that point, you're not
looking at the "same" point on the line anymore, and can't accurately
get a ratio of forward-reverse power.
Your best bet is to get a meter designed for the frequency you are
using, always making sure it is also designed for the characteristic
impedance of the line you are using, too.

73
--
George J. Molnar (KF2T)
Molnar & Associates, Inc.
Lebanon, New Hampshire
Respond to: gmolnar@cyberportal.net
Web Site: http://www.cyberportal.net/gmolnar/index.html

3070. Toh.Tsu RF Relays...who has?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <3292D498.3053@mwt.net>
Source record: 100489

I saw someone advertising a web page selling Toh Tsu RF relays...who was it? Looking for a few for two amplifier projects. Source for reasonably price Dow Key relays ok also. 73, Scott. N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

3071. CHIMNEY FOR 4CX-10,000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Arthur Garabedian <westernmobiletel@worldnet.att.net>
Message-ID: <3293BAE4.134F@worldnet.att.net>
Source record: 100490

I am looking for a chimney or phenolic material to make one for a
4CX-10,000 tube transmitter. Tube needs to be about 6" dia. 2" long.
Thanks, ARTHUR KC6KUK ANAHEIM, CA. . . .

3072. Kenwood TS930/940S MRF422 final replacements

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: robjohn@chesco.com
Message-ID: <56tues$gfo@news.chesco.com>
Source record: 100491

Howdy, Has anyone successfully used the newer high-beta MRF422's as replacements in a TS930/940. RF Parts price is $89/pr vs $169.95/pr for the low-beta versions. Kenwood gets about $190/pr for replacements. I'm in the process of trying to make this work and would appreciate any info on caveats to avoid re-inventing the wheel. Any comments or reflections would be appreciated.

Thanks much Greg K3EWZ robjohn@chesco.com

3073. Re: Syncronous Noise Blanker Idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Peter Treybal <ptreybal@together.net>
Message-ID: <329250c3.0@news.together.net>
Source record: 100554

I once thought of doing exactly this sort of thing to get rid of noise from those miserable phase-controoled light dimmers which are all over the area here. I'll bet it would work well for synchronous non-arcing noise sources. As a suggestion for the arcing situation, you could try looking at your line voltage with a scope synced to the line and see if you can spot glitches that are reasonably short that you could blank. I did that, and observed that the phase-controlled noise has a lot of time jitter, so I'd need to make some sort of "tracking" blanker. Duration of the damped sinusoids was about 5 microsec. Also, there were usually three or four sources! Sounds like good work for a DSP.

3074. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <56tk6v$ahh@clam.niwa.cri.nz>
Source record: 100555
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

tyler@cyberia.com (tyler) wrote:

>>>The standard varactor FM modulator does not inherently add pre-emphasis,
>>>so an external pre-emphasis network is used to allow PM and FM radios

>Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
>it's used in FM communications, but how and why?

The de-emphasis at the receiver end cancels pre-emphasis at the
transmitter. Pre-emphasis accentuates the higher frequencies in the
transmitted audio passband. The overall effect is a neutral transfer.

I understand the reason for this trickery is to attenuate high
frequency noise from the FM demodulator.

Wilbert, ZL2BSJ.

3075. CQ June'96 QRN Squasher, does it really work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <56tl7r$1c6@oskgw.osk.sony.co.jp>
Source record: 100556

Hi:
I had trouble finding the specified FET, so I used a similar 2SK125 fet.
The circuit worked but the frequency response was uneven and peaky.
It turned out that the RF choke I was using was self resonant at 1 MHz or
so. I searched and searched but I could not find a suitable RF choke that had
the specified 2.7 mH of inductance with a suitably high self resonance.
(I have feeling that a smallL would be ok.)
I gave up on the design. I had afew NEC upc1651 rf amp ic's. I replaced
the two gain stages with the upc's and used a simple hybrid combiner to
add the two signals.I have still to check the operation. But the
frequency response is now flat for the main antenna path up to
atleast 100 MHz, that is the measurement limit of my gain phase
analyzer. The Noise antenna path is -8 dB at 100 MHz.
I was wondering if anyone else had any luck with thie CQ QRN Squasher
as published and or knew of any mod's to fix or improve the performance.
I noticed that commercially available units have some sort of preselector
feature, it's lacking in the CQ ciruit, perhaps it is necessary ?
RSVP via email is appreciated
shintani@tv.sony.co.jp
PEter

3076. RTTY on a Mac

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: ngaggiolir@etrurianet.it
Message-ID: <ngaggiolir-2011960138250001@slip6.etrurianet.it>
Source record: 100557

Hello,I own an Apple MAcintosh,and I would like to use it for RTTY,without buyng an(expensive) TNC;who can help me in any way?

3077. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <56tvkj$kq9@hobbes.cc.uga.edu>
Source record: 100558
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Behzad Sadeghi (bsadeghi@phoenix.princeton.edu) wrote:
:
: i've never used plls for am demodulations, since it seems to
: be an overkill. but i don't see anything wrong with using a
: pll to demodulate an am signal. it works exactly the same way
: as an fm demodulator (at least in theory). unless i'm missing
: something.

It's quite different, actually. The FM output (VCO input) would stay
constant with an AM signal -- nothing there. What you do is generate
an oscillation that is phase-locked to the AM signal, but won't go away
if the AM carrier momentarily fades, and you analog-multiply it with
the incoming signal. Result: Demodulated AM.

Why do this? (1) Better linearity than a diode. (2) It largely
counteracts "selective fading." Selective fading, as I understand it,
is what happens when the signal is momentarily added to a slightly
Doppler-shifted copy of itself (reflected off a moving layer of
the ionosphere). (Or maybe phase-shifted is enough; this isn't fresh
in my mind.) That's what makes the shortwave radio go mushy for a
few seconds every now and then. But if the PLL is well designed,
it won't change phase very fast; it will stay in phase with the
original carrier and the sound will be much better.

3078. gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: "K.R.Burtchaell" <kburt@telis.org>
Message-ID: <56tv84$amd@mentor.telis.org>
Source record: 100559

I am looking for an adhesive to stick to teflon dielectric or a way to treat teflon dielectric to enable metal to be glued to it.Can anybody help? 73 Ken W6GHV

3079. Re: IC-736 Computer Control

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <56tuu0$ahh@clam.niwa.cri.nz>
Source record: 100560

"John Luebs" <jkluebs@sprynet.com> wrote:

>I have an IC-736 HF/6 rig. I'm building a simple CI-V interface out of a
>7805, MAX232, and 5-1uf caps. I know that the connection on the radio is a
>1/8 inch stereo jack. How are the wires (RX,TX,GND) connected to the plug?

>Thanks
>John Luebs

RX=TX. The CI-V interface is bi-directional. If the 736 is anything
like my 725 it will be on a 3.5 mm mono jack. Hope this helps.

Wilbert, ZL2BSJ.

3080. rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: msimms <msimms@post.its.mcw.edu>
Message-ID: <56u1jv$l0i@wiscnews.wiscnet.net>
Source record: 100561

Can anyone explain what the "ideal" grounding situation is for a ham station. My shack is in a basement area. The tvi on cable is quite severe. The antenna is a GAP vertical only 10 feet from the house. On 40 meters, when the amp is on (1 kw) it triggers a relay switch for the doorbell (also located in the basement shack area).

Is it necessary to use copper flashing and connect to an outside ground rod? Is one ground rod sufficient? Can I connect to a cold water pipe? Both?

Any ideas or suggestions?

Thanks,

Mark, W9MS

3081. Re: gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <56u2vh$cbu@news.asu.edu>
Source record: 100562

In a previous article, kburt@telis.org ("K.R.Burtchaell") says:

>I am looking for an adhesive to stick to teflon dielectric or a way to
>treat teflon dielectric to enable metal to be glued to it.Can anybody
>help? 73 Ken W6GHV
>
Circuit board manufacturers use a super powerful base called "Tetra Etch"
to pepare PTFE boards for plated through holes and bonding of two boards.
It is Sodium Naphthenate. Before Tetra Etch was introduced a solution of
metallic Sodium in liquid ammonia was used (not the household cleaner, which
is ammonia gas dissolved in water, ammonia gas cooled to the temperature
where it liquifies. Not something you could do at home.)

PTFE is not easy to bond anything to. Most strip line circuits use a meltable
fluropolymer film to bond the layers. If you have a hydraulic press with
platens that can be heated to about 700 F, you can directly bond two layers
without the bond film.

Epoxy adhesives will give a reasonable bond, but it will depend on the
preparation of the surfaces to be bonded. Tetra Etch treatment before the
epoxy is highly recommended.

--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

3082. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <56u89e$64g@kirin.wwa.com>
Source record: 100563

>Any ideas or suggestions?

QRP

In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

3083. power combiner / mrf151g

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <1996Nov20.075150.1895.69881@descn121.oen.siemens.de>
Source record: 100564

hello,

i read your request in the homebrew according power combiners. despite the =
=
coupler using sage wireline, which is surely very good, i successfully use a=
=
180 deg coupler made of simple 75ohms coax. You need three quarter wave =
pieces and one three times quarter wave. I use it to combine two 2N6084 on =
2m. There are also good experiences when combining high power even with tube=
=
amps and even different power levels. I have an english language description=
=
and would fax it to you if you tell me your fax number.

But, second, I kindly request you to tell me more about your experiences =
with the MRF151G. I thought very much about building one for myselfs as a =
driver for my tube, but hesitated since there was no one with experiences. =
Can you please tell me yours:
- Must the 50V supply be stablized or can it be a simple =
transformer-reticifier-capacitor supply?
- How accurate must the semi-rigid-transformers beeing made?
- Did you cover the semi-rigid-transformers with ferrite or not?
- What is the output when driving the amp with 5W, 10W?
- What is the maximum output at which drive? What is the input current the=
n?
- How did you solve the cooling problem. Motorola recommends a copper plat=
e =
between the transistor and the heat sink. Did you do that this way?

Thanks a lot for your help and cul=21

vy 73, Guenter, DL4MEA=40DB0KCP.=23BAY.DEU.EU (AX.25)
dl4mea=40amsat.org (Internet)
http://www.scn.de/=7Ekoellner (WWW)

3084. Updated Homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <3292C659.2C67@pactitle.com>
Source record: 100565

Just updated my Page.. Check out my 1967 ss/rs camaro!!!!!!!
-
http://www.geocities.com/Hollywood/5860/
Dave Booth kc6wfs dm04

3085. F.S. - Tubes, radios, publications, misc & more...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: rog42@aol.com
Message-ID: <19961120053400.AAA10269@ladder01.news.aol.com>
Source record: 100566

FOR SALE: Tubes, test equipment, radios including Hallicrafters, Hammarlund, and Philco. Other older tube type radios and radio related publications. Tube Manuals, Tube Substitution books, Service Manuals, QST magazines, much more from the 30's, 40's, 50's, 60's. Over 1450 different tube types in stock - E-mail Rog42@aol.com and ask for my RADIO list 119-T.

3086. 16.384MHz freq standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Douglas Dwyer <ddwyer@ddwyer.demon.co.uk>
Message-ID: <AxY7zEAoOukyEwzb@ddwyer.demon.co.uk>
Source record: 100567

16.384MHz latest technology SC cut crystal oscillators 0.001ppm
stability, pre calibrated to 0.1ppm . 76X31X50mm hermetic pcb mounting,
use directly to set up counter standard or devide to 1kHz for freq
synth. $90 to almost anywhere email for more detailed spec.
Douglas Dwyer Frequency Precision Ltd. Reply via demon or
101505.3427@compuserve.com phone/fax +44(0)1837810590
http://ourworld.compuserve.com/homepages/Frequency_Precision/

3087. am broadcast loop antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: "Paul Giusti [VK3FPG]" <pgiusti@iaccess.com.au>
Message-ID: <3292E80D.487@iaccess.com.au>
Source record: 100568

I have been looking with no success for some plans or constructional information for a broadcast band (500-1700khz) loop antenna and am hoping someone out there may be in a position to e- mail me some plans or direct me to a web resource that has this information available.

I am just beginning this aspect of the hobby and would be appreciative of any help anyone can offer.

Thanks in advance

Paul Giusti [VK3FPG]

--
Paul Giusti Rxvrs Decoders
VK3FPG NRD-525 Hoka Code3
IC-706 Hoka Code3 Gold
P.O.BOX 548 IC-737a Universal M-6000v9
Elsternwick WINRADIO UNIVERSAL M-1200
Australia PRO-2006 KAM+
3185
member of WUN

Facsimile +61 3 95782772
e-mail pgiusti@iaccess.com.au

3088. Audio Compander, Mic preamp and improved Audio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Seeler@upei.ca
Message-ID: <3292eefd.1301091@news.upei.ca>
Source record: 100569

Hi _ I am in the process of building a mike preamp/equalizer that was described in the Feb 1986 issue of CQ Magazine. The circuit uses a Signetics NE580 (or 570?) audio compander to maintain constant audio input through the circuit.

Does anyone know of a source (Canadian or US) that has This (these) chip(s) and is willing to ship in small numbers? I have so far been unable to find a Canadian distributer. Philips has taken over Signetics, but I can get no information about their availability from the Canadian office.

Thanks for any pointers you might be able to give me!

Regards,
David Seeler, VY2DCS

3089. Tube JAN 7782

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: ngaggiolir@etrurianet.it
Message-ID: <ngaggiolir-2011960136490001@slip6.etrurianet.it>
Source record: 100570

Hello,who can help me with the characteristics of a ceramic JAN 7782 tube?
Thank you,
IK5WQO Riccardo

3090. Mods for FT-8000R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Mark McGregor <kb9khm@expert.cc.purdue.edu>
Message-ID: <32930551.7CC2@expert.cc.purdue.edu>
Source record: 100571

Does anyone have the mods for the new Yaesu FT-8000R? I've looked at the OAK and QRZ ftp sites and found nothing.

Thanks in advance!

Mark <KB9KHM>

3091. PANEL METERS FOR SALE - METER.MSG [1/1]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: qlf@msg.ti.com
Message-ID: <56v4ph$i8t@sf18.dseg.ti.com>
Source record: 100572

PANEL METERS FOR SALE

I have for sale several 4-1/4"W X 4"H black-faced panel meters. These are perfect for a homebrewed linear amplifier or other suitable boatanchor. Available are:

0-5000 VDC (requires 5 MegOhm external multiplier resistor, not supplied)
0-1 ADC
0-1.5 ADC
0-25 mADC
0-50 mADC
0-150 mADC
0-500 mADC (2 each - one w/glass broken - easily replaceable)
0-350 VAC
Totalizer elapsed time meter (240 VAC, 60 Hz, shows 49,275.1 Hours)

These meters were manufactured by Westinghouse and were removed from the first FM broadcast transmitter (KOZY) in the state of South Dakota which went into service in the late 1940's or very early 50's and was only in service for two or three years.

Price, $10.00 each ($5.00 for the one with broken glass) plus shipping. $85.00 plus shipping for the lot.

Brad, WB0CGH

Brad Bradfield
(H) 817-321-2960
(W) 972-462-6230

qlf@msg.ti.com (E-mail)

3092. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961120155500.KAA17389@ladder01.news.aol.com>
Source record: 100573

Queston: Can anyone explain what the "ideal" grounding situation is for a ham
station. My shack is in a basement area. The tvi on cable is quite severe.

The antenna is a GAP vertical only 10 feet from the house. On 40 meters, when the amp is on (1 kw) it triggers a relay switch for the doorbell (also located in the basement shack area).

Reply: That's a pretty tall order! Your house wiring is so far into the antenna's near field that it is probably affecting antennna resonance--and functioning as part of the radiating system!

1. If there is ANY way you can move the antenna 1/4 -wave or so from the surrounding structures, (a.) it should work better and (b.) the RF level in your house will drop enormously (it's a cube-root relationship in the near field).

2. Put lots of ferrite sleeves on the coax before it enters the house. If the feed isn't totally decoupled from the antenna (which I doubt it is), it will (depending upon how much decoupling there actually is) radiate.

3. Run less power. If you can't move the antenna away, I don't really see how you can eliminate extremely strong RF fields from the interior of the house (unless you shield the whole building). Your only option, then, is to lower the field strength in the area by decreasing power.

A better ground system probably wont solve your problem--and it might even make it worse. Your house and its contents happen to be occupying the same space where the electric field generated by the antenna needs to be very strong in order to work. If you make the RF go away, your signal will probably go away with it.

Rick K1BQT

3093. wiring print

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: TIM MENARD <tmenard@ismi.net>
Message-ID: <32934F85.3A5@juno.com>
Source record: 100574

Hi

I'm looking for a wiring print for a Pro-25 scanner,can any one help?
Thanks

TMAN

3094. Re: Want Kenwood IF-10D Computer Interface.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: William Vynck <creart.vynck@unicall.be>
Message-ID: <32933FF2.29BE@unicall.be>
Source record: 100575
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

MICHAEL J DRUM wrote:
>
> Greetings,
>
> I want to buy a Kenwood IF-10D Computer interface for my TS-60. If you
> have one for sale please contact me at my Email address and let me know
> the details. I will answer all reply's sent.
>
> Thank You.
>
> Mike>

DONT BUY !!

To expencive, i could send you the chematics to build one.

73
William

3095. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
Message-ID: <32932668.652A@TECLink.net>
Source record: 100576

Partial quote from Tom's message:

>They did say they will consider making one more final statement as soon as
>they have time, if Mr. Measures agrees to accept their position as the
>final word on this subject.

"They" again......

Tom KJ5IE

3096. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002011961003270001@news.vcnet.com>
Source record: 100577

In article <19961119035300.WAA16041@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <19961118001500.TAA16346@ladder01.news.aol.com>,
> w8jitom@aol.com writes:
>

> >Let's look at a typical suppressor such as the SB-220, AL-80, or SB-1000
> >suppressor, since a 3-500Z almost always needs a suppressor in the 100-
> >130 MHz area. Will that be ok?
> >
> >73 Tom

OK, Tom, let's have a look: A typical anode VHF parasitic suppressor for a 3-500Z, operating at 3kV, uses a 70nH inductor. The suppressor resistor is typically 50 ohms. At 100MHz, the reactance of 70nH is 45 ohms. To find out how the current divides between the paralleled inductor and resistor, we can apply 1VRMS and calculate what happens. The current through the resistor is 1v/50 ohms = 20mA. The current through the inductor is 1v/45 ohms = 22mA. The total current is 20mA plus 22mA = 42mA. Thus, the resistor carries 20/42 = 0.476, or 47.6% of the total current. The inductor carries 22/42 = 52.4% of the total current.

Tom stated:
> >>I've said repeatedly the primary path
> >> for VHF and UHF signals is through the resistor, and the primary path for
> >> HF signals is through the coil.

Tom: If 52.4% of the current flows through the supressor inductor, and 47.6% of the current flows through the suppressor resistor, why have you 'said repeatedly' that the primary path for VHF current is through the suppressor resistor?

If a 3-500Z were operating at 4kV instead of 3kV, the suppressor inductor would have to be reduced to around 55nH to prevent the suppressor resistor from being crispy-crittered during 10m operation.** With a 55nH suppressor inductance, an even greater percentage of VHF current would pass through the VHF suppressor's inductor. (** see QST, March, 1989, page 25 "Calculating Power Dissipation in Parasitic-Suppressor resistors")
Since a substantive amount of VHF current flows through the suppressor inductor, the Q (XL/R) of the inductor should play a sizeable role in the overall VHF Q of a VHF parasitic suppressor. Is it logical that lower VHF Q would provide better VHF dampening? If this is true, then the effect of using a low VHF Q suppressor inductor should be readily observed on a dipmeter. With a high VHF Q (copper or silver) suppressor inductor, the observed VHF dip is sharp and deep. With a low VHF Q suppressor inductor,

the dip is broader and less deep. This is nothing new. Mr. F. E. Handy knew it 70 years ago. You can read what he wrote about VHF parasitic-suppressors in the 1926 and 1927 Editions of the ARRL's *Radio Amateurs Handbook*, Mr. Rauch.

> I will be off-net for two or three days.

Looking forward to your return in two or three days, Tom.

> BTW, Tom Brown keeps asking who my sources at Eimac were. I can not give
> that information out (as I have said) because they really don't want to be
> involved in this.
> They did say they will consider making one more final statement as soon as
> they have time, if Mr. Measures agrees to accept their position as the
> final word on this subject.

I do not sign blank cheques, Tom.

Will the real Mr. XXX please stand up and identify himself? Tom: Is Mr. XXX "they"? When I asked you for the names of "it's the entire staff" at Eimac, you were evasive. When I asked for the name of Mr. XXX, you wre evasive. Mr. Brown told me that you appeared to be evading the issue when he queried you about Mr. XXX via e-mail
The bogus Eimac e-mail address is suggestive of a deception
.....Something isn't quite right here, methinks.

> Anyone doubting Eimac's position can investigate things on their own. I
> wouldn't wish the kind of technical nonsense being argued here on anyone.

Nonsense--like assuming that the path for VHF current path is through the suppressor resistor instead of through both the resistor AND the inductor? IMO, any "amplifier expert" worth his salt would have calculated the VHF L/R current distribution before making such a statement.

> My opinion is anyone believing fantasies about 25 watt grids handling 500
> watts,

I did not state that a 25 watt grid handles 500 watts. I stated that 500 to 700 watts would probably be required to raise the 8877's grid structure to temperatures that boil gold.

VHF energy making tuning capacitors arc,

Certainly not in an AL-80's tuning capacitor, whose VHF resonances are far removed from the anode's VHF-resonance point, but tune-capacitor arcing occasionally happens in TL-922's and SB-220s when the factory-stock high VHF Q suppressors are used. .

VHF parasitics causing
> glass to melt,

During a telephone conversation on 3/28/91 with Jim Riach, Vectronics' design engineer, Raich told me that Chinese-made 3-500Z glass-envelopes had melted for no apparent reason. Mr. Raich works directly for Paul Rivnak,

the owner of Vectronics, Ltd. At the time they experienced the glass-envelope melting problem, Vectronics was building single 3-500Z LA30 amplifiers for AEA. If you would like to contact Vectronics, Tom, the address is: 31 Estate Drive, Scarborough, Ont., CANADA M1H 2Z2. We sent them Low VHF Q Suppressor Retrofit Kit s/n 2173. Subsequently, AEA ordered Low VHF Q Suppressor Retrofit Kits and bulk materials from us so that they could retrofit lower-Q suppressors into older LA30 amplifiers. We shipped the first such order on 10/29/91.

>Photons making tubes on standby arc over,

It is hard to believe, but I've talked to physicists and engineers about this conundrum, and cosmic radiation photons seems to be the collective best guess.
Ever wonder why lightning follows a zig-zag path instead of a straight line? Many folks have wondered about this because logic says that any arc should take place on the shortest distance between the two points--i.e., along a straight-line, right? However, some people* have proposed that high energy photons from cosmic background radiation speeds up electrons in atmospheric atoms along their paths of propagation. Accelerated electrons are more prone to escape from their normal orbits and become free current-carrying electons---provided that the voltage gradient is sufficient to liberate them. In other words, ionization takes place along the path that is most easily ionized, which is not necessarily a straight path.
Tom: If cosmic radiation can change the path of a lightning bolt, does it seem impossible that cosmic radiation could have some effect on an amplifier-tube?
---
* ...Los Alamos National Laboratory physicist Robert Roussel-Dupre, Alex Gurevich of Moscow's Lebdedev Institute of Physics, Genady Milikh of the University of Maryland, and Tom Tunnell of EG&G Energy Measurements.

>not understanding
> grid dissipation,

Sure, calculating grid dissipation is not a piece of cake. It is an integral-calculus problem. However, when I followed your recommendation for calculating grid dissipation, you argued that the results were not correct for reasons that did not appear reasonable.

>and so on..... is far beyond any help I can offer.

.......or apparently beyond any help that Eimac's anonymous Mr. XXX will offer.

> This thread has outlived any usefulness.
>
> 73 Tom

E-mail copy to Mr. C. Tom Rauch, W8JI

--
--Rich-- ag6k, 805.386.3734

3097. Re: gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: stevem@best.com
Message-ID: <56vmav$rou@shellx.best.com>
Source record: 100578

In article <56tv84$amd@mentor.telis.org>,
K.R.Burtchaell <kburt@telis.org> wrote:
>I am looking for an adhesive to stick to teflon dielectric or a way to
>treat teflon dielectric to enable metal to be glued to it.Can anybody
>help? 73 Ken W6GHV
>

I found that the penny feed for my 10GHz dish worked much better
when it was loaded with a small piece of teflon over the slot
radiator. I glued the teflon block to the brass waveguide by
lightly sanding the teflon to roughen it up and give epoxy something
to adhere to. This seems to have worked since the feed is 5 years
old and has gotten banged around alot. The teflon has never fallen
off. The feed is also waterproof as a result.

Steve Muther WF6R

3098. 624 Kits "Oner" HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: protect@bright.net
Message-ID: <protect-ya023180002011961539030001@news.bright.net>
Source record: 100579

I have a 624 Kits Oner QRP transmitter kit and needed some help but they seem to be out of business. The phone is disconnected and Information says they don't exsist at the address in the July QST. My problem is the parts overlay diagram in the instructions does not seem to match the little circuit board no matter how I turn it. Can someone who has built one help? Or maybe you know where the company is now? Please reply Email as I don't get on the newsgroups very often. Thanks
Charles, KB8WSG in Ohio

3099. Specs 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Sonja og Petter Brevik <sobrevik@sn.no>
Message-ID: <32938AFA.6E18@sn.no>
Source record: 100580

I am planning to build a new PA, using the 4-1000 tube. Does anybody
have more complete specs than the summary found in the handbooks?

73,
Petter
--
----> LA7YG
Petter Brevik
ï¿½stliveien 15 Tel +47 6707 1846
1482 Nittedal Fax +47 6706 1846

3100. Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: John Mcleod <johnm@weitek.com>
Message-ID: <32938288.41C67EA6@weitek.com>
Source record: 100581

Does anyone know :

Is it possible to use my 30Mhz SWR meter to measure the swr in the
6 meter band ? What is it that determines the bandwidth of the meter ?
Would I have to change the sensor head, or do I just have to bite the
bullet and spend out money for a new one ?

John Mcleod N6RCD

3101. Re: Need background about Mocom

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov20.180556.9670@ke4zv.atl.ga.us>
Source record: 100582

In article <56qn9r$epg@nonews.col.hp.com> derekt@col.hp.com (Derek Toeppen) writes:
> A friend has come across a hand full of UHF Mocom 70 radios. He asked
>if they can be used as repeaters.
> I have worked with Mitreks and Micors but know nothing about Mocoms.
>Was wondering if anyone here could fill me in? My first thought is that the
>Mocom was the model before the Micor. Is this correct? Do the make a
>reasonable repeater? How about a link radio?

Yeah, the Mocom is older than the Micor. You can use them for repeater
duty, but they're pretty old, and their performance is markedly worse
than the Micor (which is getting pretty old itself). I wouldn't waste
my time on them (unless I had plenty of time to waste and no money to
get a more desirable radio).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3102. Free Electronics Directory

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Todd Peterson <elab@netins.net>
Message-ID: <3293C8F4.5BAF@netins.net>
Source record: 100583

Greetings!

E-LAB Digital Engineering, Inc. is pleased to make freely available our new
Electronics Internet Resource Directory!

This directory is a collection of many internet sites of use to
electronics builders, designers, and engineers. It is divided into
40 categories, with each category containing many hot-links to companies
and/ or web pages containing information on topics from Compilers to
Code Examples to Components Distributors.

The directory is available at http://www.netins.net/showcase/elab
You WILL want to set a bookmark!

We also invite you to check out our products, such as our new line of
integrated circuits for embedded design.

Thanks,

Todd Peterson
E-LAB Digital Engineering, Inc.

3103. Re: am broadcast loop antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: Charles Wenzel <wenzel@techlib.com>
Message-ID: <3293F63B.1AAE@techlib.com>
Source record: 100584

Paul Giusti [VK3FPG] wrote:
>
> I have been looking with no success for some plans or constructional
> information for a broadcast band (500-1700khz) loop antenna and am
> hoping someone out there may be in a position to e- mail me some plans
> or direct me to a web resource that has this information available...

I have a circuit for a ferrite loopstick antenna with an integral amplifier
in our technical library at www.wenzel.com. It covers the AM and most of
the shortwave band. Look in the "Antennas" article.

3104. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.203.00187573@azstarnet.com>
Source record: 100585

In article <measures-ya023180002011961003270001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>From: measures@mail.vcnet.com (R. L. Measures)
>Subject: Re: Good source for amplifier tips
>Date: Wed, 20 Nov 1996 10:03:27 -0700

>In article <19961119035300.WAA16041@ladder01.news.aol.com>, w8jitom@aol.com
>wrote:

>> In article <19961118001500.TAA16346@ladder01.news.aol.com>,
>> w8jitom@aol.com writes:
>>

>> >Let's look at a typical suppressor such as the SB-220, AL-80, or SB-1000
>> >suppressor, since a 3-500Z almost always needs a suppressor in the 100-
>> >130 MHz area. Will that be ok?
>> >
>> >73 Tom

>OK, Tom, let's have a look: A typical anode VHF parasitic suppressor for a
>3-500Z, operating at 3kV, uses a 70nH inductor. The suppressor resistor is
>typically 50 ohms. At 100MHz, the reactance of 70nH is 45 ohms. To find
>out how the current divides between the paralleled inductor and resistor,
>we can apply 1VRMS and calculate what happens. The current through the
>resistor is 1v/50 ohms = 20mA. The current through the inductor is 1v/45
>ohms = 22mA. The total current is 20mA plus 22mA = 42mA. Thus, the
>resistor carries 20/42 = 0.476, or 47.6% of the total current. The
>inductor carries 22/42 = 52.4% of the total current. [snip]

Don't you think it wise to consider the phase angle of these currents. This ain't DC you know. Furthermore, these aren't isolated components tested in a measurement system, they're embedded in a system that includes other reactances and frequency dependent source and load impedances. So, their functional behavior is quite a bit more complicated that this "Ohm's law" analysis.

>> This thread has outlived any usefulness.
>>
>> 73 Tom

So it would seem.

>--Rich-- ag6k, 805.386.3734

Wes, N7WS

3105. 'AUCTION' LINK ADDED TO MY PAGE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-20 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <329390b0.32186873@fvnews.com>
Source record: 100586

evening everbody;
just a note. I have added an 'Auction' link to my main page.
there, you will find items up for bid. they will have min. bid, there
is a closing date, and i will post to it-the results. also there is a
spot where i will post the current bid....(i will update this between
11pm and midnite est each day)
it is up and the current list will end on the 30th of November...
please feel free to check it out....
thank you, for your time....
p.s. i did this 1. there seems to be a trend to this way elsewhere.
and 2. to try and move some of the items i have had and can't seem to
find the 'right' price to put on them....
The URL address is in my sig. then scroll down to "Auction items"
bye for now.....

**** Please, Visit my Web Page.....****
==]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

3106. Re: gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Mark Robinson <robotech@ihug.co.nz>
Message-ID: <32940F83.1690@ihug.co.nz>
Source record: 100492

K.R.Burtchaell wrote:
>
> I am looking for an adhesive to stick to teflon dielectric or a way to
> treat teflon dielectric to enable metal to be glued to it.Can anybody
> help? 73 Ken W6GHV

Heat the metal to above 357 degrees C.
--
Mark G Robinson | ZL2TOD@ZL1AB | +64-9-846-3296
robotech@ihug.co.nz | Box 8770, Auckland 1035, New Zealand
---
20 Nov 1889 Edwin Hubble born.
20 Nov 1959 Ford drops the Edsel.

3107. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: edkb2nsp@aol.com
Message-ID: <19961121030800.WAA00459@ladder01.news.aol.com>
Source record: 100493

I'd be a bit reluctant to put a Kilowatt on the air without at least some idea of what constitutes a proper grounding system. TVI could be one of the more benign side effects !!!

Ed K.
Ed KB2NSP @ AOL

3108. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: mays@indigo
Message-ID: <5708s8$ibu@mark.ucdavis.edu>
Source record: 100494

Most of the less expensive SWR meters that are the "trough line" type work up to 2 meters quite nice. These are the cheaper $19.95 CB Vanco and other brands. They're usually the 2.5 in wide 6 in long 2.5 in high box's that feed on each end straight through (the size is approx). Most of these type also do field strenght with a small screw hole at one end above the SO-239 (female chassis PL-259) jack for the externa whip.

The models with toroids are usually more frequency selective and the next step up from the above described with power/watt scales are not really accurate accross the usefull range.
But Hey! The SWR function is a keeper and the Power/watt readout can be calibrated to the 6 meter band. A good percentage of these meters are pretty close out of the box..
Good luck John, Look to the ARRL handbook on ways to calibrate it up on 50MHz.

73's
skip may wv6f
mays@indigo.ucdavis.edu

John Mcleod (johnm@weitek.com) wrote:
: Does anyone know :

: Is it possible to use my 30Mhz SWR meter to measure the swr in the
: 6 meter band ? What is it that determines the bandwidth of the meter ?
: Would I have to change the sensor head, or do I just have to bite the
: bullet and spend out money for a new one ?

: John Mcleod N6RCD

3109. Re: gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <570nl6$9tj@vixen.cso.uiuc.edu>
Source record: 100495

In a previous article, stevem@best.com (Stephen Muther) says:

>In article <56tv84$amd@mentor.telis.org>,
>K.R.Burtchaell <kburt@telis.org> wrote:
>>I am looking for an adhesive to stick to teflon dielectric or a way to
>>treat teflon dielectric to enable metal to be glued to it.Can anybody
>>help? 73 Ken W6GHV
>>
>
>I found that the penny feed for my 10GHz dish worked much better
>when it was loaded with a small piece of teflon over the slot
>radiator. I glued the teflon block to the brass waveguide by
>lightly sanding the teflon to roughen it up and give epoxy something
>to adhere to. This seems to have worked since the feed is 5 years
>old and has gotten banged around alot. The teflon has never fallen
>off. The feed is also waterproof as a result.
>
>Steve Muther WF6R
>

You can "sort of" get Teflon to stick by the above method. But it isn't very strong. I've used contact cement when I just wanted a piece of it to hang on for a while.

I asked the local plastics man about glue for Teflon and nylon. He has been looking for a decent product for years. He told me that every one that has been on the market has not satisfied him.

Teflon is fairly easy to machine; depending on your needs if you have a fairly thick piece you can drill and tap it for screws.

Zack W9SZ

--

3110. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <570nr4$q14@lace.colorado.edu>
Source record: 100496

In article <32938288.41C67EA6@weitek.com>,
John Mcleod <johnm@weitek.com> wrote:
>Does anyone know :
>
> Is it possible to use my 30Mhz SWR meter to measure the swr in the
>6 meter band ? What is it that determines the bandwidth of the meter ?
>Would I have to change the sensor head, or do I just have to bite the
>bullet and spend out money for a new one ?

Before buying a new one, give the following a try: Hook up a dummy load to the tuner, one that will present a nice 50 + j0 ohm impedance, and see what the meter thinks the SWR is. Then give it a 100 + j0 load, and 25 + j0 load. These should be 2:1. Etc. Probably they won't be right on, but before you throw that one out the window, repeat the experiment with 30 MHz! I use an MFJ-949D tuner for 6m though they're rated for only up to 30 MHz. The readings are off at 6m, and only slightly less off for 10m. If what you want the meter for is to see where the dip is, and not to know the precise value of the SWR, then even is the meter is quite off, it will still work.

Bruce
N6URH

3111. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <570rk5$sih@abyss.West.Sun.COM>
Source record: 100497
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <56tk6v$ahh@clam.niwa.cri.nz>,
Wilbert Knol <wk@frc.niwa.cri.nz> wrote:
>tyler@cyberia.com (tyler) wrote:
>
>
>>>>The standard varactor FM modulator does not inherently add pre-emphasis,
>>>>so an external pre-emphasis network is used to allow PM and FM radios
>
>>Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
>>it's used in FM communications, but how and why?
>
>The de-emphasis at the receiver end cancels pre-emphasis at the
>transmitter. Pre-emphasis accentuates the higher frequencies in the
>transmitted audio passband. The overall effect is a neutral transfer.
>
>I understand the reason for this trickery is to attenuate high
>frequency noise from the FM demodulator.

Well, back in the old days, we had all these phase modulated radios,
and there's an inherent pre-emphasis in the phase modulation process.

So, to get a flat audio response (or something even close), you have
to have de-emphasis at the receiver end. Of course, there's an inherent
advantage with respect to high frequency noise reduction...

--
* Dana H. Myers K6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

3112. Wanted: AD7008 DDS chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Kovacs Karoly <karoly@ws6a26.gud.siemens.co.at>
Message-ID: <3293F97B.6A2E@ws6a26.gud.siemens.co.at>
Source record: 100498
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.amateur.equipment

Hi OM ...

Can anyone tell me where to find the AD7008 chip from
Analog Devices? Who sells this IC? (In Europe?)

If you know something pse send me e-mail:

--
Karoly Kovacs (HA2EOF)

karoly@ws6a26.gud.siemens.co.at

3113. Re: RTTY on a Mac

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: kalar@brainerd.net
Message-ID: <19961121030440908 3@ts4-12.brainerd.net>
Source record: 100499

Riccardo Gaggioli <ngaggiolir@etrurianet.it> wrote:

> Hello,I own an Apple MAcintosh,and I would like to use it for RTTY,without
> buyng an(expensive) TNC;who can help me in any way?

Riccardo, if you can find a TU with an RS-232 output, you can use a
8-pin mini-DIN plug to make a cable to connect the TU to the Mac.

Mail me if you want to do this but need a pin-out for the Mac's serial
port.

-- Tony W0RHX <kalar@brainerd.net>

3114. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002111960521570001@news.vcnet.com>
Source record: 100500

In article <32932668.652A@TECLink.net>, tbrown@TECLink.net wrote:

> Partial quote from Tom's message:
>
> >They did say they will consider making one more final statement as soon as
> >they have time, if Mr. Measures agrees to accept their position as the
> >final word on this subject.
>
>
> "They" again......
>
>
> Tom KJ5IE
.....
Who is "they"?
Mr. Rauch can't say .

Who is Mr. XXX with the phony e-mail address?
We can only guess.

On and on.

In an e-mail to me 4/5/96, Mr. Rauch said:

"If you are so sure of your theories, let's debate on Internet. We can go over your theories point by point in a non-personal debate."

for instance:
I asked Mr. Rauch: what is the frequency of the anode-circuit's resonance in the AL-80?
I asked Mr. Rauch: does the AL-1500 8877 amplifier (which Mr. Rauch designed) use a vhf parasitic suppressor?

Mr. Rauch appears not to have answered these seemingly-simple questions.
How can we go over theories point by point if one party is pointedly less than forthcoming?
---
e-mail copies to Mr. Brown and Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

3115. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <571lu4$m4s@news05.deltanet.com>
Source record: 100501
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Dana Myers (myers@West.Sun.COM) wrote:
: In article <56tk6v$ahh@clam.niwa.cri.nz>,
: Wilbert Knol <wk@frc.niwa.cri.nz> wrote:
: >tyler@cyberia.com (tyler) wrote:
: >
: >
: >>>>The standard varactor FM modulator does not inherently add pre-emphasis,
: >>>>so an external pre-emphasis network is used to allow PM and FM radios
: >
: >>Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
: >>it's used in FM communications, but how and why?
: >
: >The de-emphasis at the receiver end cancels pre-emphasis at the
: >transmitter. Pre-emphasis accentuates the higher frequencies in the
: >transmitted audio passband. The overall effect is a neutral transfer.
: >
: >I understand the reason for this trickery is to attenuate high
: >frequency noise from the FM demodulator.

: Well, back in the old days, we had all these phase modulated radios,
: and there's an inherent pre-emphasis in the phase modulation process.

: So, to get a flat audio response (or something even close), you have
: to have de-emphasis at the receiver end. Of course, there's an inherent
: advantage with respect to high frequency noise reduction...

THe "inherent advantage" was not something that came by accident.
Armstrong's FM _System_, that he developed and patented, based its
superior performance on preemphasis. We're talking about the wideband
commercial BCB FM, of course.

: --
: * Dana H. Myers K6JQ, DoD#: j | Views expressed here are mine and should *
: * (310) 348-6043 | not be interpreted or represented as *
: * Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."

| says the lid on the jar of Laredo & Lefty's Picante Salsa |
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

3116. Re: Commercial VHF low radios. Which ones have easily scavenged PAs for 6 FM ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: rwhitacre@lucent.com
Message-ID: <571n80$b2e@nntpa.cb.lucent.com>
Source record: 100502

In article <56o32s$br7@mtinsc01-mgt.ops.worldnet.att.net>, <Unknown> says...

>The G.E. MASTR II and MASTR Executive II low band mobile radios are excellent donors
>for high power P.A.'s. Just make sure that the radio is a "high split" i.e. 42-50 mHz
> unit.
>
>Also, you'll have to pad down or otherwise reduce the power output of your exciter to
>a few hundred milliwatts as that is the drive level that these P.A.s require.
>Mail me if you need any other information.
>
>Steve, WB6TNL
><sigcom@juno.com>

I agree with Steve, the Mastr II and Exec II are good choices. The PA section comes right off the back of the radio, and one of the two relays you will need, as well as a low pass filter, is already there.

Another possibility is the PA section from an RCA TAC 300. The back of the radio, like the GEs, is a heatsink with the power amp, antenna relay and low pass filter. This amplifier uses an MRF 492, which can take the 5 watts from your radio and put out 60 watts or so. There are a couple of capacitor changes to be made; if you find some of these radios and need the information, let me know. I have converted several EXEC IIs and TAC 300s to 6, and they all worked great.

Keep your eyes open for amplifiers made by TPL for 30-50 MHz, which will do the same thing. I have used a couple of these for 6 meter amps. They put out 60 or 70 watts for 5 watts in. They are black "brick" type amps. I see alot of high band ones at hamfests, so make sure you get a low band model (the high band ones aren't bad for 2 meters).

73, Rob W8RW

3117. Conjugate matching & non-linear sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <571o9c$pjm@dfw-ixnews5.ix.netcom.com>
Source record: 100503

It's been stated a number of times in different Usenet group threads that a Class C amp will deliver maximum power to a load when it is conjugately matched to that load. I've always puzzled over this statement, simply because a Class C amp is a non-linear device, and how does one conjugately match a linear load to a non-linear source? In an attempt to get a better handle on understanding the concept, I thought I'd try a little experiment. The results are interesting, and I'd like some comments as to how to interperet them.

Let's consider a simple circuit with a non-linear source resistance, and, to make things even simpler, let's consider it at DC. In particular, let's consider this circuit:

```
|\|
--------| |-------o----- Vout
| |/| |
| 1N4148 |
----- Rload
--- 1 VDC |
----- |
| |
| |
Gnd Gnd
```

As I vary Rload, at what resistance value is power dissipation maximized in the resistor, and do I have a conjugate match with the non-linear resistance represented by the diode at this point? (Admittedly, "conjugate" match at DC doesn't make much sense - there are no reactive components - let's just say, "Are the resistances matched?").

I used PSPICE to model the circuit and plotted power vs. Rload. Not surprisingly, there was a peak in resistor power, and this peak occured when Rload was about 18.6 ohms (Vout = 0.1855 v, I = 9.97 mA).

At this operating point the diode looks like an 81.7 ohm resistor. It's dissipating the same amount of power as a resistor of this value, it has the same voltage drop - for all intents and purposes, it *is* a resistor of 81.7 ohms.

Well, thought I, that's pretty conclusive. Maximum power does not necessarily mean conjugate match when the source in non-linear. After all, 81.7 ohms does not equal 18.6 ohms.

Unwilling to stop there, I thought I'd try a "load pull" test. This is a method to measure the source resistance of a generator by

varying the load resistance slightly and measuring the output voltage. From these values one can calculate the source resistance with the following equation:

Rs = (Vout1 - Vout2)/((Vout2/Rload2)-(Vout1/Rload1))

(See "Dynamic Resistance in RF Design," by William Sabin in the September '95 issue of QEX).

Choosing two resistance values that straddled my "optimal" value of 18.6 ohms, I got the following:

For Rload = 18.2 ohms, Vout = 0.1834 v
For Rload = 19.0 ohms, Vout = 0.1874 v

Plugging these into the formula above, and voila, the source resistance is...18.7 ohms! Pretty damn close to my optimal load resistance!

So now I have two values of source resistance. One directly measures to be 81.7 ohms, the other indirectly derived to be 18.7 ohms. If I rely on the load pull test alone, I'd say that I was conjugately matched. But I know that the diode at this operating point looks exactly like an 81.7 ohm resistor, and therefore we are not matched. In other words, I "measure" 81.7 ohms, but I "model" 18.6 ohms. Which interpretation is correct?

(As an interesting note, the load-pull test is measuring the "small signal" resistance of the device, and it is this resistance that it has modeled as the source resistance of my generator system. That is, at the optimal DC operating point (as found above), the slope of the diode's V-I curve is (roughly) 18.6 ohms, and it is this slope that the load-pull test has calculated. "Linearizing" non-linear devices through derivation of small-signal parameters is a common technique used to create small-signal models (such as the "hybrid-pi" model of a transistor). Such models are designed to be used when the signal levels are, well, small. Is such a method (and model) applicable to a large-signal non-linear device such as a class-C amp?)

Any opinions would be appreciated!

- Jeff, WA6AHL

3118. AC Power 60 HZ Freq Meter FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: flanders@groupz.net
Message-ID: <571s90$kia@news1.sunbelt.net>
Source record: 100504
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Set your Field Day generator:

>FOR SALE: Frequency meter that covers 40 to 70 Hz, 115 V.

>It is in a nice-looking case, about 7"x9"x9", with a carrying handle.
>The readout is on a 5" wide "analog" meter.

>It is a high-quality military-type unit, and even has a calibration
>sticker on it. Weighs 4-5 pounds.

>Sell it for $50 plus UPS.

>Jerry Flanders W4UK flanders@groupz.net

3119. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Jim Johnson <jjohnson@hpl.hp.com>
Message-ID: <3294845E.14C4@hpl.hp.com>
Source record: 100505
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

Tim Connolly wrote:
>
> KW5Q wrote:
> >
> > I have uploaded to Simtel.Net:
> >
> > http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> > ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
> >
> > sbfft11.zip Sound Blaster spectral display and filtering
> >

This sounds very similar to the product that Brian Beasley (sp) sells
for about $100 ... is that the case or am I missing the boat?

Tnx,

Jim W6SC
jjoker@dxhound.com

3120. Re: YIG oscillators home brew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: dickrb@lsid.hp.com
Message-ID: <5720ck$ab5@hpcvsnz.cv.hp.com>
Source record: 100506

Hi - You will be hard-pressed to make your own YIG oscillator. There are many subtle things involved in building such a beast! For example:

- Obtaining a YIG sphere

- You will have to have some sort of physical structure to correctly position the sphere (X/Y/Z axis) in the magnetic field.

- Correct drive level to prevent 'squegging'-type oscillations.

- Designing a suitable magnetic structure.

- The completed device drifts terribly freq-wise unless you provide a reasonably stable thermal environment for the YIG and have chosen the best X/Y/Z position w/r/t thermal drift, squegging, and localized freq drop-outs.

These are just a few points that come to mind after many years of working with YIG structures. I've built 1000's of these devices years ago (designer and pdn-engr) and they do have many good features.

73 de w7wkr

3121. My new Amateur Radio page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: webteck@usa.net
Message-ID: <32949191.13EE@usa.net>
Source record: 100507

This is my new Amateur Radio web page...

http://linc2.lincup.com/~tstatham

Please check it out and let me know what you think.
I know it is slow, but is it worth the load time? I
would appreciate any ideas for improvement. I am new to
web page design and this is a learning experience for
me. Thanks in advance.

Tommy
N5HTQ

--
To see what the Godfather of Marketing Technology is
doing today visit http://www.enlow.com

3122. 8 Hz lightning receiver ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: W.B.Mudde@net.HCC.nl
Message-ID: <32949544.239363@news5.inter.NL.net>
Source record: 100508

Hello OM, who knows something about a receiver for lightning ?
I was told, the activities can be monitored with a 8 Hz receiver, but is it possible to built something like that. It very very low ofcourse and is it true ?
I am always very curious and interested in thunder etc. so when it is possible to built something please let me hear.
73 es cuagn de Bart PA3GGM.

3123. gaasfet prints

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: TMAN <tmenard@juno.com>
Message-ID: <3294CB84.650@juno.com>
Source record: 100509

HI

Looking for some prints on how to build your own gaasfet preamp.

Thanks for any help.
TMAN
tmenard@juno.com

3124. FOR SALE!!!!!!!!!! Satellite Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: newsat@ix.netcom.com
Message-ID: <572dai$i7t@sjx-ixn2.ix.netcom.com>
Source record: 100510
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew,rec.radio.amateur.misc,

Used

Toshiba TRX 80 with VC2+ $275
Panasonic 4500 with VC2+ $275
VC2+ descrambler $150

Receiver/VC2+/new feedhorn/new 20 degree LNB/new 24" actuator/new
7.5' Perfect Ten mesh dish Complete System for ONLY $625

E-mail reply please Thanks, Maura

3125. Re: gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: burt lang <burt@rocler.qc.ca>
Message-ID: <32944CD1.35A7@rocler.qc.ca>
Source record: 100511

> >K.R.Burtchaell <kburt@telis.org> wrote:
> >>I am looking for an adhesive to stick to teflon dielectric or a way to
> >>treat teflon dielectric to enable metal to be glued to it.Can anybody
> >>help? 73 Ken W6GHV
> >>
>
> You can "sort of" get Teflon to stick by the above method. But it isn't
> very strong. I've used contact cement when I just wanted a piece of it to
> hang on for a while.
>
> I asked the local plastics man about glue for Teflon and nylon. He has
> been looking for a decent product for years. He told me that every one
> that has been on the market has not satisfied him.
>
> Teflon is fairly easy to machine; depending on your needs if you have a
> fairly thick piece you can drill and tap it for screws.
>
> Zack W9SZ
>
> --

The only proper way to glue PTFE (Teflon) is to chemically "burn" the surface with one of the chemical mixtures sold for that purpose. These mixtures contain free sodium metal (or similar alkali metal) in solution and are very unstable and toxic (meaning dangerous to handle). Not recommended for amateurs.

The best way is to purchase PTFE that is already surface treated (it will have a dark brown appearance on the surface). Most commercial PTFE suppliers will be able to supply it at least in the thinner sheet material. Then you can glue it with any suitable "flexible" glue like contact adhesive. Some years ago I made a large number of electrical coils potted in polyurethane with a PTFE disk glued to one face by this method and they stood up very well.

This also explains why all PTFE self adhesive tape that is available has a dark brown appearance. Which brings up a point. If all you need is a thin layer of PTFE glued to a surface, self adhesive tapes are available in thickness up to at least 5 mil.

Burt>>>

3126. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov21.193457.15086@ke4zv.atl.ga.us>
Source record: 100512

In article <570nr4$q14@lace.colorado.edu> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:
>In article <32938288.41C67EA6@weitek.com>,
>John Mcleod <johnm@weitek.com> wrote:
>>Does anyone know :
>> Is it possible to use my 30Mhz SWR meter to measure the swr in the
>>6 meter band ? What is it that determines the bandwidth of the meter ?
>>Would I have to change the sensor head, or do I just have to bite the
>>bullet and spend out money for a new one ?
>
>Before buying a new one, give the following a try: Hook up a dummy
>load to the tuner, one that will present a nice 50 + j0 ohm impedance,
>and see what the meter thinks the SWR is. Then give it a 100 + j0
>load, and 25 + j0 load. These should be 2:1. Etc. Probably they won't
>be right on, but before you throw that one out the window, repeat
>the experiment with 30 MHz! I use an MFJ-949D tuner for 6m though
>they're rated for only up to 30 MHz. The readings are off at 6m, and
>only slightly less off for 10m. If what you want the meter for is
>to see where the dip is, and not to know the precise value of the
>SWR, then even is the meter is quite off, it will still work.

Well, maybe. One more test you should do. Put the meter in line
with a good dummy load, read forward and reverse. Now reverse the
connections to the meter and read forward and reverse again. If
the first forward reading doesn't match the second reverse reading,
and if the first reverse reading and the second forward reading
aren't very close to nil, the meter doesn't have enough directionality
to trust.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3127. FS: HV PS Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: spetri@e-tex.com
Message-ID: <572h01$iqn@news.e-tex.com>
Source record: 100513

These are 25KV diodes and I did a test run of 1.2Amps at 4 hours.
Perfect for that big amp. $10 each or 4 for $35 + $3 postage.

73 de Pete WA5JCI

3128. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <572h4j$1je@sf18.dseg.ti.com>
Source record: 100514

In article <32938288.41C67EA6@weitek.com>, johnm@weitek.com says...
>
>Does anyone know :
>
> Is it possible to use my 30Mhz SWR meter to measure the swr in the
>6 meter band ? What is it that determines the bandwidth of the meter ?
>Would I have to change the sensor head, or do I just have to bite the
>bullet and spend out money for a new one ?
>
>John Mcleod N6RCD

I've been using a cheap Vanco $10 CB-type VSWR meter since the mid 1970s on all bands from 80m through 2m, and it works just fine. The "purists" will argue that the VSWR measurement is not accurate, and they're absolutely correct. But who cares? What does the meter reading actually matter? You adjust your antenna system for the minimum reflected power (whatever that may be) and that's it. You get it as low as it will go, and that's as low as it will go. The actual numbers don't matter. I've heard "newbies" on 2m complaining that they spent hours and hours trying to get the VSWR on their 2m antenna from 1.3:1 down to 1.2:1 and couldn't do it, and they were genuinely in a panic about it. Must've been former CBers. I know I felt that way when I made the transition from CB to ham back in the 1970s. Then I learned the truth about VSWR, and now I really don't worry. Anything below 2:1 is tolerable, and anything below 1.5:1 is down-right great!

Use the meter you have, and don't waste your money on another one, unless you're one of those anal-retentive types who's hooked on numbers.

73 from Texas!

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3129. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov21.195740.15266@ke4zv.atl.ga.us>
Source record: 100515
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

In article <570rk5$sih@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers) writes:
>In article <56tk6v$ahh@clam.niwa.cri.nz>,
>Wilbert Knol <wk@frc.niwa.cri.nz> wrote:
>>tyler@cyberia.com (tyler) wrote:
>>>>>The standard varactor FM modulator does not inherently add pre-emphasis,
>>>>>so an external pre-emphasis network is used to allow PM and FM radios
>>>Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
>>>it's used in FM communications, but how and why?
>>
>>The de-emphasis at the receiver end cancels pre-emphasis at the
>>transmitter. Pre-emphasis accentuates the higher frequencies in the
>>transmitted audio passband. The overall effect is a neutral transfer.
>>
>>I understand the reason for this trickery is to attenuate high
>>frequency noise from the FM demodulator.
>
>Well, back in the old days, we had all these phase modulated radios,
>and there's an inherent pre-emphasis in the phase modulation process.
>
>So, to get a flat audio response (or something even close), you have
>to have de-emphasis at the receiver end. Of course, there's an inherent
>advantage with respect to high frequency noise reduction...

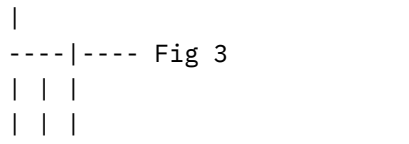
For a graphic demonstration of why pre-emphasis is necessary,
look at a spectrum analyzer display of a PM transmitter modulated
with pink noise. The close-in spectrum will look roughly like
this:

```
|
----|---- Fig 1
| | |
| | |
---------------------------
```

Now repeat the test with a FM transmitter *without* pre-emphasis.
It'll look like this:

```
|
/|\ Fig 2
/ | \
| | |
---------------------------
```

Put the pre-emphasis in and it'll look like this (hopefully):



Pre-emphasis equalizes the energy in the transmitted spectrum of
a FM system at all modulation frequencies. That maintains a constant
SNR at high and low modulation frequencies. A FM discriminator
has a response that's the inverse of figure 2, so if you don't
put de-emphasis in the receiver you'll get excessive high frequency
energy in the recovered modulation of a PM signal or a pre-emphasized
FM signal.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3130. Re: CQ June'96 QRN Squasher, does it really work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Charlie Panek <charlier@lsid.hp.com>
Message-ID: <3294E8C9.B56@lsid.hp.com>
Source record: 100516

Peter Shintani wrote:
>
> Hi:
> I had trouble finding the specified FET, so I used a similar 2SK125 fet.
> The circuit worked but the frequency response was uneven and peaky.
> It turned out that the RF choke I was using was self resonant at 1 MHz or
> so. I searched and searched but I could not find a suitable RF choke that had
> the specified 2.7 mH of inductance with a suitably high self resonance.
> (I have feeling that a smallL would be ok.)
> I gave up on the design. I had afew NEC upc1651 rf amp ic's. I replaced
> the two gain stages with the upc's and used a simple hybrid combiner to
> add the two signals.I have still to check the operation. But the
> frequency response is now flat for the main antenna path up to
> atleast 100 MHz, that is the measurement limit of my gain phase
> analyzer. The Noise antenna path is -8 dB at 100 MHz.
> I was wondering if anyone else had any luck with thie CQ QRN Squasher
> as published and or knew of any mod's to fix or improve the performance.
> I noticed that commercially available units have some sort of preselector
> feature, it's lacking in the CQ ciruit, perhaps it is necessary ?
> RSVP via email is appreciated
> shintani@tv.sony.co.jp
> PEter
Peter:

I bread-boarded the circuit up and it seemed to work ok on the bench.
I also used FET's that I had on hand. For Q3 and Q2 I used a National
J309 For Q1, I used a 2N5245. (I would have used J309's for all 3, If
I'd had another.) My gain was a little peaky, maxing at 28dB at 1.2
MHz, then rolling off to about 15dB at 14 MHz, and rolling off more slowly
to about 6 db at 50 MHz. This is for the "Main antenna" input.
The gain on the sense antenna input varies as you fiddle with
the phase and balance controls, of course, but with both adjusted
for max gain, I got a peak of 25 dB at 0.5 MHz, rolling off rapidly
to only 5dB at 10 MHz, but then it was flat out to about
35 MHz or so. I really wanted to use the circuit on 6m,
where I have a chronic intermittent line noise problem, but the
gain might be too low there.

I just used a regular old 2.7mH molded choke for RFC1. As long as the
self-resonance is a parallel resonance, (it should be!) the choke should
have sufficent impedance to function properly. I just looked at mine
on the impedance analyzer. It had an self resonance at around 2 MHz, but
the impedance was still 3k ohms at 40 Mhz, which should still be adequate.

I'm not sure why you need a really flat response, although having a peak down in the BC band worries me; you'd be asking for overload problems with a local BC station. A preselector might not be a bad idea, especially if you were in such a situation.

I suspect that maybe DeMaw was thinking mostly about 160m operation. He mentions it a couple of times in the article. If you wanted to sacrifice gain at the low end, you could probably optimize the circuit for a bit more gain at the high end.

All that said, there's nothing wrong with using the MMIC's, though the noise figure might not be quite as good as a good JFET. (I don't have a data sheet for the 1651's but the 1653's have a NF of around 5dB.) I also wonder about their dynamic range relative to the JFETs.

Gee, you've inspired me to take my breadboard home this weekend and hook it up to a real antenna and radio, and see if it works.

--
Charlie Panek KX7L Hewlett Packard Company
charlier@lsid.hp.com Lake Stevens Division
Everett, Washington

3131. Re: Syncronous Noise Blanker Idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Christopher Trask <ctrask@primenet.com>
Message-ID: <572v44$8hi@nnrp1.news.primenet.com>
Source record: 100517

Rob Frohne <frohro@wwc.edu> wrote:
: Hi,

: The other day I had an idea. The idea was for a syncronous noise
: blanker.

: So anyway, my idea is this: Assuming the noise is coming from arcing of a
: 60 Hz source, actually the same 60 Hz source I'm powering my radio on, and
: assuming it happens on peaks, then it will happen 120 times a second. Why
: not build a blanker that triggers on the 60 Hz line signal and that has an
: adjustable blanking interval time and adjustable delay from the trigger?

Hmmm...
This sounds like an interesting application for a circuit known as
a commutative filter. Little has been written about this, although Moto-
rola once had an application note on the subject. I have built a number
of these, usually using an NE565 PLL to lock onto a periodic signal. The
signal and all of it's harmonics are reconstructed by synchronously sampl-
ing the waveform in time. The phase relationship between the harmonics is
preserved, and a little post-filtering removes the switching transients
from the reconstructed waveform.

Some references are:

1. Visel, Thomas A., "Narrowband Digital Filter Achieves High
Qs," Electronics, Nov 22, 1973, pp. 118-119

2. Broeker, Bud, "Commutating Filter Techniques," Motorola
Application Note AN-534

3. LePage, W.R. et al "Analysis of a Comb Filter Using
Synchronously Commutated Capacitors," AIEE Transactions,
Part 1, March 1953, pp. 63-68. (This is a mechanical
implementation, but gives a full math development)

4. Hickman, Ian, "Analog Electronics," CRC Press, 1990,
pp. 179-182.

Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo---

3132. Re: Want: VHF / UHF SWR Meter plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Lawrence Davis <l.davis@worldnet.att.net>
Message-ID: <3294ECD0.549C@worldnet.att.net>
Source record: 100518

Bob Berg wrote:
>
> hello,
> Looking for plans to build a VHF/ UHF 2m-70cm SWR Meter.
> up to 50 Watts power handling capabilities.
> Does anyone have any plans or know how to build one. Any information
> would be greatly appreciated.
> Thanks
> N1YCH
> Bob Berg
> bberg@connix.comBob;
You would be able to determine the VSWR using a DIRECTIONAL COUPLER and some simple math. If you would like the plans, I can scan them and send them as an "image" file. Let me know what type of file you would like the plans in. (TGA,GIF etc...)
The plans are from The ARRL Antenna Book.

73's
WB8VPC
Larry
Summit County, Oh.

3133. home-brew DGPS receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: griffin@ridgefield.sdr.slb.com
Message-ID: <griffin-2111961214320001@griffin-mac.ridgefield.sdr.slb.com>
Source record: 100519
Cross-posted to:
sci.geo.satellite-nav,rec.boats.electronics,rec.boats.cruising,rec.boats,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I am looking for an alternative to the commercial ~$450 DGPS receivers.
Does anyone have information to build a home-brew DGPS receiver to make
use of the 250 - 350 KHz marine radio DGPS beacons in the US and Canada?
Please email to griffin@ridgefield.sdr.slb.com.

Thanks,

Doug

Douglas Griffin Griffin@ridgefield.sdr.slb.com

3134. Who Answered my Panadaptor Post??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Richard Valentine <tde@ntplx.net>
Message-ID: <329520C0.4F01@ntplx.net>
Source record: 100520

My drive crashed, and I'm wondering who answered my Panadaptor Conversion question????????? - I asked about a conversion to run the Yeasu FT-1000 with a Kenwood scope. Someone had answers..Please respond if you see this!! - Richard Valentine, N1SQJ

3135. Re: Yaesu mic. pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: "Chuck (Jack) Hawley" <c-hawley@uiuc.edu>
Message-ID: <329532C0.12A9@uiuc.edu>
Source record: 100521

Mike wrote:
>
> Hello Tim,
> The pin out on the MD-1 mic plug is as follows. Note that the notch is at
> the 12 oclock position.
> 1. up
> 2. +5v
> 3. down
> 4.
> 5.
> 6. ptt
> 7. gnd
> 8. mic
>
> I took this from the tech manual. The pin dia in my Yaesu ft736r shows
> pin 4 and 5 as "fast", but the tech manual does not show and connections
> good luck, Mike K6YPB

I don't have an MD-1 but my Yaesu 990 has pin 2 and 5 as gnd return for control functions (ptt, up, dn, etc.) and pin 7 as gnd return for the audio from the mike. Pin 4 is "fast". The pin numbers are usually labeled on the front or back on plug and socket.

Chuck, KE9UW

3136. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Bob Sull <wa8imo@kellnet.com>
Message-ID: <329509F9.46AC@kellnet.com>
Source record: 100522
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

```
Tim Connolly wrote:
>
> KW5Q wrote:
> >
> > I have uploaded to Simtel.Net:
> >
> > http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> > ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
> >
> > sbfft11.zip Sound Blaster spectral display and filtering
> >
> > Features:
> > * Sound Blaster 16 (or 100% compatible) input and output.
> > * Band widths of 2K, 4K, 8K or 16K Hz.
> > * Spectral resolutions of 1 Hz to 16 Hz per pixel.
> > * Display of power spectral density with any of 4 color maps in either
> > linear or logarithmic scale.
> > * Define and use as many as to six filters simultaneously -- band pass,
> > band stop, low pass, and high pass.
> > * Filters are defined graphically by mouse movement based upon
> > the displayed spectrum. Once you see a signal, you can
> > quickly define a pass or stop filter around the signal by clicking
> > and dragging the mouse.
> > * Net filter passband is displayed at all times.
> > * Filters can be selectively enabled and disabled by a single
> > keystroke.
> >
> > Special requirements: DOS 3.0 or higher, SB16 or 100% compatible, SVGA,
> > VESA modes 101, 105, mouse.
> >
> > Copyrighted Freeware. Uploaded by the author.
> >
> > Kevin - KW5Q
> >
> > kevinm@eden.com
> >
> > $$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
> > Kevin McWilliams
> > KW5Q
> > Applied Mathematician
```

>
> Could you explain what this software is used for, thanks!
> Sounds like something I have been interested in.
>
> -- Tim Connolly
> -- Vienna Computer Services & World Wide Web Advertising
> -- http://www.midohiovalley.com/vcs
> -- mailto:kb8eht@access.mountain.net

Better yet, explain what this has to do with DX?

Later,
Bob
--
<> Bob Sull WA8IMO <>
"73, CUL, es keep the FUN in Ham radio."
>Life Member-ARRL QCWA< >Member-NODXA NCDXF<
>DXCC WAS RCC < >8P9BC<
>QSL Mgr for 8P6JG<
>WA8IMO@NO8M.#NEOH.OH.USA<
>WA8IMO@KELLNET.COM<

3137. Re: Yaesu mic. pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Mike <mikes@fishnet.net>
Message-ID: <3295174E.5DCB@fishnet.net>
Source record: 100523

Hello Tim,
The pin out on the MD-1 mic plug is as follows. Note that the notch is at the 12 oclock position.
1. up
2. +5v
3. down
4.
5.
6. ptt
7. gnd
8. mic

I took this from the tech manual. The pin dia in my Yaesu ft736r shows pin 4 and 5 as "fast", but the tech manual does not show and connections
good luck, Mike K6YPB

3138. Re: Wilkinson Combiner or 1/4 Wave Sections ? Opinions ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <32952CC5.7808@magg.net>
Source record: 100524

Jim Potter wrote:
>
> daveb@buffnet.net (daveb@buffnet.net) wrote:
>
> >Hi All,
> >
> >Ok here is the deal. I'm looking to increase my output on 2 M by 3dB.
> >I'm planning to mount another MRF-151G on my current heat sink.
> >What is the cleanest way to split/combine the inputs & outputs.
> >The design is based on the Motorola app. note.
> >The simplest I can think of would be 1/4 wave sections of 59U.
> >I've seen four port devices that when one port is terminated in 100
> >ohms one port is an imput and the other two are in quadrature.
> >Something like a wilk combiner.
> >
> >Any ideas ??
> >
> >Thanks
> >
> >daveb@buffnet.net
> >
> >
> I'd recomend you consider a quadrature combiner. I t requires a 90
> degree hybrid in the input and the output, arranged so that the phases
> all add up correctly. The coupler is most easily made from Sage
> Wireline which you can get from Sage Laboratories (508) 653-5671.
>
> I have used the line at the 150 W level at 300 MHz and it works fine.
> You can cut your own or for a few bucks they will supply you with the
> line pretrimmed and stripped. Basically, its two wires inside a shield
> with the impedances arranged so that a quarter wavelengthmakes a 30
> dB, 90 degree coupler. Thier catalog has an eplanation of how it
> works. The advantage of this kind of coupler is that mismatched power
> from unbalance between the two amplifiers ends up in the waste load.
>
> It's a 4-port device and can be used as a splitter with two equal
> outputs and an isolated output that just sees mismatched reflected
> power from the two loads and a combiner with two inputs, a sum output
> and a difference output.
>
> 73 de K9GXC, Jim
>
> James M. Potter, President TEL: (505) 662-5804
> JP Accelerator Works, Inc. FAX: (505) 662-5210

> 2245 47th Street EMAIL: jpotter@jpaw.com
> Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

The 4 port hybrids would be a better solution than a 2 way divider w/ RG59. The output ports in a well designed 4 port hybrid will have 20 dB or better isolation- the result is that if one of your amps goes west, the other amp will not know it.
The capacitively coupled hybrids are easy to build and give you a degree of tuning capability if you make the 2 caps variable- they are also less lossy than Sage. Look through a Dec issue of an old HR and you'll see 4 or 5 hybrid articles listed, including capacitively coupled hybrids. I'm using a pair of these to combine 2 1296 amps.

73, Dale W4OP

3139. Re: 8 Hz lightning receiver ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <3294CF29.5B58@up.net>
Source record: 100525

One way to monitor lightning activity is to turn on an AM Broadcast
radio and set the dial to an unused frequency at the higher end of
the dial. Cheap and effective.

Bart Mudde wrote:
>
> Hello OM, who knows something about a receiver for lightning ?
> I was told, the activities can be monitored with a 8 Hz receiver, but is
> it possible to built something like that. It very very low ofcourse and
> is it true ?
> I am always very curious and interested in thunder etc. so when it is
> possible to built something please let me hear.
> 73 es cuagn de Bart PA3GGM.

3140. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <570uke$jjc@nadine.teleport.com>
Source record: 100526

In article <32938288.41C67EA6@weitek.com>,
John Mcleod <johnm@weitek.com> wrote:
>Does anyone know :
>
> Is it possible to use my 30Mhz SWR meter to measure the swr in the
>6 meter band ? What is it that determines the bandwidth of the meter ?
>Would I have to change the sensor head, or do I just have to bite the
>bullet and spend out money for a new one ?
>
>John Mcleod N6RCD

Probably the toughest value to measure is 1:1, and you can check this quickly and easily with a dummy load. Chances are that if it reads well at 1:1 it won't be badly off at other values.

Roy Lewallen, W7EL

3141. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <570e9m$90b@nadine.teleport.com>
Source record: 100527

In article <32938288.41C67EA6@weitek.com>,
John Mcleod <johnm@weitek.com> wrote:
>Does anyone know :
>
> Is it possible to use my 30Mhz SWR meter to measure the swr in the
>6 meter band ? What is it that determines the bandwidth of the meter ?
>Would I have to change the sensor head, or do I just have to bite the
>bullet and spend out money for a new one ?
>
>John Mcleod N6RCD

Probably the toughest value to measure is 1:1, and you can check this quickly and easily with a dummy load. Chances are that if it reads well at 1:1 it won't be badly off at other values.

Roy Lewallen, W7EL

3142. Re: Wilkinson Combiner or 1/4 Wave Sections ? Opinions ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-21 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <570e25$90b@nadine.teleport.com>
Source record: 100528

In article <3291276f.11488183@news.santafe.edu>,
jpotter@jpaw.com (Jim Potter) wrote:
>jpotter@jpaw.com (Jim Potter) wrote:
>
>
>>I'd recomend you consider a quadrature combiner. I t requires a 90
>>degree hybrid in the input and the output, arranged so that the phases
>>all add up correctly. The coupler is most easily made from Sage
>>Wireline which you can get from Sage Laboratories (508) 653-5671.
>>
>
>
>
>OOPS! That was their FAX number. Voice number is 508-653-0844. Sorry
>for the confusion.

A quadrature combiner (or any other passive circuit) does not insure 90 degree phase difference and equal magnitude of current in two loads of arbitrary impedance. The impedances of the elements of a phased array are equal only in a few special cases, and almost never if their currents are in quadrature. There's more information about this topic in Chapter 8 of the ARRL Antenna Book.

Roy Lewallen, W7EL

3143. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: DANIELI@area.bo.CNr.IT
Message-ID: <961122131936.20202709@area.bo.cnr.it>
Source record: 100437

```
help
```

3144. Re: 8 Hz lightning receiver ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: hudakjm@mcmaster.ca
Message-ID: <hudakjm.131.00087366@mcmaster.ca>
Source record: 100438

>I was told, the activities can be monitored with a 8 Hz receiver, but is
>it possible to built something like that. It very very low ofcourse and
>is it true ?

It depends on what aspect of lightning you're listening to. Could you be
thinking of whistlers? If so they're audible over a range of frequencies up
to around 10 kHz., and yes there are receivers for them.

John Hudak hudakjm@mcmaster.ca
Electron Optics
Brockhouse Institute for Materials Research
McMaster University
Hamilton, Ontario, Canada

3145. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002211960639420001@news.vcnet.com>
Source record: 100439

In article <n7ws.203.00187573@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) wrote:

> In article <measures-ya023180002011961003270001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
> >From: measures@mail.vcnet.com (R. L. Measures)
> >Subject: Re: Good source for amplifier tips
> >Date: Wed, 20 Nov 1996 10:03:27 -0700
>
> >In article <19961119035300.WAA16041@ladder01.news.aol.com>, w8jitom@aol.com
> >wrote:
>
> >> In article <19961118001500.TAA16346@ladder01.news.aol.com>,
> >> w8jitom@aol.com writes:
> >>
>
> >> >Let's look at a typical suppressor such as the SB-220, AL-80, or SB-1000
> >> >suppressor, since a 3-500Z almost always needs a suppressor in the 100-
> >> >130 MHz area. Will that be ok?
> >> >
> >> >73 Tom
>
> >OK, Tom, let's have a look:
...snip...
> >Thus, the resistor carries 20/42 = 0.476, or 47.6% of the total current. The
> >inductor carries 22/42 = 52.4% of the total current. [snip]
>
> Don't you think it wise to consider the phase angle of these currents. This
> ain't DC you know. Furthermore, these aren't isolated components tested in a
> measurement system, they're embedded in a system that includes other
> reactances and frequency dependent source and load impedances. So, their
> functional behavior is quite a bit more complicated that this "Ohm's law"
> analysis.

True enough, 'it ain't DC', Wes, and the currents are not in phase, the exercise in question was to calculate the ratio of the current through the parallel R and L components. In doing this, I obviously ignored the intrinsic L in the resistor and I ignored the intrinsic R in the inductor. However, the answer is probably in the ballpark My point is that roughly half of the VHF current flows through the R and roughly half of the VHF current flows through the L. I believe it is hubristic to presume that the VHF current through either the suppressor R or L can be ignored with impunity, which has been Mr. Rauch's position for at least the past 6 years.

At DC, nichrome alloys are about 57 times more resistive than copper. To the best of my knowledge, there is no type of wire that has more VHF resistance, and produces a lower VHF-Q on a Boonton Q-Meter, than nickle-chromium-iron alloys.
The reason that high-resistance inductors produce a lower-Q VHF parasitic suppressor is that roughly half of the VHF current passes through a VHF suppressor's inductor.
All one needs to demonstrate this effect is a dipmeter and an HF amplifier. Low VHF-Q suppressors produce a shallower, broader VHF dip than the relatively higher VHF-Q suppressors that most amplifier manufacturers, including Ameritron, still use. A broader VHF dip means better VHF-dampening---which is what a VHF-suppressor is supposed to do. Mr. F. E. Handy realized this in 1926. I realized this in 1986.

. Even if we knew that the phase angle of the currents in L and R were, say for instance, 50 degrees apart at 100MHz, how would you use this information in designing a VHF parasitic-suppressor, Wes?

> >> This thread has outlived any usefulness.
> >>
> >> 73 Tom
>
> So it would seem.
>
Perhaps not. Mr Rauch indicated that he "will be off-net for two or three days."---or this debate may be near its end. However, in either case, an epilogue might be appropriate---provided that anyone is interested in the story behind the smoke and mirrors.

ï¿½ï¿½ EPILOGUE
Paul Pagel, N1FB, QST's Technical Correspondence editor related the following story to me:
Paul said that he comes to work at QST about a half hour early to unlock 225 Main Street. Shortly after "Parasitics Revisited" was published in the Sept. and Oct. 1990 issues of QST, as Paul opened up one morning, he could hear a telephone ringing in the back of the darkened building. He switched on the lights and started walking towards his desk in the back of the building. As Paul got closer and closer to his desk, the ringing became louder and louder. When he reached his desk, it was his telephone ringing. Paul said that this happened repeatedly over a period of weeks. The caller was always Mr. Tom Rauch, W8JI, from Ameritron, complaining about "Parasitics Revisited". . Paul said that Tom seemed to be especially concerned about the photograph of the burned bandswitch in "Parasitics Revisited" (page 33 in the October 1990 issue of QST). Tom was upset because owners of Ameritron amplifiers, whose bandswitches had burned up, saw the photo of the burned bandswitch on page 33 in QST and were apparently calling Ameritron to complain. Paul said that Tom blamed the burned bandswitches in Ameritron amplifiers on bad antennas, bad coax and bad operators. After many such telephone calls, Paul began to realize that he could not follow Mr. Rauch's technical logic, so Paul recommended that he telephone the author of the article, namely me, to resolve technical issues. .

Tom Rauch telephoned me. After identifying himself, he somewhat brusquely demanded to know if I was tape recording the telephone call. I answered no. Mr. Rauch was skeptical. After additional interrogation, he eventually became convinced that I was NOT recording the conversation, and we moved on to the matter at hand. Eventually, it became apparent that Mr. Rauch's concept of AC Circuit Analysis and my concept of AC Circuit Analysis are different. Mention VHF, and Mr. Rauch sees "coils" (inductors) as virtual open circuits. In other words, in Mr. Rauch's mind, VHF plus "coil" equals insignificant current flow, PERIOD. Next question. ....
OTOH, I believe that inductance and frequency should be entered into the appropriate AC Circuit Analysis formulae, and the results calculated.

I was amazed that QST Editor Mark Wilson never questioned Mr. Rauch's simplistic views on AC Circuit Analysis. See page 74 in the September, 1994 issue. Quoting Mr. Rauch:

"The coil's reactance increases with frequency, and at VHF it is plainly evident that the dominant component at VHF is the resistor, not the coil. Changing the coil has very little effect on overall Q."

Mr. Rauch is so sure that he is always right, he presented me with a 3-500Z L/R VHF suppressor current-division problem that he was certain would prove him right, and presumably bring me to my knees, technically-speaking. It backfired on Mr. Rauch.
I would think that one of our "recognized amplifier experts" would have taken the minute or so necessary to calculate the current distribution. If Tom Rauch had spent spent such a minute six years ago, he would have saved himself, QST, and yours truly much unpleasantness.
==========
e-mail copies to Messrs. Stewart, Brown, and Rauch

--
--Rich-- ag6k, 805.386.3734

3146. Re: YIG oscillators home brew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <574gm3$2q1@canyon.sr.hp.com>
Source record: 100440

Dick Bingham (dickrb@lsid.hp.com) wrote:
: Hi - You will be hard-pressed to make your own YIG oscillator. There
: are many subtle things involved in building such a beast! For

Not to disagree with Dick (who has indeed interacted with YIG devices a good deal and knows of the difficulties) but building a YIG oscillator on a ham budget/resources *is* possible.

In fact, Horst Aichmann, DL5KR, has done just that. I believe he used a packaged bi-polar as the active element and pretty much built it on a piece of copper clad with the coupling loop and YIG sphere pretty much "air wired".

I don't remember what magnet he used but I think if you are really set on building one, he could probably help.

Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| http://www.tapr.org/~n6gn/index.html |

3147. Re: Valves for 50 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: Duncan Clark <Duncan@dnamp.com>
Message-ID: <xrCkGBAGudlyEwMl@dnamp.com>
Source record: 100441

Does anyone know if 572B's will also work on 6m?

Duncan

The problem with being on the cutting edge is that you occasionally get
sliced from time to time....

Dr. Duncan Clark
DNAmp Ltd.
TEl/FAX 01252376288
http://www.prestel.co.uk/dnamp
http://www.genesys.demon.co.uk

3148. Re: 8 Hz lightning receiver ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <574oji$nh3@li.oro.net>
Source record: 100442

Roland Burgan <rburgan@up.net> shared these priceless pearls of wisdom:
->One way to monitor lightning activity

->Bart Mudde wrote:
->> Hello OM, who knows something about a receiver for lightning ?

Way back when I was going to college, I had a job with an outfit called Smythe Research in San Diego up by Montgomery Field. As I _vaguely_ remember, the best receiver for lightning was tuned SOMEWHERE around 50 kHz.

Again, that was a HELL of a long time ago. Anybody got any more recent information?

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---Cessna 182A N73CQ
jim@rst-engr.com | Commercial/CFI-Airplane/Glider-A&P-FAA Counselor

3149. Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: Dave Morrow <dave@cybergate.com>
Message-ID: <3295ED45.453A@cybergate.com>
Source record: 100443

I'm trying to build a 13.8v 20amp power supply and I'm having difficulty locating a transformer. This project may be more difficult than I thought. I'm looking for a 120v primary and 20v - 25v 10amp secondary or something close. Of the places I've called they don't carry it or they want $200.00 for it.

Any words of advise? Any ideas as to where to find a transformer at a cut rate price?

Help!!
Thanks, Dave

3150. Loop antenna theory?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: Robert Nase Johnson <robjohn@worldnet.att.net>
Message-ID: <329624E8.71AB@worldnet.att.net>
Source record: 100444

Hello -- I'm designing a VLF loop antenna and have read that the sensitvity of such an antenna is affected both by number of turns and area of the loop. My question is, if you can't have both, which is the most important?
Thanks in advance
Rob Johnson

3151. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: rickets@earthlink.com
Message-ID: <32960272.83289306@news.earthlink.net>
Source record: 100445
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

Bob Sull <wa8imo@kellnet.com> wrote:

>> > $$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$

>> Could you explain what this software is used for, thanks!
>> Sounds like something I have been interested in.
>>

>
>Better yet, explain what this has to do with DX?
>
You could use it to make difficult signals easier to copy, remove
heterodynes, etc. Like the Watkins-Johnson dsp only cheaper.
dr

3152. Re: CQ June'96 QRN Squasher, does it really work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: dhayes@seldon.terminus.com
Message-ID: <32a0007d.15201989@news.impulse.net>
Source record: 100446

w8jitom@aol.com wrote:

>
>I did a longhand analysis of this circuit and could find no source of
>phase shift, other than a 180 degree flop as zero amplitude was crossed
>with either pot.

I modeled the circuit using Pspice, and also could not see exactly how it would work under various conditions. It also displayed a fairly uneven and falling frequency response.

There is a 'noise bridge' type noise reduction unit published in William R. Nelson's "Interference Handbook". It uses only passive components. It also requires moving coil taps to tune it, which is not a very satisfactory solution.

Does anybody know of a published circuit other than these two? I would like to experiment. I don't want to cough up $175 for the ANC-4, since I don't need the transmit capability, and my needs are infrequent.

Dave Hayes

3153. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: nojunkmail@hotmail.com
Message-ID: <329606E1.474A@hotmail.com>
Source record: 100447

Dave Morrow wrote:
>
> I'm trying to build a 13.8v 20amp power supply and I'm having difficulty
> locating a transformer. This project may be more difficult than I
> thought. I'm looking for a 120v primary and 20v - 25v 10amp secondary or
> something close. Of the places I've called they don't carry it or they
> want $200.00 for it.
>
> Any words of advise? Any ideas as to where to find a transformer at a
> cut rate price?
>
> Help!!
> Thanks, Dave

Call C&H Sales (surplus) 1-800-325-9465 get a catalog. I see several
transformers that might fit your needs.

pht

3154. Source for Siemens parts (BAT14-099)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@LaRC.NASA.gov>
Message-ID: <32960DAA.67F9@LaRC.NASA.gov>
Source record: 100448

Hi,

I need to find a place that sells Siemens components.
Specifically, I looking for the BAT14-099 dual Schottky diode.
Please reply to zawodny@exis.net.

Thanks & 73
KO4LW
--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

3155. Re: 8 Hz lightning receiver ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov22.194216.20852@ke4zv.atl.ga.us>
Source record: 100449

In article <32949544.239363@news5.inter.NL.net> W.B.Mudde@net.HCC.nl writes:
>Hello OM, who knows something about a receiver for lightning ?
>I was told, the activities can be monitored with a 8 Hz receiver, but is
>it possible to built something like that. It very very low ofcourse and
>is it true ?
>I am always very curious and interested in thunder etc. so when it is
>possible to built something please let me hear.
>73 es cuagn de Bart PA3GGM.

7.69 Hz is the self-resonant frequency of the Earth-Ionosphere channel. Lightning discharges anywhere on Earth will excite standing waves in this channel. Tesla discovered this in his Colorado experiments. As thunderstorms move toward or away from your location, the standing wave nodes will march across your location, peaking and fading according to the distance between you and the storm, and you can detect them with a suitable antenna and receiver.

Building a suitable receiver is not terribly hard. It is basically a high gain selective audio amplifier. Putting up an effective antenna may be much more challenging. Anything at all you can erect is going to be a *very* short (in terms of wavelength) voltage probe antenna. This will have an *extremely* high feedpoint impedance and will almost certainly need an integrated MOSFET to transform it down to something reasonable for the receiver. Protecting the gate of this MOSFET from static charges is going to be a very hard job, even the bias network is going to be difficult to build. You might be better off with a tube. Of course you could use a magnetic loop, but then the impedance would be extremely low, so you still have problems.

It is a marvel that Tesla detected anything. His receivers had no amplification, and even his huge antennas were still short in comparison to a wavelength at this frequency. But manmade electrical noise was a lot less in his day (excepting that he generated himself), so simple receivers performed better than they can today.

7.69 Hz borders on being below the audible range, so you need a chart recorder to monitor the output of your receiver. Or you could use a data acquisition card with your PC to log the signals. There's lots of interest to monitor throughout ELF, so a tunable receiver and a speaker should be part of your plans.

Moving up out of ELF to merely VLF simplifies your problems considerably, and there is still lightning energy to be detected there. In this region, whistlers come to the front as the interesting thing to monitor. As you move up in frequency above the audible range, you're going to have to add a detector (a simple diode envelope detector) to your TRF receiver in order

to hear anything. What you'll hear is the slope of the magnitude curve of the discharge energy. This can be interesting, but using a superhet with a product detector may prove more interesting yet because now you'll hear frequency shifts in the lightning discharge as well. At this point you may want to consider an upconverter to your HF rig, if it doesn't already cover VLF, instead of building a separate receiver.

Of course there is lightning energy to be detected all the way up into VHF, but the discharge has to be *very* much closer to your location to detect at VHF. This leads to a very useful monitor you can build. If you couple a MW AM receiver and a VHF AM receiver (a aircraft band scanner tuned to an unused channel will work) to a coincidence detector, you can get warnings for when storms are within a few hundred miles (crashes on the MW receiver), and when they are approaching your local area (simultaneous crashes on *both* the MW and VHF receiver). By monitoring both bands, you reduce the amount of false detections you get of approaching storms. We used this scheme to automatically start a backup generator when storms came into the local area.

Electrical noise is going to be the bane of your monitoring activities in any event. You're going to become familiar with every malfunctioning appliance within miles of your station, and grow to be on intimate terms with your local power company's EMI suppression engineers. Monitoring manmade EMI can be interesting in itself. You quickly learn the habits of your neighbors. (Most battery powered vibrators give off a distinctive ELF signal.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3156. High Voltage Diodes For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: shiso@ici.net
Message-ID: <shiso-2211961645090001@pmfr3ip25.ici.net>
Source record: 100450

Several solid state High Voltage Diode blocks. 2.625"x 2.625"x .625"
60KV @.1 amp, UNITRODE 86-526. Also 45KV @.3 amp UNITRODE 86-525.
$10 ea. Shipped to lower 48.
Thanks for interest. Bruce, KD1MW.

3157. Re: gluing to teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: n0ss@socketis.net
Message-ID: <32961cdb.6010552@news.socketis.net>
Source record: 100451

On 20 Nov 1996 03:51:32 GMT, "K.R.Burtchaell" <kburt@telis.org> wrote:

>I am looking for an adhesive to stick to teflon dielectric or a way to
>treat teflon dielectric to enable metal to be glued to it.Can anybody
>help? 73 Ken W6GHV

If you can rough up the surface of the teflon a bit, regular contact
cement can be made to work. 'Course, it all depends upon how tightly
you need the bond to be... it works in most cases, but might not hold
if a LOT of stress was placed on it.

73 - Tom Hammond n0ss@socketis.net

3158. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: filipg@paranoia.com
Message-ID: <575aig$8de@villa.fc.net>
Source record: 100452

In Article <19961122120300.HAA29355@ladder01.news.aol.com>, through puissant locution, w8jitom@aol.com soliloquized:
>In article <measures-ya023180002111960521570001@news.vcnet.com>,
>measures@mail.vcnet.com (R. L. Measures) writes:
>>Mr. Rauch appears not to have answered these seemingly-simple questions.
>>How can we go over theories point by point if one party is pointedly less
>>than forthcoming?
[zap]
>I am supposed to answer you and spend hours correcting nonsensical claim
>after nonsensical claim, while you are free to avoid any question or spit
>out any response you choose. You, and in particular the magazine that gave
>you a platform to publish such obvious technical garbage, should be
>ashamed of what was done to people trying to learn. I think undoing the
>damage is impossible. More time arguing with you is simply wasted time.

Greetings. I would just like to interject here that as someone who grew up after tubes "died" but is still MOST interested in these discussions... I'm now totally confused and lost. On the bright side, several explanations have been posted here that should have been in the books I read... clear and simple enough to digest and understand without a bottle of aspirin... While I REALLY want this information to come out... I now have to ask myself, "Why pay attention if it could be all wrong?"... Or, rather, who is right?

Heck, I'm so confused now that I don't even know which part you're arguing about: the test results or the physics involved... or both.

Take care.

P.S. Feel free to ignore me... today is my "designated bad day" :-)
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/ |SCI.ELECTRONICS.REPAIR FAQ + LOTS MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

3159. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: n1btq@tiac.net
Message-ID: <575asp$14b@news-central.tiac.net>
Source record: 100453
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

In article <32960272.83289306@news.earthlink.net>,
rickets@earthlink.com (Dave Rickmers) wrote:

>You could use it to make difficult signals easier to copy, remove
>heterodynes, etc. Like the Watkins-Johnson dsp only cheaper.
>dr
>

Can you tell me what the s/w is called and where I could d/l it?

Thanks,

Tim N1BTQ

3160. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: rickets@earthlink.com
Message-ID: <3296322a.95507354@news.earthlink.net>
Source record: 100454
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

n1btq@tiac.net (Tim Smith) wrote:

>Can you tell me what the s/w is called and where I could d/l it?
>
>> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
>> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
>>
>> sbfft11.zip Sound Blaster spectral display and filtering
dr

3161. ALAN CT145 ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: Fabrice Segura <Fabrice.Segura@wanadoo.fr>
Message-ID: <01bbd737$d93dcde0$728afcc1@wanadoo.fr.wanadoo.fr>
Source record: 100455

I'm a French Station,
Do you have informations about Alan CT145 ???

Thanks
Fabrice

3162. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32963331.38C5@mail.teclink.net>
Source record: 100456

Wes Stewart wrote:

[Partial]
>
> Don't you think it wise to consider the phase angle of these currents. This
>ain't DC you know. Furthermore, these aren't isolated components tested in a
>measurement system, they're embedded in a system that includes other
>reactances and frequency dependent source and load impedances. So, their
>functional behavior is quite a bit more complicated that this "Ohm's law"
>analysis.

Hi Wes-

Are you saying that Tom was making a hasty (and incorrect) assumption when he said that he majority of any VHF current would go through the resistor rather than the suppressor coil? If that's what you are saying, then I agree. If not, then please explain how the difference in phase angle between the reactive path and the resistive path (the parallel resistor and inductor in the suppressor) would force the VHF current to flow through the higher impedance path rather than the lower.

I think I must be missing something..... (of course, it wouldn't be the first time THAT happened! <g>)

73, Tom KJ5IE

3163. ** RF Transmitter Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: mwilsher@randomhouse.com
Message-ID: <5751qm$llr@lana.zippo.com>
Source record: 100457

I'd like to learn how to design RF tx/rx devices. I have built some "single chip" trans/recv pairs and I have a Digital Eng. Degree. And have done some analog work, but I know little of RF Design. And would like to know of books (ISBN# if you have them) or WWW sites or whatever info that anyone could pass on. Right now it'd like to build a phone mode FM crystal transmitter and receiver since they seem to the most simple. And mabye later try doing adding a VCO. I just want to start out simple so I can grasp the calculations and design technique crystal based seem to be a good place to start. Also I have seen the ARRL Radio Designer 1.5 does anyone know anything about it? Can it teach me RF design or doest it assume you know RF and act more as a tool? And any other notes/opinions good or bad about the ARRL Radio Designer?

Thanks,
Mike W - KC5B0D
mwilsher@randomhouse.com

3164. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: kb8gun@juno.COM
Message-ID: <19961122.020000.4399.1.kb8gun@juno.com>
Source record: 100458

```
unsubscribe kb8gun@juno.com
```

3165. Need Help to Find

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: David Bindle <bindle@duke.usask.ca>
Message-ID: <Pine.OSF.3.95.961122225146.2318A-100000@duke.usask.ca>
Source record: 100459

I need to help to locate suppliers for the following components:

11C90 prescaler that divides by 10 (Plessey?)
95H90 divide by 10 Fairchild decade counter
MAR6 mmic (used to be handled by Mini-Circuits)

any help would sure move my project along, even someone with a good junk box.
Contact Ken/ VE5KRB on this news group or bindle@duke.usask.ca
73's and TNX

3166. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: Brian Kline <kline@hybrid.com>
Message-ID: <3296A739.58C3@hybrid.com>
Source record: 100460

Dave Morrow wrote:
>
> I'm trying to build a 13.8v 20amp power supply and I'm having difficulty
> locating a transformer. This project may be more difficult than I
> thought. I'm looking for a 120v primary and 20v - 25v 10amp secondary or
> something close. Of the places I've called they don't carry it or they
> want $200.00 for it.
>
> Any words of advise? Any ideas as to where to find a transformer at a
> cut rate price?
>
> Help!!
> Thanks, Dave

One approach you might try is to convert a 40A 5V linear supply to
13.8V. The basic approach is to rewire the transformer connections from
full wave rectifier using a center tapped transformer, to a full wave
bridge rectifier. This provides approximately 16V DC for the input to
the pass transistors. You then change the feedback voltage divider so
13.8V is divided down to the reference voltage. Finally replace all of
the electrolytic capacitors with higher voltage ones and lower
capacitance.
This generally results in a power supply whose pass bank has adequate
power dissipation capabilities and can handle 2X the operating current.
There may be some more details that I have forgotten but this should
give you the basic idea. The ones that I have converted so far have
started out as 10A 5V supplies. I generally start out by drawing up the
original schematic for the original supply and then working out the
modifications.
In this area used 5V supplies can frequently be found dirt cheap.
The principal disadvantage of this approach is the wasted .6V drop in
the additional diodes required for a bridge rectifier (12W at 20A)

Transformers that were intended for 5V linear supplies are frequently
available from mail order surplus dealers such as Alltronics in San
Jose CA and others for much more reasonable prices than you have found.

I hope this helps.

Brian Kline WA6QDP
kline@hybrid.com

3167. ATV

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: ray@ratite.com
Message-ID: <574etjbaj2@excalibur.flash.net>
Source record: 100461

I am looking for information about homebrewing a ATV
transmitter/receiver if you have any infomation or know where I may
come about such. Please email me at
ray@ratite.com
n5zso

3168. Re: Want Kenwood IF-10D Computer Interface.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: Randy Jones <rjones@plix.com>
Message-ID: <3296A818.159D@plix.com>
Source record: 100462
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

William Vynck wrote:
>
> MICHAEL J DRUM wrote:
> >
> > Greetings,
> >
> > I want to buy a Kenwood IF-10D Computer interface for my TS-60. If you
> > have one for sale please contact me at my Email address and let me know
> > the details. I will answer all reply's sent.
> >
> > Thank You.
> >
> > Mike>
>
> DONT BUY !!
>
> To expencive, i could send you the chematics to build one.
>
> 73
> William

Build, ha! Many of us "appliance operators" are either too busy to build
or don't know one end of a soldering iron from the other.

Besides, OEM equipment always looks so much nicer.

Radio Randy.

3169. Hombrew Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: "Roy C. Pollitt" <pollitt@dmv.com>
Message-ID: <329611D2.14A5@dmv.com>
Source record: 100463

Does anyone subscribe to Homebrew ???
Would appreciate your opinion of it ... I have never seen a copy.

Roy KD4HC

3170. Re: Valves for 50 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: gc@cen.com
Message-ID: <574sbq$hi1@dog.cen.com>
Source record: 100464

In article <3294e922.0@news.flexnet.net>,
Andrew John Burge <andrew@phicom.dungeon.com> wrote:
>Has anyone any idea if my ancient 807's are likely to produce more
>than heat from the anode on 6M ? Also I have some 12BY7A's here too

Motorola and GE used 807's in 30-50 MHz land mobile radios, many of which
were converted to 6M. They'll work. Don't know about the 12BY7A's.

gc

3171. Valves for 50 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: andrew@phicom.dungeon.com
Message-ID: <3294e922.0@news.flexnet.net>
Source record: 100529

Has anyone any idea if my ancient 807's are likely to produce more than heat from the anode on 6M ? Also I have some 12BY7A's here too which are often used as HF rig pre-final driver FT101Z etc. Are these likey to produce anything on 6M ?

Any info would be a help - its a junk box project and I'm trying to make a simple xtal TX without having to buy anything. I have some 4CX250B's but these are a bit over the top ...

Andrew
G6ALB

3172. Yaesu mic. pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: drx1001@ibm.net
Message-ID: <572vrs$1rlo$1@news-s01.ca.us.ibm.net>
Source record: 100530

Hello,
I need the pinout of an Yaesu mic. mod# MD-1 c8 to adapt it to an Icom radio
thanks in advance Tim Phillips KF4FCO-EM-70

Tim KF4FCO-EM70 Spamless Ham REPLY WITH CARE
I'AM PC HANDICAPED AND I TYPE WITH TWO FINGERS
AND I SUFFER FROM LAP TOP FEVER!!!!!!!!!!!!!
:***]

3173. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: kalar@brainerd.net
Message-ID: <19961122032419972045@ts2-10.brainerd.net>
Source record: 100531

> Queston: Can anyone explain what the "ideal" grounding situation is for a
> ham
> station. My shack is in a basement area. The tvi on cable is quite severe.
>
> The antenna is a GAP vertical only 10 feet from the house. On 40 meters,
> when the amp is on (1 kw) it triggers a relay switch for the doorbell
> (also located in the basement shack area).

I have a couple of good options for ya. Guess which one is serious?

1) TVI isn't a problem nowadays. The interference is better than the
programming.

2) Contact the Center for Disease Control and tell them you want to be a
human guinea-pig in a self-conducted radiation cancer test.

3) Connect a relay to the transmitter that disables the doorbell relay
while you're transmitting. Put a manual override in there and you can
use the doorbell relay for a CW monitor.

4) Put the vertical on the roof with a decent radial system.

5) Hot glue several fluorescent "halo" lightbulbs on the ceiling of the
shack. Visitors will be really impressed by your "light show". Only
charge your friends half price.

-- Tony W0RHX

3174. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov22.082037.17714@ke4zv.atl.ga.us>
Source record: 100532

In article <571lu4$m4s@news05.deltanet.com> jlundgre@delta1.deltanet.com (John Lundgren) writes:
>Dana Myers (myers@West.Sun.COM) wrote:
>: Well, back in the old days, we had all these phase modulated radios,
>: and there's an inherent pre-emphasis in the phase modulation process.
>
>: So, to get a flat audio response (or something even close), you have
>: to have de-emphasis at the receiver end. Of course, there's an inherent
>: advantage with respect to high frequency noise reduction...
>
>THe "inherent advantage" was not something that came by accident.
>Armstrong's FM _System_, that he developed and patented, based its
>superior performance on preemphasis. We're talking about the wideband
>commercial BCB FM, of course.

Pre-emphasis equalizes the energy in the transmitted spectrum of a direct FM signal so that it matches that of a PM signal (the most common way to do "FM" in the early days). That has the effect of improving SNR for high modulation frequencies (which otherwise would be worse than for low frequencies, see spectrograms I posted in another message). It doesn't give WBFM its superiority in gaussian noise over AM, however. One could add pre-emphasis to an AM signal as well, but wouldn't get the benefits of WBFM noise reduction. (What you'd get in that case would be *worse* low frequency baseband noise.)

The major advantage of WBFM is due to use of a modulation index in excess of 1. That yields the FM enhancement effect, which is really a crude form of spread spectrum. The signal energy is spread over a fairly wide bandwidth during transmission and collapsed back down to baseband during reception. This yields an improvement in baseband SNR in excess of the naive CNR. This is the same mechanism responsible for "coding gain" in a DS spread spectrum signal. The reason it works is that the signal energy is coherent, and adds when collapsed back down to baseband, but the noise is random and does not add when collapsed to baseband. Thus baseband S/N is better than the channel carrier to noise ratio. With AM, CNR and SNR are the same.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org

Lawrenceville, GA 30244 | |

3175. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961122120300.HAA29355@ladder01.news.aol.com>
Source record: 100533

In article <measures-ya023180002111960521570001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:
>Mr. Rauch appears not to have answered these seemingly-simple questions.
>How can we go over theories point by point if one party is pointedly less
>than forthcoming?

You seem to feel it OK for you to not respond to questions, yet after I plainly posted I had to go off-line for two or three days you fire away with nonsense about me not replying. So far you've claimed:

1.) The grid dissipation of an 8877 is several hundred watts, never mind Eimac says 25 watts.

2.) The heating is by grid conductor resistance and not electron bombardment, never mind the grid's surface resistance would have to be hundreds of ohms or the grid current hundreds of amperes for this effect to occur.

3.) Photons make gas-LESS tubes on standby blow up. Never mind a special gas filled geiger muller tube only has fraction of a pico-ampere.

4.) Glass in Chinese 3-500Z's melts from parasitic current flow in what you call poor dissipation factor glass. Never mind the thermal lag of the glass or the electric field required.

5.) A capacitor can arc over from a parasitic but NOT HF energy. Never mind the reactance of the capacitor is very low at VHF but high at HF.

6.) A band switch can arc over from VHF parasitics. Never mind the low shunt reactance plate capacitor.

7.) A single point on a constant current characteristic curves can be used to calculate dissipation. Never mind the operating conditions indicated are off the charts.

8.) A relative harmonic level graph for a class C 4-65A can be applied to an 8875 as a direct percentage of harmonic even though it isn't even in percent.

9.) Adding a slightly resistive nichrome wire (how much Rich? Less than an few ohms?) in the primary path of HF current affects VHF Q greatly, when the VHF Q was already about unity at 100 MHz in the out of circuit "conventional suppressor" you describe.

Yet after all that very obvious technical rubbish you put out, you claim I am the one putting out the snow job, distorting facts, avoiding questions, and thinking customers are "drooling idiots".

I am supposed to answer you and spend hours correcting nonsensical claim after nonsensical claim, while you are free to avoid any question or spit out any response you choose. You, and in particular the magazine that gave you a platform to publish such obvious technical garbage, should be ashamed of what was done to people trying to learn. I think undoing the damage is impossible.

More time arguing with you is simply wasted time.

73, Tom

3176. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961122120400.HAA29357@ladder01.news.aol.com>
Source record: 100534

In article <19961121030800.WAA00459@ladder01.news.aol.com>,
edkb2nsp@aol.com writes:

>TVI could be one
>of the more benign side effects !!!

What would a less benign effect be?

3177. Re: CQ June'96 QRN Squasher, does it really work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961122120300.HAA29356@ladder01.news.aol.com>
Source record: 100535

In article <3294E8C9.B56@lsid.hp.com>, Charlie Panek
<charlier@lsid.hp.com> writes:

>
> All that said, there's nothing wrong with using the MMIC's, though the
>noise figure might not be quite as good as a good JFET. (I don't have a
>data sheet for the 1651's but the 1653's have a NF of around 5dB.)
>I also wonder about their dynamic range relative to the JFETs.
>
> Gee, you've inspired me to take my breadboard home this weekend and
>hook it up to a real antenna and radio, and see if it works.
>
>--
>Charlie Panek KX7L

I did a longhand analysis of this circuit and could find no source of
phase shift, other than a 180 degree flop as zero amplitude was crossed
with either pot.

Later on, I breadboarded the phase circuit section up through the JFET,
and measured it on a Harris Vector voltmeter. It had, as theory indicated,
almost NO phase shift other than a 180 degree flop when zero is crossed.

73 Tom

3178. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-22 00:00:00 UTC
From: miker <mreiney@hevanet.com>
Message-ID: <329599EF.50A0@hevanet.com>
Source record: 100536

Mustang Maniac wrote:
>
> In article <32938288.41C67EA6@weitek.com>, johnm@weitek.com says...
> >
> >Does anyone know :
> >
> > Is it possible to use my 30Mhz SWR meter to measure the swr in the
> >6 meter band ? What is it that determines the bandwidth of the meter ?
> >Would I have to change the sensor head, or do I just have to bite the
> >bullet and spend out money for a new one ?
> >
> >John Mcleod N6RCD
>
> I've been using a cheap Vanco $10 CB-type VSWR meter since the mid
> 1970s on all bands from 80m through 2m, and it works just fine. The
> "purists" will argue that the VSWR measurement is not accurate, and
> they're absolutely correct. But who cares? What does the meter
> reading actually matter? You adjust your antenna system for the
> minimum reflected power (whatever that may be) and that's it. You
> get it as low as it will go, and that's as low as it will go. The
> actual numbers don't matter. I've heard "newbies" on 2m complaining
> that they spent hours and hours trying to get the VSWR on their 2m
> antenna from 1.3:1 down to 1.2:1 and couldn't do it, and they were
> genuinely in a panic about it. Must've been former CBers. I know
> I felt that way when I made the transition from CB to ham back in
> the 1970s. Then I learned the truth about VSWR, and now I really
> don't worry. Anything below 2:1 is tolerable, and anything below
> 1.5:1 is down-right great!
>
> Use the meter you have, and don't waste your money on another one,
> unless you're one of those anal-retentive types who's hooked on
> numbers.
>
> 73 from Texas!
>
> --
> Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
> PO Box 328 Home: (817) 497-5365
> Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
> . . . . . .
> Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
> Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
> Die-cast model car collector (Ford products only, in all scales)
> Plastic model car builder (Ford products only, 1:24 and 1:25 scale)

> Glass insulator collector (specializing in "oddball" pieces)
> . . . . . .

Yeah But:
I've had a number of cheapo SWR bridges. Some of them work extremely
well on 2 meters. Others don't even work well on CB. The only
thing you can do is test it as suggested.

3179. Re: Specs 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: David Cooley <cooldave@ipass.net>
Message-ID: <3297180A.692B@ipass.net>
Source record: 100388

Sonja og Petter Brevik wrote:
>
> I am planning to build a new PA, using the 4-1000 tube. Does anybody
> have more complete specs than the summary found in the handbooks?

I have the specs for the pulse rated 4-1000A, numbered as 4PR1000A
What data exactly do you need?
You can call CPI (Eimac/Varians power tube division) at (415) 592-1221
and they will fax or send a complete data sheet with conductance curves
etc.

Take care,
Dave

--
==========
David Cooley A.K.A. N5XMT cooldave@ipass.net
http://www.ipass.net/~cooldave/
==========

3180. g

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002311961135370001@news.vcnet.com>
Source record: 100389

In article <19961123144800.JAA24314@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002211960639420001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >Perhaps not. Mr Rauch indicated that he "will be off-net for two or
> three
> >days."---or this debate may be near its end. However, in either case,
> an
> >epilogue might be appropriate---provided that anyone is interested in the
>
> <SNIP>
>
> > I would think that one of our "recognized amplifier experts" would have
> >taken the minute or so necessary to calculate the current distribution.
> If
> >Tom Rauch had spent spent such a minute six years ago, he would have
> saved
> >himself, QST, and yours truly much unpleasantness.
>
> Hi Rich,
>
> Doesn't that current distribution indicate the Q is unity??

I don't think so. Please explain, Mr. Rauch.

snip...
>
> From Warren Bruene of Collins radio fame to Buzz Miklos of Siemens, from
> Chazen and Brandon of Eimac to Orr, everyone disagrees with Rich Measures
> just because they WANT to sell people bad ideas.

QST sent me a photocopy of Bill Orr's letter. Mr. Orr claimed that there were 'numerous technical errors' in "Parasitics Revisited". Mr. Orr's allegation was discussed at a QST staff meeting. However, since Mr. Orr failed to specify even one error, the staffers at the meeting collectively agreed that Orr's letter was a "zero". (David Newkirk, WJ1Z-now W9VES)

> Harris, Rockwell, Siemens, GE, ETO, Ten Tec, Heathkit, Drake, Sanders,
> RCA, Ameritron, and all the other manufacturers aren't as knowlegeable as
> Rich. Who says this??? Rich.

No

Hmm....."and all the other manufacturers" too? Wow! I was not aware of this, Tom. Please provide us with a list.
Vern Baumgartner, W6HW, who worked as an engineer for Art Collins before Art sold out to Rockwell, told me that Collins used a nickle-chromium alloy inductor in the Collins Radio 30S-1 amplifier's VHF parasitic-suppressor.
A Hughes engineer told me that they use low VHF-Q parasitic-oscillation suppressors in a 100kW HF amplifier design.
I guess it's sorta like air-bags, Tom. Some people say they save lives. Other people say air-bags kill.

> Companies like those, and dozens of people who contacted QST to point out
> the errors in your articles, must just avoid your suggestions because they
> just don't understand theory or physics as well as Rich.

Big organizations don't always do the right thing, Tom. NASA launched Shuttle Mission 25 even though NASA had videotapes of 10 previous missions where fire could be seen coming through the o-rings on the booster rockets, adjacent to the main hydrogen tank, no less. In fact, NASA had previously fired the two safety engineers who were trying to get the leaky o-rings fixed before Mission 25 sent Christa McAuliffe and friends into the Atlantic Ocean at 200 knots plus.
Ford chose to save a few dollars per Pinto automobile on a gas-tank crash protector, even though Ford KNEW that Pintos turned into Molotov Cocktails in rear-end crash tests. More than two hundred people were cremated alive in Ford Pintos.

One of the alleged errors that was criticized in my article "The Nearly Perfect Amplifier" (QST, 9/94) was my assertion that R-C "equalizer" networks across silicon rectifiers could cause premature rectifier failure. 1200 words of space in the 9/94 QST was devoted to criticism of this. However, in the 1995 Edition of the Radio Amateur's Handbook, the author of the power supplies chapter says that R-C equalizer networks can cause premature rectifier failure---and he explains why.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

3181. Get PIC'n Holiday Special until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: sales@itutech.com
Message-ID: <E1CAzz.K57@iglou.com>
Source record: 100390
Cross-posted to: misc.industry.electronics.marketplace,alt.comp.hardware.homebuilt,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

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****

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FAX: (513) 574-4245
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WEB: http://www.itutech.com

3182. ONE'r Transmitter Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: pbunn624
Message-ID: <577qhh$bqj@news.teleplex.net>
Source record: 100391

I have several Dozen One'r QRP transmitter kits complete with step by step instructions. Available on the following frequencies:

7.040, 7.110, 10.106, 14.060 Mhz All kits include crystals

$10 each plus $2 postage 10 Kits $95 postpaid

Pat Bunn
624 Kits
171 Springlake Drive

3183. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <577s06$n16@news.icanect.net>
Source record: 100392

kalar@brainerd.net (morethanone kalar) wrote:

->> Queston: Can anyone explain what the "ideal" grounding situation
is for a
->> ham
->> station. My shack is in a basement area. The tvi on cable is quite
severe.
->>
->> The antenna is a GAP vertical only 10 feet from the house. On 40
meters,
->> when the amp is on (1 kw) it triggers a relay switch for the
doorbell
->> (also located in the basement shack area).

I managed to get a good RF ground in a basement shack by drilling a hole right through the concrete floor under the bench. Drill at an angle so when you drive the rod it will clear the bench! I used two 8-ft power-company rods. Use one threaded connector as a sacrificial "hammering surface" and drive the first rod until the mushroomed-out connector is about floor level. Take it off, thread on the other and tighten the two rods together (use a pipe wrench!). Put the mushroom on the second rod and drive it in. Take off the mushroom (save it...Uou never know when...).

This way you can hook a very short piece of braid between the TX and mutha earth.

However, I suspect that your vertical so close to the house, and your running a gallon, is the major source of the problem!

73--Terry/WB4FXD in Ft. Lauderdale, FL
fsimonds@icanect.net

3184. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961123225800.RAA03992@ladder01.news.aol.com>
Source record: 100393

In article <01bbd944$0ba84040$50c087cf@occupant.psyber.com>, "A Redshirt"
<occupant@psyber.com> writes:

>Hello.
>
>Any suggestions on what is available/where to find a software
>package that I can use to replace the endless drawings I have
>"created" on the back side of Safeway market bags et al over
>the years?
>
>I do not need the functionality of transferring the drawings to
>four-sided PC board layouts, or anything as fancy as that;
>I'm just looking for a way to clean up and file a lot of loose
>sketches, and document some of junk I have "invented" (?!)
>over the last thirty years or so.
>
>I assume that the library of "gadgets" or "elements" would
>be of some importance also. And I can relate to the terms
>such as Condenser and Kilocycle.
>
>I'd appreciate your comments...
>
>Thanks
>
>de John
>A Redshirt in Rocklin
>"HILLARY SHOT VINCE!!"
>--
>
>Go to the nearest NTE distributor, and get a copy of IVEX
WinDraft. It is a schematic export program, designed to be
used with WinBoard. I have been using WinDraft for about 7
months to do my schematic drawings, including some for
publication in various magazines. You can also download
the WinDraft program direct from the IVEX BBS (forgot the
address; might be IVEX.com...) The NTE packaged version
is registered, and will give you about 220 pins. The shareware
version is limited to 100 pins. Cost is 29.95. Comes with
pretty decent libraries, and you can create your own parts as
needed.

Pete
>

3185. TVI & RF Grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <848788028@infoway.com>
Source record: 100394

Rick,

Seems to me that you could run a separate circuit of 230 and 115
for your station, and use TVI bypass capacitors on that circuit
in addition to the circuit for the TV and doorchime.

Then you could put a high pass filter on the cable TV, they are cheap.
You could also wrap the cable coax for a few turns through a
ferrite core.

Hopefully you have some sort of antenna tuner with good Q
feeding your antenna, and/or have a low pass filter.

Now about your question about your RF ground, I donn't think you
want to use anything that runs back into the house.
Combination of ground rod and ground radial wires under the vertical..

Before you do much work on that vertical, why don't you build
a reference dipole for 40 meters. Then compare the TVI between
the dipole and the vertical.

That should get you some improvement and better information,
without wasting any money, but only getting things every ham
would like to have.

I have operated a vertical on 40 meters about 10 feet away from
a TV with rabit ears, and curred all the TVI with the above steps
with 100 watts PEP.

Don,
N6MCE

K1> Queston: Can anyone explain what the "ideal" grounding situation is
K1> for a ham
K1> station. My shack is in a basement area. The tvi on cable is quite
K1> severe.

... Don.Phelps@Infoway.com 1:125/104 POBox 9739 San Rafael,CA 94912
___ Blue Wave/386 v2.30 [NR]

3186. QST auto ATU (Jan '96)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: pmooney@onyx.octacon.co.uk
Message-ID: <57822u$74u@runswick.octacon.co.uk>
Source record: 100395

In the January 1996 issue of QST an automatic ATU (the AT-11) is
described.

Has anybody built this, and if yes, how satisfied with it are you?

Thanks in advance,

Paul
G7SPV

3187. WTB: Homebrew amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Dan Bryden <bryden@deltanet.com>
Message-ID: <3297A318.916@deltanet.com>
Source record: 100396

I'm looking for an amplifier using a 3-1000 or pair of 3-500 or something equal for HF. Maybe a partially completed amp or one that needs work. Let me know what you have. Dan WA6PXO

3188. RELCOM M6D MIXERS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Rod Fitz-Randolph <w5hvv@aeneas.net>
Message-ID: <32975A19.5C8E@aeneas.net>
Source record: 100397

Does anyone have any information on the Watkins-Johnson/Relcom M6D Balanced Mixers and the H5A units? I need spec sheets or something that shows the frequencies, connections of pins, etc. Thank you for responding! Rod, W5HVV

3189. NE602AN Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Rod Fitz-Randolph <w5hvv@aeneas.net>
Message-ID: <32975AF1.15B7@aeneas.net>
Source record: 100398

Does anyone have any circuit diagrams for the
NE602AN? Could you please tell me a source for
good circuits using this device? Thank you. Rod, W5HVV

3190. synchronous noise blanker

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: jupiter@europa.com
Message-ID: <jupiter-2311962238380001@europa189.europa.com>
Source record: 100399

I once built one of these. It used an op amp as zero-crossing detector for AC line using ckt from Nat Semi Linear data book. Then two LM555's. First generated adjustable delay for controlling the second which connected to HDR blanker gate out of U. Rohde book on receivers.

It worked beautifully on light dimmer source.

However, if you have interference from multiple light dimmers, some on different AC phase, and others set for different dimming levels, you soon need 5-10 different noise blankers.

I scrapped the idea, as you can imagine.

3191. Want Plans for 10m or 6m Duplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: "Ricky L.Ponder"
Message-ID: <578k3e$2fd@lana.zippo.com>
Source record: 100400

Hello, name here is Ricky. Does anyone out there have plans to build Duplexers for 10 or 6 meters. I would like to put a repeater together for either band and if I could build the duplexers also it would sure keep the cost down. I've talked on several 10m repeaters when the band was open that people said were running homemade duplexers, but have never been able to get any information on them. Any info. will be greatly appreciated.

Ricky L. Ponder
kc4kin@geocities.com
http://www.geocities.com/heartland/7680

3192. Band pass filter for 144MHz reqd?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Steve C <Steve@mjrigby.demon.co.uk>
Message-ID: <wwdwPDAo2ylyEw9s@mjrigby.demon.co.uk>
Source record: 100401

Hi,

I want a low (nil) loss on passband, and good loss out of band, filter for 2m (144-145 will do)

I'd like it to be capable of passing full TX power (400W PEP), but at least 50W PEP if not.

WHat design do I ned to use ?

Will a cavity have a wide enough passband, and a low insertion loss (AND be flat in the passband)

Or am I looking at an interdigital rod type ?

I have the facililty to tune the passband response to make it flat etc, ie any insertion loss tests, and can sometimes do return loss tests (VSWR)

Lastly, I need to be able to make it fairly cheaply as its for an experiment.

Any ideas ??

CUL
--
Steve C

3193. MW DX Loop Antenna Construction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: jdflex@mail.teclink.net
Message-ID: <575iia$nnu@lou.teclink.net>
Source record: 100465

I want to build and indoor loop antenna for DXing the broadcast
band. I need some plans and skematics to go by. Anybody got any ideas?
Send e-mail to jdflex@mail.teclink.net

3194. Looking for mods Cobra 132 XLR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: kmadsen@mail.qb.island.net
Message-ID: <575i7l$n1c@cliff.island.net>
Source record: 100466

Does anyone have any mods for the Cobra 132 XLR Channels and genral tune up.
Thanks...

3195. Need trc 485 mod info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: kmadsen@mail.qb.island.net
Message-ID: <575i28$n1c@cliff.island.net>
Source record: 100467

Does any body have any info on the new TRC 485 sideband radio ,channels and clarifire unlocking , genral tune up.

Thanks

3196. LCD 4x20 char. displays for sale ....cheap

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: wdunckel@aol.com
Message-ID: <19961123014200.UAA13132@ladder01.news.aol.com>
Source record: 100468

I am selling new 4x20 character displays for $8.95 each. They use the hitachi standard, just like an Optrex display. They have a 14 pin interface. Great for projects! If you are interested please E-mail me privately.

Thanks in advance,
Walt

3197. Re: Is it possible to modify VCR "Rabbits" for ATV use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: <>
Message-ID: <575r8r$1rh6$1@news-s01.ca.us.ibm.net>
Source record: 100469
Body handling: HTML body converted to readable text

```
In <01bbd4fe$ad9c3d60$bd72adce@default>, "Jon Arndt (N0SGM)" writes:
>This is a multi-part message in MIME format.
>
>------=_NextPart_000_01BBD4BB.9F78FD60
>Content-Type: text/plain; charset=ISO-8859-1
>Content-Transfer-Encoding: 7bit
>
>1. Is it possible to modify an ordinary "Rabbit" for ATV use?
>2. Can the receiver module be modified to tune across the entire 902 Mhz
>band?
>3. Can the transmit module be modified to xmit in the 1200Mhz band by
>multiplying the IF differently?
>4. If the above is possible can the receive module be modified to tune the
>1200 Mhz band?
>
>Any suggestions would be appreciated.
>
>Jon Arndt ( N0SGM )
>
>
>------=_NextPart_000_01BBD4BB.9F78FD60
>Content-Type: text/html; charset=ISO-8859-1
>Content-Transfer-Encoding: quoted-printable
>
>
color=3D"#000000" face=3D"Arial">1. Is it possible to modify an ordinary =
>"Rabbit" for ATV use?
2. Can the receiver module be =
>modified to tune across the entire 902 Mhz band?
3. Can the transmit =
>module be modified to xmit in the 1200Mhz band by multiplying the IF =
>differently?
4. If the above is possible can the receive =
>module be modified to tune the 1200 Mhz band?

Any suggestions =
>would be appreciated.

Jon Arndt ( N0SGM )

>
>------=_NextPart_000_01BBD4BB.9F78FD60--
>
Jon,
```

If anybody could answer or show you the way, probably one of the guys in the Fort Wayne Radio Club W9TE could. They had the first ATV repeater in the US on the air. Try Cliff N9MKB, I don't know if any of that crew gets on the Internet, but there are quite a few packeteers in the Fort Wayne area.

Jim WD9AHF

3198. Re: CHIMNEY FOR 4CX-10,000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <3296E72F.613A@worldnet.att.net>
Source record: 100470

Try checking with a scientific supply house (like Cole-Parmer) for a
short teflon beaker of the proper diameter. Cut the chimney frome it...
Woody

Arthur Garabedian wrote:
>
> I am looking for a chimney or phenolic material to make one for a
> 4CX-10,000 tube transmitter. Tube needs to be about 6" dia. 2" long.
> Thanks, ARTHUR KC6KUK ANAHEIM, CA. . . .

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3199. Re: home-brew DGPS receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: dayglo@radix.net
Message-ID: <575rrn$aap@news1.radix.net>
Source record: 100471
Cross-posted to: sci.geo.satellite-nav,rec.radio.amateur.homebrew

>I am looking for an alternative to the commercial ~$450 DGPS receivers.
>Does anyone have information to build a home-brew DGPS receiver to make
>use of the 250 - 350 KHz marine radio DGPS beacons in the US and Canada?
>Please email to griffin@ridgefield.sdr.slb.com.

I believe that what you are looking for is called SkipperChip. It is an OEM product manufactured by a company called pacific Crest Corporation. I do not really have much information on this other than they are taking orders now but are not shipping till sometime in early 97.

Pacific Crest Corporation
990 Richard Ave. Suite 110
Santa Clars CA 95050
(800) 795-1001
(408) 653-2070
(408) 748-9984 Fax
paccrst@ix.netcom.com

If anyone receives any further information could they please post it in the group or pass it along to me dayglo@radix.net.

3200. Re: Valves for 50 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: John Rabson <word.factory@zetnet.co.uk>
Message-ID: <19961123084443682l3@zetnet.co.uk>
Source record: 100472

According to an ancient WW valve data book an 807 will deliver 40W at up to 60 MHz.

73 de G3PAI

3201. Re: ** RF Transmitter Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov23.112626.24724@ke4zv.atl.ga.us>
Source record: 100473

In article <5751qm$llr@lana.zippo.com> mwilsher@randomhouse.com writes:
>
>I'd like to learn how to design RF tx/rx devices. I have built some "single
>chip" trans/recv pairs and I have a Digital Eng. Degree. And have done some
>analog work, but I know little of RF Design. And would like to know of books
>(ISBN# if you have them) or WWW sites or whatever info that anyone could
>pass on. Right now it'd like to build a phone mode FM crystal transmitter
>and receiver since they seem to the most simple. And mabye later try doing
>adding a VCO. I just want to start out simple so I can grasp the calculations
>and design technique crystal based seem to be a good place to start. Also
>I have seen the ARRL Radio Designer 1.5 does anyone know anything about it?
>Can it teach me RF design or doest it assume you know RF and act more as
>a tool? And any other notes/opinions good or bad about the ARRL Radio
>Designer?

Radio Designer won't teach you to design radios, but it is a useful
tool. It is limited, however, to linear small signal analysis, so
it won't directly simulate the behavior of oscillators or Class C
amplifiers. You can use it to model the passive LC networks used
in such circuits. PSpice is better if you need to model non-linear
behavior.

Two useful books are:

RF Circuit Design by Chris Bowick
(ISBN 0-672-21868-2)

Introduction to Radio Frequency Design by Wes Hayward
(ISBN 0-87259-492-0)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3202. LOWFER ACTIVITY NEW ENGLAND ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Dave Riley <daveaa1a@pcix.com>
Message-ID: <3296F715.206B@pcix.com>
Source record: 100474

Gudday Fellow Gadget Makers..

Am looking for ANY interest in New England area on LowFer Band
activity.. A dozen years ago there were several beacons and
QSO's on 160-190 khz daily.. Now NIL... Have homebrew Pfet
with CCW - BPSK - Coherent etc.. Anyone around??
73
Dave Riley - AA1A - Marshfield, Ma.

3203. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <329766AD.3AFC@worldnet.att.net>
Source record: 100475

A possible source... Such a transformer may be located in an old (toasted other than xfmr) high power audio amp. Get to know local service centers dumpsters! Beware of one thing - Many *large* stores have ther POLICIES and won't let you have or even buy unclaimed/defective gear. For example, I was looking for a TV camera for ATV and went by MWard. Service had a kilobuk camcorder with a trashed tape basket/drive - I just wanted it for the "real time" video, but they acted a bit paranoid (wonder if they thought I was undercover "scrap police") and would not give or sell it to me. Had to destroy it, they said. A friend in the business for himself fiannly came across one. Good Luk! Woody

> > I'm trying to build a 13.8v 20amp power supply and I'm having difficulty
> > locating a transformer. This project may be more difficult than I
> > thought. I'm looking for a 120v primary and 20v - 25v 10amp secondary or
> > something close. --
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3204. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Dave Riley <daveaa1a@pcix.com>
Message-ID: <3296F842.4D7E@pcix.com>
Source record: 100476

TIEMANN BRUCE wrote:
>
> In article <measures-ya023180001811960651460001@news.vcnet.com>,
> R. L. Measures <measures@mail.vcnet.com> wrote:
>
> > Be sure to short the unused turns,
> >
>
> Many articles using air-wound coils direct one to short unused turns,
> and you do too. I see how the voltage would be high at the end, like a
> Tesla coil, but it seems like it would also lower the Q, possibly a lot.
> Shorting unused turns on an inductor-with-a-core amounts to having a
> transformer with a shorted secondary - which is no good! What
> are the pros of shorting turns? (And how much does it lower Q?)
>
> Bruce
> N6URH

de Dave AA1A,
Shorted turns changes Q of network and wastes POWER.. If you are
running 50KW and think the autotransformer effect will cause
high enough voltages at the unshorted ends then by all means
short them out.. If not then don't waste power.. If you read
the difference with a bridge, you will probably come to above
conclusion.
--------daveaa1a@ssih.com--------

3205. Re: Loop antenna theory?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Dave Riley <daveaa1a@pcix.com>
Message-ID: <3296F943.417B@pcix.com>
Source record: 100477

Robert Nase Johnson wrote:
>
> Hello -- I'm designing a VLF loop antenna and have read that the
> sensitvity of such an antenna is affected both by number of turns and
> area of the loop. My question is, if you can't have both, which is the
> most important?
> Thanks in advance
> Rob Johnson

Gudday Rob,
I found that the most real estate within the loop gets the most sigs
out.. Loops are nice especially near noise.. But E-Probes or
(active antenna) sure out performs them here and also broadband
enough to cover from Omega to 500 khz..
Try Long Wave Club of America 'LWCA' on your browser.. 73 Dave - AA1A

3206. Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: A Redshirt <occupant@psyber.com>
Message-ID: <01bbd944$0ba84040$50c087cf@occupant.psyber.com>
Source record: 100478

Hello.

Any suggestions on what is available/where to find a software
package that I can use to replace the endless drawings I have
"created" on the back side of Safeway market bags et al over
the years?

I do not need the functionality of transferring the drawings to
four-sided PC board layouts, or anything as fancy as that;
I'm just looking for a way to clean up and file a lot of loose
sketches, and document some of junk I have "invented" (?!)
over the last thirty years or so.

I assume that the library of "gadgets" or "elements" would
be of some importance also. And I can relate to the terms
such as Condenser and Kilocycle.

I'd appreciate your comments...

Thanks

de John
A Redshirt in Rocklin
"HILLARY SHOT VINCE!!"
--

3207. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002311960553240001@news.vcnet.com>
Source record: 100479

In article <19961122120300.HAA29355@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002111960521570001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
> >Mr. Rauch appears not to have answered these seemingly-simple questions.
> >How can we go over theories point by point if one party is pointedly less
> >than forthcoming?
>
> You seem to feel it OK for you to not respond to questions, yet after I
> plainly posted I had to go off-line for two or three days you fire away
> with nonsense about me not replying. So far you've claimed:
>
> 1.) The grid dissipation of an 8877 is several hundred watts, never mind
> Eimac says 25 watts.

I estimated that it would probably take on the order of 500 to 700 watts to elevate the 8877 grid to a temperature that would boil gold, which is clearly what happened when one views a gold-sputtered 8877 grid through a microscope.

> 2.) The heating is by grid conductor resistance and not electron
> bombardment, never mind the grid's surface resistance would have to be
> hundreds of ohms or the grid current hundreds of amperes for this effect
> to occur.

You seem to be ignoring the fact that Eimac determined than an oscillation condition was the cause of gold-sputtering from the 8877's gold-plated grid.

> 3.) Photons make gas-LESS tubes on standby blow up. Never mind a special
> gas filled geiger muller tube only has fraction of a pico-ampere.

Tom: Do you believe that there are no gas atoms inside a vacuum tube?
Your opinions on photons seem to be somewhat at odds with the findings of physicist Robert Roussel-Dupre, Alex Gurevich of Moscow's Lebdedev Institute of Physics, Genady Milikh of the University of Maryland, and Tom Tunnell of EG&G Energy Measurements
Tom: What do you suppose causes high speed x-ray film to slowly fog up when it is parked in a lead-lined container?

> 4.) Glass in Chinese 3-500Z's melts from parasitic current flow in what
> you call poor dissipation factor glass. Never mind the thermal lag of the
> glass or the electric field required.

According to Jim Riach and Paul Rivnak (Vectronics, Ltd.), the glass envelopes of some Chinese-made (c.1990) 3-500Zs reportedly melted in small

areas a few cm away from the anode-stem, for no apparent reason. Mr. Raich reported this initially to QST-staffer Rus Healy, NJ2L, and Rus recommended that Mr. Raich contact me. {Rus Healy edited "Parasitics Revisited" in the 9/90 and 10/90 issues of QST. Rus also furnished the gold-sputter damaged 8874 that is shown in the QST photograph. Rus told me that the gold-sputtered 8874 was removed from an Alpha amplifier, whose electronic grid protection had dead-shorted.at the same time that the 8874 failed.)

> 5.) A capacitor can arc over from a parasitic but NOT HF energy. Never
> mind the reactance of the capacitor is very low at VHF but high at HF.

Tom: Do you all tuning capacitors have the same internal VHF resonances? I do not believe that this is the case. For instance, the tune capacitor in the AL80 apparently has no VHF resonances that are near the VHF anode-resonance in that amplifier. Thus, I am not surprised that I have never heard a report of tune capacitor arcing in the AL80. However, I do hear occasional reports of bandswitch contact arcing in the AL80, as well as bandswitch contact arcing in its cousin, the SB-1000---which Tom Rauch blames on bad antennas, bad coax and bad operators. OTOH, tune capacitor arcing is common in the SB-220 and the TL-922----but they use a DIFFERENT tuning capacitor, Tom.

> 6.) A band switch can arc over from VHF parasitics. Never mind the low
> shunt reactance plate capacitor.

I do not understand what you mean by "plate capacitor".
>
> 7.) A single point on a constant current characteristic curves can be used
> to calculate dissipation. Never mind the operating conditions indicated
> are off the charts.

You said that meter-indicated DC grid current should be used to calculate grid dissipation. I did this. An average DC grid current of 150mA in a 3CX800A7 is hardly equivalent to being "off the charts". The RMS voltage at the 50 ohm cathode is essentially the same as the RMS output voltage from the 50 ohm exciter---roughly 27V. 150mA multiplied by roughly 27V is roughly 4W. Tom: How did you arrive at 20W of grid dissipation? Do you believe that 20W is capable of elevating the grid to gold-boiling temperatures?

> 8.) A relative harmonic level graph for a class C 4-65A can be applied to
> an 8875 as a direct percentage of harmonic even though it isn't even in
> percent.

(Note: This item is from a discussion on the Topband reflector group) .... However, briefly, the "graph" (Figure 21 on page 35 in *Care and Feeding of PowerGrid Tubes*) does NOT indicate that it applies to a specific Class of amplifier operation. The point is this: you indicated that a Q of 5.9 was okay. Immediately under Figure 21 Eimac says:

"A resonant circuit with a loaded Q of 10 to 20 is usually considered optimum. A lower loaded Q will result in greater harmonic output." ...

... ...

Tom: Are you saying that Eimac is wrong, and that Qs substantively lower than 10 are good engineering practice?

> 9.) Adding a slightly resistive nichrome wire (how much Rich? Less than an
> few ohms?) in the primary path of HF current affects VHF Q greatly, when
> the VHF Q was already about unity at 100 MHz in the out of circuit
> "conventional suppressor" you describe.

"Slightly"?.....Nichrome has at least 50 times more resistance than copper or silver. Also, nichrome has a slight magnetic property, so it exhibits additional loss at VHF, especially when iron is added to the recipe. Why wouldn't an amplifier engineer utilize such a material for a circuit designed to dampen VHF oscillations? Mr. F. E. Handy wrote about it the 1926 Edition of the *Radio Amateur's Handbook*.

> Yet after all that very obvious technical rubbish you put out, you claim I
> am the one putting out the snow job, distorting facts, avoiding questions,
> and thinking customers are "drooling idiots".

I happen to be the person that some of such customers called after they called Ameritron. When one of Ameritron's customers knows that there was nothing wrong with his coax, antenna, or the way he tuned up an hour before the arc occured that burned up the bandswitch, what do you expect? // Kenwood used to tell owners of TL-922s that their bandswitches arced and burned up due to 'switching the bandswitch while transmitting at full power'. Yeah, right.

> I am supposed to answer you and spend hours correcting nonsensical claim
> after nonsensical claim, while you are free to avoid any question or spit
> out any response you choose. You, and in particular the magazine that gave
> you a platform to publish such obvious technical garbage, should be
> ashamed of what was done to people trying to learn. I think undoing the
> damage is impossible.
>
This debate was Tom Rauch's idea in 1990. Via an e-mail to me earlier this year, you said you still wanted a public debate with me. When I was recently made aware of some the advice you were proffering on the Internet, I decided to take you up on your offer.
RE: 'the magazine': A critique of my QST articles was published in the September 1994 issue of QST. In the October 1994 issue of QST, MFJ-Ameritron had over 30 full-pages of advertising. I wrote a rebuttal to the critique. I sent copies of my rebuttal you, as well as to the other five critics,. You promptly wrote me and QST a letter in which you threatened to sue for libel if my rebuttal was published in QST. // Anyone who would like to see the rebuttal can find it at: http://www.vcnet.com/measures/

Tom:
ï¿½ Who is Mr. XXX? Why does he list an invalid Eimac e-mail address?.
ï¿½ Who are/is "they"?.

ï¿½ What are names of the people at Eimac, to whom you refer to as "it's the entire staff", who allegedly say that Mr. Foote and I are wrong about gold-sputtering being caused by an oscillation condition?
ï¿½ Does the AL-1500 8877 amplifier, which you designed, use a VHF parasitic oscillation suppressor?
ï¿½ What is the frequency of the anode-resonance in the Ameritron AL-80...amplifier ?
ï¿½ You proposed calculating the L/R VHF current-distribution for a typical 3-500Z suppressor. I calculated the VHF current distribution, and posted the results here. Have you lost interest in this matter?
---
e-mail copy to Mr. C. Tom Rauch, Jr.

--
--Rich-- ag6k, 805.386.3734

3208. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961123144800.JAA24314@ladder01.news.aol.com>
Source record: 100480

In article <measures-ya023180002211960639420001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Perhaps not. Mr Rauch indicated that he "will be off-net for two or
three
>days."---or this debate may be near its end. However, in either case,
an
>epilogue might be appropriate---provided that anyone is interested in the

<SNIP>

> I would think that one of our "recognized amplifier experts" would have
>taken the minute or so necessary to calculate the current distribution.
If
>Tom Rauch had spent spent such a minute six years ago, he would have
saved
>himself, QST, and yours truly much unpleasantness.

Hi Rich,

Doesn't that current distribution indicate the Q is unity?? If I have a Q
of unity, how much lower can I make it? What is the RF resistance of the
thing nichrome wires, and what is the goal IN THE CIRCUIT?

Dick Ehrhorn owes me one. Last year Dick was the technical idiot
conspiring against you. This year it is me.

From Warren Bruene of Collins radio fame to Buzz Miklos of Siemens, from
Chazen and Brandon of Eimac to Orr, everyone disagrees with Rich Measures
just because they WANT to sell people bad ideas.

Harris, Rockwell, Siemens, GE, ETO, Ten Tec, Heathkit, Drake, Sanders,
RCA, Ameritron, and all the other manufacturers aren't as knowlegeable as
Rich. Who says this??? Rich.

Companies like those, and dozens of people who contacted QST to point out
the errors in your articles, must just avoid your suggestions because they
just don't understand theory or physics as well as Rich.

Discussing circuit theory or physics is a waste of time, because even
textbooks are part of the anti-Rich conspiracy.

73, Tom

3209. Re: Loop antenna theory?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961123144800.JAA24315@ladder01.news.aol.com>
Source record: 100481

In article <329624E8.71AB@worldnet.att.net>, Robert Nase Johnson
<robjohn@worldnet.att.net> writes:

>
>Hello -- I'm designing a VLF loop antenna and have read that the
>sensitvity of such an antenna is affected both by number of turns and
>area of the loop. My question is, if you can't have both, which is the
>most important?
>Thanks in advance
>Rob Johnson

Area Rob. Always the area.

73 Tom

3210. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002311960633080001@news.vcnet.com>
Source record: 100482

In article <19961122120300.HAA29355@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002111960521570001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
> >Mr. Rauch appears not to have answered these seemingly-simple questions.
> >How can we go over theories point by point if one party is pointedly less
> >than forthcoming?
>
> You seem to feel it OK for you to not respond to questions, yet after I
> plainly posted I had to go off-line for two or three days you fire away
> with nonsense about me not replying. So far you've claimed:
>
> 1.) The grid dissipation of an 8877 is several hundred watts, never mind
> Eimac says 25 watts.

I estimated that it would probably take on the order of 500 to 700 watts to elevate the 8877 grid to a temperature that would boil gold, which is clearly what happened when one views a gold-sputtered 8877 grid through a microscope.

> 2.) The heating is by grid conductor resistance and not electron
> bombardment, never mind the grid's surface resistance would have to be
> hundreds of ohms or the grid current hundreds of amperes for this effect
> to occur.

You seem to be ignoring the fact that Eimac determined than an oscillation condition was the cause of gold-sputtering from the 8877's gold-plated grid.

> 3.) Photons make gas-LESS tubes on standby blow up. Never mind a special
> gas filled geiger muller tube only has fraction of a pico-ampere.

Tom: Do you believe that there are no gas atoms inside a vacuum tube?
Your opinions on photons seem to be somewhat at odds with the findings of physicist Robert Roussel-Dupre, Alex Gurevich of Moscow's Lebdedev Institute of Physics, Genady Milikh of the University of Maryland, and Tom Tunnell of EG&G Energy Measurements
Tom: What do you suppose causes high speed x-ray film to slowly fog up when it is parked in a lead-lined container?

> 4.) Glass in Chinese 3-500Z's melts from parasitic current flow in what
> you call poor dissipation factor glass. Never mind the thermal lag of the
> glass or the electric field required.

According to Jim Riach and Paul Rivnak (Vectronics, Ltd.), the glass envelopes of some Chinese-made (c.1990) 3-500Zs reportedly melted in small

areas a few cm away from the anode-stem, for no apparent reason. Mr. Raich reported this initially to QST-staffer Rus Healy, NJ2L, and Rus recommended that Mr. Raich contact me. {Rus Healy edited "Parasitics Revisited" in the 9/90 and 10/90 issues of QST. Rus also furnished the gold-sputter damaged 8874 that is shown in the QST photograph. Rus told me that the gold-sputtered 8874 was removed from an Alpha amplifier, whose electronic grid protection had dead-shorted.at the same time that the 8874 failed.)

> 5.) A capacitor can arc over from a parasitic but NOT HF energy. Never
> mind the reactance of the capacitor is very low at VHF but high at HF.

Tom: Do all tuning capacitors have the same internal VHF resonances? I don't think so. The tune capacitor in the AL80 apparently has no VHF resonances that are near the VHF anode-resonance in that amplifier. Thus, I am not surprised that I have never heard a report of tune capacitor arcing in the AL80. However, I do hear occasional reports of bandswitch contact arcing in the AL80, as well as bandswitch contact arcing in its cousin, the SB-1000---which Tom Rauch blames on bad antennas, bad coax and bad operators. OTOH, tune capacitor arcing is common in the SB-220 and the TL-922----but they use a DIFFERENT tuning capacitor, Tom.

> 6.) A band switch can arc over from VHF parasitics. Never mind the low
> shunt reactance plate capacitor.

I do not understand what you mean by "plate capacitor".
>
> 7.) A single point on a constant current characteristic curves can be used
> to calculate dissipation. Never mind the operating conditions indicated
> are off the charts.

You said that meter-indicated DC grid current should be used to calculate grid dissipation. I did this. An average DC grid current of 150mA in a 3CX800A7 is hardly equivalent to being "off the charts". The RMS voltage at the 50 ohm cathode is essentially the same as the RMS output voltage from the 50 ohm exciter---roughly 27V. 150mA multiplied by roughly 27V is roughly 4W. Tom: How did you arrive at 20W of grid dissipation? Do you believe that 20W is capable of elevating the grid to gold-boiling temperatures?

> 8.) A relative harmonic level graph for a class C 4-65A can be applied to
> an 8875 as a direct percentage of harmonic even though it isn't even in
> percent.

(Note: This item is from a discussion on the Topband-reflector group) .... However, briefly, the "graph" (Figure 21 on page 35 in *Care and Feeding of PowerGrid Tubes*) does NOT indicate that it applies to a specific Class of amplifier operation. The point is this: you indicated that a Q of 5.9 was okay. Immediately under Figure 21 Eimac says:

"A resonant circuit with a loaded Q of 10 to 20 is usually considered optimum. A lower loaded Q will result in greater harmonic output." ...
... ...

Tom: Are you saying that Eimac is wrong, and that Qs substantively lower
than 10 are good engineering practice?

> 9.) Adding a slightly resistive nichrome wire (how much Rich? Less than an
> few ohms?) in the primary path of HF current affects VHF Q greatly, when
> the VHF Q was already about unity at 100 MHz in the out of circuit
> "conventional suppressor" you describe.

"Slightly"?.....Nichrome has at least 50 times more resistance than
copper or silver. Also, nichrome has a slight magnetic property, so it
exhibits additional loss at VHF, especially when iron is added to the
recipe. Why wouldn't an amplifier engineer utilize such a material for a
circuit designed to dampen VHF oscillations? Mr. F. E. Handy wrote about
it the 1926 Edition of the *Radio Amateur's Handbook*.

> Yet after all that very obvious technical rubbish you put out, you claim I
> am the one putting out the snow job, distorting facts, avoiding questions,
> and thinking customers are "drooling idiots".

I happen to be the person that some of such customers called after they
called Ameritron. When one of Ameritron's customers knows that there was
nothing wrong with his coax, antenna, or the way he tuned up an hour before
the arc occured that burned up the bandswitch, what do you expect? //
Kenwood used to tell owners of TL-922s that their bandswitches arced and
burned up due to 'switching the bandswitch while transmitting at full
power'. Yeah, right.

> I am supposed to answer you and spend hours correcting nonsensical claim
> after nonsensical claim, while you are free to avoid any question or spit
> out any response you choose. You, and in particular the magazine that gave
> you a platform to publish such obvious technical garbage, should be
> ashamed of what was done to people trying to learn. I think undoing the
> damage is impossible.
>
This debate was Tom Rauch's idea in 1990. Via an e-mail to me earlier this
year, you said you still wanted a public debate with me. When I was
recently made aware of some the advice you were proffering on the Internet,
I decided to take you up on your offer.
RE: 'the magazine': A critique of my QST articles was published in the
September 1994 issue of QST. In the October 1994 issue of QST,
MFJ-Ameritron had over 30 full-pages of advertising. I wrote a rebuttal to
the critique. I sent copies of my rebuttal you, as well as to the other
five critics,. You promptly wrote me and QST a letter in which you
threatened to sue for libel if my rebuttal was published in QST. //
Anyone who would like to see the rebuttal can find it at:
http://www.vcnet.com/measures/

Tom:
ï¿½ Who is Mr. XXX? Why does he list an invalid Eimac e-mail address?.
ï¿½ Who are/is "they"?.
ï¿½ What are names of the people at Eimac, to whom you refer to as "it's the
entire staff", who allegedly say that Mr. Foote and I are wrong about
gold-sputtering being caused by an oscillation condition?

ï¿½ Does the AL-1500 8877 amplifier, which you designed, use a VHF parasitic oscillation suppressor?
ï¿½ What is the frequency of the anode-resonance in the Ameritron AL-80...amplifier ?
ï¿½ You proposed calculating the L/R VHF current-distribution for a typical 3-500Z suppressor. I calculated the VHF current distribution, and posted the results here. Have you lost interest in this matter?
---
e-mail copy to Mr. C. Tom Rauch, Jr.

--
--Rich-- ag6k, 805.386.3734

3211. Re: rf grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3297088a.211194885@news.santafe.edu>
Source record: 100483

w8jitom@aol.com wrote:

>In article <19961121030800.WAA00459@ladder01.news.aol.com>,
>edkb2nsp@aol.com writes:
>
>>TVI could be one
>>of the more benign side effects !!!
>
>What would a less benign effect be?
>

Burned lips.

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3212. Re: Specs 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: Dane Robinson <KaroR@worldnet.att.net>
Message-ID: <01bbd953$287fd5c0$cb6d93cf@671140221worldnet>
Source record: 100484

Sonja og Petter Brevik <sobrevik@sn.no> wrote in article
<32938AFA.6E18@sn.no>...
> I am planning to build a new PA, using the 4-1000 tube. Does anybody
> have more complete specs than the summary found in the handbooks?
>
> 73,
> Petter
> --
> ----> LA7YG
> Petter Brevik
> ?stliveien 15 Tel +47 6707 1846
> 1482 Nittedal Fax +47 6706 1846
>

Eimac will send you a tube data sheet with complete specs and probably a handful of
articles using 4-1000 tubes in amplifiers for free what could be better than that? If you need
EIMAC's number or address let me know KC5OPD @JUNO.COM

3213. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961123154000.KAA25356@ladder01.news.aol.com>
Source record: 100485

In article <329606E1.474A@hotmail.com>, nojunkmail@hotmail.com writes:

>I'm looking for a 120v primary and 20v - 25v 10amp secondary or
>> something close.
Hi

A 20 amp 13.8 volts power supply only costs about $100.

You should use 20 volts for the supply if you can get one. The more
voltage
you drop increases the heatsink area needed. In your design you will need
more than a 20 amp transformer unless you never intend to draw 20 amps.
Rate the transformer at 20 amps while producing 20 volts. This is overkill
but
keeps you in a safe area.

Carl
The2x4

3214. 900Mhz amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-23 00:00:00 UTC
From: David Cooley <cooldave@ipass.net>
Message-ID: <32971892.5CF2@ipass.net>
Source record: 100486

If anyone is interested, Motorola has released a new 870-950 Mhz amp module, 300mW in, 18W out, runs off 12.5 volts. P.N. MHW2821-002. They retail for $43.00 each in qty's of 10.

Later,
Dave

--
==========
David Cooley A.K.A. N5XMT cooldave@ipass.net
http://www.ipass.net/~cooldave/
==========

3215. Re: AM detector using PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: jreimer <jreimer@pop.dakotacom.net>
Message-ID: <578baf$9ac@news0-alterdial.uu.net>
Source record: 100402
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

>Why do this? (1) Better linearity than a diode. (2) It largely
>counteracts "selective fading." Selective fading, as I understand it,
>is what happens when the signal is momentarily added to a slightly
>Doppler-shifted copy of itself (reflected off a moving layer of
>the ionosphere). (Or maybe phase-shifted is enough; this isn't fresh
>in my mind.) That's what makes the shortwave radio go mushy for a
>few seconds every now and then. But if the PLL is well designed,
>it won't change phase very fast; it will stay in phase with the
>original carrier and the sound will be much better.

There's another good reason to do it. Analog multiplying is the same as nonlinear mixing or heterodyning. When the PLL is in phase with the carrier and is heterodyned with it, the upper and lower sidebands combine in phase. Because any noise associated with the signal has random phase, it tends to cancel a little, providing better signal to noise over an envelope detector.

jreimer

3216. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961124033600.WAA09484@ladder01.news.aol.com>
Source record: 100403

In article <measures-ya023180002211960639420001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>True enough, 'it ain't DC', Wes, and the currents are not in phase, the
>exercise in question was to calculate the ratio of the current through
the
>parallel R and L components. In doing this, I obviously ignored the
>intrinsic L in the resistor and I ignored the intrinsic R in the
inductor.

Rich, you seem to consider circuit design a collection of generic values.
You arbitrarily assigned a value of 50 ohms to the resistor, and .070 uH
to the inductor. The AL-80 series uses a 100 ohm resistor, not 50. The
inductance of later units was indeed reduced to ~85 nH, mainly due to
reduced grid lead and anode lengths, but the earlier models (the "A"
series) used about 120 nH. Early AL-80 series units had longer grid and
anode paths, requiring larger values of inductive reactance. The SB-220,
with its' long grid leads, required more inductance also in combination
with less resistance. The typical inductance required in these PA's varied
somewhat, but was typically in
the 100-200 nH range.

Your calculations are exact for the values "pulled from your hat", but the
actual shift in current varies with the actual supperssor.

A second factor enters the equation, and this is the critical area. Adding
nichrome to the primary HF path does almost NOTHING to system Q. I have no
idea what guage wire you use, but let's look at some typical suppressors
when 5 ohms of ESR is added to the inductor Here are the numbers:

With your suggested values of 70 nH and 50 ohms at 100 MHz.
Q = 1.14 (par equiv values (p eq) are 50r and 70 nH
with 5 ohm esr from nichrome.
Q = 1.0 (p eq) = 44.34r and 70.9 nH

With 70 nH and 100 ohms:
Q = 2.3
with 5 ohm esr nichrome
Q = 1.8 (p eq) = 79.7 r and 70.9 nH

With 150 nH and 50 ohms:
Q = 0.53
with 5 ohms esr nichrome
Q = .5 (p eq) 48.6r and 150.4 nH

(This is the typical 220 suppressor, it has almost a 2:1 current ration in
the suppressor, with resistor dominant)

With 150 nH and 100 ohms:
Q = 1.06
with 5 ohms esr nichrome
Q = 1.02 (p eq) 94.7r and 150.4 nH

In all cases, the slightest reduction in load resistance across the coil woul do much more than winding the coil out of a 5 ohms loss material. Of course this considers the non-nichrome coil to be lossless, so the actual reduction in Q would be less.

From this very small reduction in 100 MHz Q, Rich claims all ills of the PA are cured. No melted glass, no photons, no oscillations, no arcs.

Rich, please explain why you go through the bother of adding a nichrome coil when the Q reduction is so very slight? In almost ALL the cases above, removal of 5-10 ohms of parallel resistance would have changed Q the same amount or more.

>current flows through the L. I believe it is hubristic to presume that the
>VHF current through either the suppressor R or L can be ignored with
>impunity, which has been Mr. Rauch's position for at least the past 6
>years.

I believe it is foolish to change a whole suppressor, when a parallel resistance of several hundred ohms across the coil would accomplish the same Q reduction.

> At DC, nichrome alloys are about 57 times more resistive than copper. To
>the best of my knowledge, there is no type of wire that has more VHF
>resistance, and produces a lower VHF-Q on a Boonton Q-Meter, than
>nickle-chromium-iron alloys.

If you measured the coil WITHOUT the loading resistor, as I recall you saying, your measurement method was flawed. Add the loading resistor, and measure the CIRCUIT. You will find almost no measureable change in Q until you lower the Boonton's frequency to HF. If you send me a suppressor, I'll measure it on my HP or Wiltron, they go up over 1 GHz.

I think though we can safely conclude making the coil out of nichrome mainly lowers HF Q, NOT VHF Q.

> I would think that one of our "recognized amplifier experts" would have
>taken the minute or so necessary to calculate the current distribution. If
>Tom Rauch had spent spent such a minute six years ago, he would have saved
>himself, QST, and yours truly much unpleasantness.

I would have thought Mr. Measures would have known how to use a Q meter properly, and how to calculate Q in a circuit. That would have saved us all many hours of time listening to wild pie-in-the-sky theories about photons, melted glass, boiling gold in 500-700 watt 8877 grids (never mind Eimac says 25 watt) and parasitics.

You've paid too much attention to discrete values Rich, and not to the system. Nice try, but once again you argument falls apart.

BTW if any of my numbers are wrong, let me know. None of us are perfect, are we?

73 Tom

3217. <no subject>

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: kjlopez@earthlink.NET
Message-ID: <3297CD9C.798D@earthlink.net>
Source record: 100404

```
unsubscribe kjlopez@earthlink.net
```

3218. good source for amplifier tips (part 5)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbd9c5$94b07e80$4b229bcf@kn6dv.qnet.com>
Source record: 100405

For those who are interested, I have up load PART 5 to my page at:
http://www.av.qnet.com/~kn6dv
(so far I had many positive reaction and only 1 negative)
Thanks 73 Will, KN6DV

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3219. Re: NASA & The Right Thing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961124.014157.4775.0.d.nordquest@juno.com>
Source record: 100406

Rich recently posted the following:

>Big organizations don't always do the right thing, Tom. NASA launched
>Shuttle Mission 25 even though NASA had videotapes of 10 previous
>missions
>where fire could be seen coming through the o-rings on the booster
>rockets,
>adjacent to the main hydrogen tank, no less.

This isn't radio, but I also don't think it's true. I'm looking at a chart from Richard Feynman's account of the Challenger investigation and it shows only seven missions in which there was any O-ring incident and 17 in which there were none. The 7 incidents involved erosion of the O-ring, but not, so far as I know, fire shooting out the side of the rocket. Perhaps, a specific reference to Rich's source would be in order.

Dave KE9ED

Dave KE9ED

3220. Need Schematics for 6146 power amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: gamrunr@aol.com
Message-ID: <19961124090600.EAA14981@ladder01.news.aol.com>
Source record: 100407

Does anyone happen to have any schematics for an RF amplifier wich uses
1 or more 6146 tubes? Please email to the following account not this one.

Thanks

gamrunrr1@juno.com

3221. RF Test Engineering Reference Material

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <579fbf$l1a@buffnet2.buffnet.net>
Source record: 100408

Greetings,

Can anybody recomend a good reference book on testing of receiver/transmitter performance. A lot of material seems scattered about in old Ham Radio magazines and ARRL handbooks. RF Design and RF & Microwaves sometimes talks about test but, I havent come across a book targeted for the RF test engineer types.

BTW: Someone who can place back issues Ham Radio on CD ROM today could make a bundle. Some of the best technical articles I have seen are in those moldy old pages.

The kind of testing I'm interested in would be noise figure/sensitivity, IP ,dynamic range, SINAD etc...

I guess I want to be a RF test engineer some day.....

Thanks for any ideas

-- db -- (AA2GF)

3222. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002411960517170001@news.vcnet.com>
Source record: 100409

In article <19961124033600.WAA09484@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002211960639420001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >True enough, 'it ain't DC', Wes, and the currents are not in phase, the
> >exercise in question was to calculate the ratio of the current through
> the
> >parallel R and L components. In doing this, I obviously ignored the
> >intrinsic L in the resistor and I ignored the intrinsic R in the
> inductor.
>
> Rich, you seem to consider circuit design a collection of generic values.
> You arbitrarily assigned a value of 50 ohms to the resistor, and .070 uH
> to the inductor. The AL-80 series uses a 100 ohm resistor, not 50. The
> inductance of later units was indeed reduced to ~85 nH, mainly due to
> reduced grid lead and anode lengths,
...snip...

I could do the calculations for the AL-80's 100 ohm suppressor R and 85nH suppressor L---if you provide the anode resonant frequency for the AL-80,
Tom..
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805.386.3734

3223. Need Help (manuals) HP8060C 1-2600MHz Sig. Gen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: sidener@saucer.cc.umr.edu
Message-ID: <579lfg$k1p@hptemp1.cc.umr.edu>
Source record: 100410

Hi, I am having problems with a HP 8060C Synthisized Signal Generator
that has the 86633B Modulation System and 86603A RF Section 1-2600MHz.

If you have any manuals or possibly dead pieces for spare parts or any
suggestions could you please mail me.

Thanks,

Scott Sidener
N0WFL

sidener@umr.edu

3224. Re: TVI & RF Grounding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: rchappel@ix.netcom.com
Message-ID: <579p28$bnc@dfw-ixnews5.ix.netcom.com>
Source record: 100411

>
> TVI & RF Grounding
>
>
> Rick,
> Seems to me that you could run a separate circuit of 230 and 115
> for your station, and use TVI bypass capacitors on that circuit
> in addition to the circuit for the TV and doorchime.

. . . snipped . . .

When I first got started in this hobby, I also had severe TVI problems. This was with cable television which I had expected to be basically immune to such problems. I tried everything I could think of and everything suggested to me by other hams in the local area. I was in the process of surrounding an older VCR with a metal box that I had created as a shield when I discovered that the cable connectors were only hand tight. When I tightened them - loo and behold the TVI on that set went away. I then checked the other two TVs and guess what - they too had loose connectors. True - I use a good quality low pass filter at my end but when I tightened all the connectors at the TV end the TVI disappeared.

Bob Chappelear
AB0CI

3225. Re: CQ June'96 QRN Squasher, does it really work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: Chris Whiteside <cfwhiteside@earthlink.net>
Message-ID: <32987582.6BC7@earthlink.net>
Source record: 100412

Dave Hayes wrote:
>
> w8jitom@aol.com wrote:
>
> >
> >I did a longhand analysis of this circuit and could find no source of
> >phase shift, other than a 180 degree flop as zero amplitude was crossed
> >with either pot.
>
> I modeled the circuit using Pspice, and also could not see exactly how it
> would work under various conditions. It also displayed a fairly uneven and
> falling frequency response.
>
> There is a 'noise bridge' type noise reduction unit published in William R.
> Nelson's "Interference Handbook". It uses only passive components. It also
> requires moving coil taps to tune it, which is not a very satisfactory
> solution.
>
> Does anybody know of a published circuit other than these two? I would like
> to experiment. I don't want to cough up $175 for the ANC-4, since I don't
> need the transmit capability, and my needs are infrequent.
>
> Dave Hayes

I built up the board using FAR circuit board. Used the NTE replacement
FETs DeMaw suggested from Mouser.

Didn't do much for my line noise (which is radiating into the antenna).
Was able to cancel the computer trash somewhat. Circuit badly needs a
preselector in front. My best solution was to just raise the antenna
higher. (Now what am I going to put in that box?)

chris N4ARP

3226. Peter Dahl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: Dan Bryden <bryden@deltanet.com>
Message-ID: <32987107.52A2@deltanet.com>
Source record: 100413

I've seen Peter Dahl's name listed several times in reference to supplying transformers for power amplifiers. Does anyone know where I can contact him for more info. Dan

3227. Transmatch schematics / info ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: INSIGHT Services <Insight@cris.com>
Message-ID: <Pine.SUN.3.95.961124115558.2168A-100000@voyager.cris.com>
Source record: 100414

I am looking for information on building a transmatch . Or buying one if they are available at a low cost. Since I will be using a dipole and want to work several bands this seems the logical answer. Please let me know your comments, suggestions, etc.

Thanks !

Susan Driggers
Tech Plus in Training

3228. F.S. - Tubes, radios, books and much misc.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: rog42@aol.com
Message-ID: <19961124170300.MAA21688@ladder01.news.aol.com>
Source record: 100415

FOR SALE: Tubes, test equipment, radios including Hallicrafters, Hammarlund, and Philco. Other older tube type radios and radio related publications. Schematics for many radios just $1. Tube Manuals, Tube Substitution books, Service Manuals, QST magazines, much more from the 30's, 40's, 50's, 60's. Now over 1500 different tube types in stock - E-mail Rog42@aol.com and ask for my latest RADIO list - #1123-T.

3229. TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: jskalski@acsu.buffalo.edu
Message-ID: <3298816B.30C171B1@acsu.buffalo.edu>
Source record: 100416

Mil Spec silver plated stranded 22 & 24 AWG high temperature hook up
wire.
50' rolls
5 roll color assortment (250' total) shipped priority 2 day mail $23.
No color choices at this price, just 5 different colors.

great for building your own satellite, amplifier, rewiring the space
shuttle, your own plane, or whatever.

will not melt when you solder it.
rated at 200 degrees C and 600v.

Compare at triple the price. you won't find it cheaper.
If you find it cheaper I would like to know about it.

If interested contact jskalski@acsu.buffalo.edu

Jim (N2GO)

I am interested in trades for amateur equipment for larger quantities.
I have 1000' rolls for $92 shipped CONUS.

3230. Holiday Special

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: jparker@fix.net
Message-ID: <579sqf$hcb@twizzler.callamer.com>
Source record: 100417

Dan's Small Parts is running a GREAT Holiday Special on his Internet Catalog,,,Check it out....

http://www.fix.net/dans.html

3231. improvements to my web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <3297f865.9638678@fvnews.com>
Source record: 100418

Hi Gang;
well with the Holiday season barreling down on us, I decided
too give my page some addtions and face lift.
Please, stop by and wonder around. I've made it easy to go from page
to page, without going back to my home page, you can now access any
page, from any page..
i have added 2 new pages....auction & for sale or trade, pages...still
working on both, but, there up for your viewing....
please, any comments o4r suggestions, are always welcome.
another thing i will be doing, is making thumbnail's out of most of
the pic's on my home page, to hurry the loading along for you..(om my
system it takes about 30-45 seconds to load)
well, gotta run for now, getting late....

**** Please, Visit my Web Page.....****
==========]-[->
Robert Fowle KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
while your there, check out the 'AUCTION' link......
HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

3232. DDS Ckt artwork available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: bspeed@swbell.net
Message-ID: <579vkb$32j@news1.rcsntx.swbell.net>
Source record: 100419

Homebrewers special....
Email your request for files...

20Mhz DDS signal generator, Interfaces to PC's LPT1 port.
Files include artwork, schematic, etc in HPG format. artwork is
printable to laser printer for toener-transfer or transparancy PCB
making methods. includes breadboard area.

bspeed@swbell.net

3233. Re: Using 30Mhz SWR meter at 50Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <32988885.22A@wco.com>
Source record: 100420

Mustang Maniac wrote:

> I've been using a cheap Vanco $10 CB-type VSWR meter since the mid
> 1970s on all bands from 80m through 2m, and it works just fine. The
> "purists" will argue that the VSWR measurement is not accurate, and
> they're absolutely correct. But who cares? What does the meter
> reading actually matter? You adjust your antenna system for the
> minimum reflected power (whatever that may be) and that's it. You
> get it as low as it will go, and that's as low as it will go. The
> actual numbers don't matter. I've heard "newbies" on 2m complaining
> that they spent hours and hours trying to get the VSWR on their 2m
> antenna from 1.3:1 down to 1.2:1 and couldn't do it, and they were
> genuinely in a panic about it. Must've been former CBers. I know
> I felt that way when I made the transition from CB to ham back in
> the 1970s. Then I learned the truth about VSWR, and now I really
> don't worry. Anything below 2:1 is tolerable, and anything below
> 1.5:1 is down-right great!
>
> Use the meter you have, and don't waste your money on another one,
> unless you're one of those anal-retentive types who's hooked on
> numbers.
>
> 73 from Texas!
>

Well said Dean.. I've been using the same thing since 1976.. Good ol Vanco.

But I have seen other VSWR meters that have limits on the their diodes such that at QRP I cannot calibrate the
meter to a point that I would feel comfortable measuring with.

73' Jim.. KB6ZOP

3234. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961124180500.NAA23048@ladder01.news.aol.com>
Source record: 100421

In article <measures-ya023180002411960917350001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
> I contend that since roughly half of the VHF current flows through the
L,
>a resistive conductor offers a VHF-dampening advantage. Dipmeter-tests
>with such a VHF-suppressor installed in various amplifiers demonstrates
>that with a nichrome L, the VHF dip is broad and shallow.
>
>

Whatever happened to the technique where the
parasitic suppressor is placed in series with
the cathode of a GG amp? I use one in my SB-220,
and it never spits, arcs, or misbehaves.

Pete

3235. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: dbarillo@texas.net
Message-ID: <57a3vj$n9m@news3.texas.net>
Source record: 100422
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

tyler@cyberia.com (tyler) wrote:

>This is really getting off topic, but I couldn't resist:
>What's the difference between a dead dog on the road and a dead lawer on the
>road?

>There are skid marks in front of the dog!
>Tyler

and to get further out of hand-

there are three differences between lawyers and lab rats:

1) lawyers reproduce faster than rats
2)lawyers will do things that rats refuse to do
3) unlike rats, if you experiment on lawyers, the staff doesnt get
attached to them

3236. Kenwood 850SAT & Autoswitching antenna systems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: wb1dsw@aol.com
Message-ID: <19961124191900.OAA24576@ladder01.news.aol.com>
Source record: 100423

I would like to find out if anyone has figured out how to have a Kenwood TS850SAT "drive" a remote antenna switch. I have a beam for 20-15-10 and a all-band wire. I want the Kenwood to "tell" the switch when it's on 20-15-10 and then I'd like it to "tell" the switch when it's on any other band (to select the wire).

It's my understanding that "data" appears SOMEWHERE coming out of the 850SAT. This data supposedly has the band information selected from either the VFO or the mem channel. I'd like to use this "data" to drive the switch. I haven't purchased the switch yet but I feel most of the popular (Unadilla, Ameritron, etc) commercial brands would do.

But, I suspect I'll be homebrewing an external interface to bring whatever "data" the Kenwood's putting out over to the relays (in the switch). But first I have to determine "Is there data" and "where the heck is it coming out and it'd be nice to know "what form is it being presented in". Don't tell me to call Kenwood - I burned up my life's savings last week on hold and got nowhere with them.

So, if you know something about this (or if you know someone who might know) please share your info with me. If you know someone at Kenwood, that'd be helpful too. Wouldn't it be terrific IF someone out there HAS ALREADY DONE THIS and could share that information with me!!!??

I thank you.

AOL - WB1DSW @ AOL.COM
AMATEUR RADIO - WB1DSW @ WB1DSW.NH.USA.NOAM

3237. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002411961128370001@news.vcnet.com>
Source record: 100424

In article <19961124180500.NAA23048@ladder01.news.aol.com>,
commquart@aol.com wrote:

> In article <measures-ya023180002411960917350001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >
> > I contend that since roughly half of the VHF current flows through the
> L,
> >a resistive conductor offers a VHF-dampening advantage. Dipmeter-tests
> >with such a VHF-suppressor installed in various amplifiers demonstrates
> >that with a nichrome L, the VHF dip is broad and shallow.
> >
> >
>
> Whatever happened to the technique where the
> parasitic suppressor is placed in series with
> the cathode of a GG amp? I use one in my SB-220,
> and it never spits, arcs, or misbehaves.
>
> Pete

I include a cathode-resistor (Rc) in my low VHF-Q parasitic suppressor retrofit-kit for the SB-220. The reason that Rc works in the SB-220 is that that there are two VHF-resonant circuits---one in the cathode (input) circuit and one in the anode (output) circuit. The frequency of both resonances is roughly 110MHz---obviously not a good situation unless one is trying to build a 110MHz oscillator.
With average-gain 3-500Zs, putting a VHF-dampening device in either the input or output circuit may produce stability. However with above-average gain 3-500Zs, using a VHF-dampening device in both the input and in the output is indicated.

BTW, the SB-220's input-resonance at 110MHz is created by the length of the RG-58u coaxial-cable that Heath specified between the tuned-input bandswitch and the cathodes of the 3-500Zs.

---

e-mail copy to 'Pete' and to Mr. C. Tom Rauch

--
--Rich-- ag6k, 805.386.3734

3238. Want: Plans for a Chrystal controled 2 m FM radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: Keslar <keslark@k2nesoft.com>
Message-ID: <3298BD7F.4FD2@k2nesoft.com>
Source record: 100425

Hi all,

I am looking for plans to a CRYSTAL controled 2 meter FM radio.
If you have plans or know where to get them could you e-mail me them.
Thanks in advance.
73,
DE KB2WKW - Kenny

3239. balancing tubes: how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961124140256.8063D-100000@oso.slonet.org>
Source record: 100426
Cross-posted to: rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.ssb

What is the better way of balancing tubes such as 3-500Z units? Is is better to balance the standing current for a given bias (zero bias in the 3-500 units of course) or should the plate current be measured at a give RF drive for each tube? One measures the mu of the tube while the second approach measures the transconductance. Which is more practical for hams?
Cliff Buttschardt K7RR ex W6HDO Morro Bay, CA cbuttsch@slonet.org

3240. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: kd1nr@anomaly.ideamation.com
Message-ID: <57ac8a$1hd@anomaly.ideamation.com>
Source record: 100427
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <57a3vj$n9m@news3.texas.net>, Dave <dbarillo@texas.net> wrote:

>1) lawyers reproduce faster than rats
>2)lawyers will do things that rats refuse to do
>3) unlike rats, if you experiment on lawyers, the staff doesnt get
>attached to them
>
For some absolutely hysterical lawyer jokes surf on over to
http://cartalk.com and look for the picture of a shark with a tie on. Click
on it and be launched into a sampling of NOLO Press' favorite lawyer jokes.

Tony

3241. Re: Peter Dahl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3298cdf8.327290519@news.santafe.edu>
Source record: 100428

Dan Bryden <bryden@deltanet.com> wrote:

>I've seen Peter Dahl's name listed several times in reference to
>supplying transformers for power amplifiers. Does anyone know where I
>can contact him for more info. Dan

The Internet address I have for Peter Dahl is:

http://www.1eagle1.com/commercial/pwdco/

You can get stock designs or custom designs. They make good stuff at a
fair price and with good delivery.

I recommend them highly.

Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3242. Re: Need Help to Find

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <3298D96F.8D8@cam.org>
Source record: 100429

David Bindle wrote:
>
> I need to help to locate suppliers for the following components:
>
> 11C90 prescaler that divides by 10 (Plessey?)
> 95H90 divide by 10 Fairchild decade counter
> MAR6 mmic (used to be handled by Mini-Circuits)
>
> any help would sure move my project along, even someone with a good junk
> box.
> Contact Ken/ VE5KRB on this news group or bindle@duke.usask.ca
> 73's and TNX

Go to my page Electronic Links and you will certainly find
your info.

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

3243. Sherlock system -- Alternate Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: Malcolm Mallette <mallettem@trader.com>
Message-ID: <3298E1F4.4997@trader.com>
Source record: 100430

After my article on the Sherlock transmitter fingerprint system appeared in September 1996 CQ/VHF, I received an e-mail to the effect that the A/D chip used in the hardware, the MAX150 , had been backordered.

Another e-mail suggested I try the National Semiconducter ADC 0820 as a replacement.

The national Semiconducter ADC0820 can be used in place of the MAX150 with no adverse affect.

However, a minor change in the circuit board must be made.

On the Far Circuits board, disconnect pin 12 on the A/D chip socket (the one for the MAX150) from pin 19 on the same socket by breaking the trace. Leave pin 12 connected to the two caps to ground. Connect a 1.5 K resistor from pin 12 to ground and another 1.5 K resistor from pin 12 to regulated 5 volts + .

The MAX150 has a 1.5 V+ reference voltage out available on pin 19. The ADC0820 has no reference voltage out. THe change supplies from 2 volts to 2.5 volts as a reference voltage to pin 12 of the ADC 0820 That pin is the reference voltage in on both chips.

FAQ about Sherlock:

How can a get a schematic? If you are outside of the U.S., send me an e-mail.. If you are in the US (or Canada) find a copy of Sept 1996 CQ/VHF.

Where is the Sherlock software available: ftp.hcares.gen.in.us also should be in the
oak.oakland.edu website through the Boston Radio Club subpage.

Why use this hardware plus software instead of the program that uses a sound card:

1. You do not have a soundcard or the other program does not work with your
soundcard.

2. You like to build.

Is the software free? Yes.

Will you give me the source code? No.

What does it take to run the software? A 486 DX 33 minimum PC clone with a parallel port of any type. (LPT1) And with VGA

Will the system always be able to distinguish between transmitters of the same make and model? Read the article.

Are Circuit boards available? Yes FAR Circuits, 18N640 Field Court, DUndee, IL 1900t 847-576-3540.

Should I start sending e-mail to you before I have read the article? No.

Can I build it without the circuit board? Yes. Is it easier to use the board? Yes.

How much does the hardware cost? About $65 with case using the MAX 150 About $50 using the ADC0820. This is more or less what you have on hand.

73

Malcolm WA9BVs

3244. Need an Article for a Newsletter?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: gerryc@airmail.net
Message-ID: <gerryc-2411961934310001@dal31-15.ppp.iadfw.net>
Source record: 100431
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space,

Hi,
Name here is Gerry (WD4BIS) and I have been writing a column for our club newsletter called "New Ham Partner". With the influx of No Code Technicians on the repeater, asking the same kinds of questions I asked 20 years ago, I have been trying to answer them.
Some of the articles are technical, some of them are general information, but they all address subjects that our new friends are struggling with.

I have set up a web page for these articles. On this page, I will place the columns I have already published in past issues of our newsletter. Doing this on a web page has advantages, the big one being that the articles wont expire in a newsgroup, I can edit old ones or add new columns as write them, and I wont have to send re-posts.

The Cost... I will ask that you do not edit the articles, and use my by-line. If you use them, send me an E-mail and let me know when and where. If you have a spare stamp mail me a copy of your newsletter to the address on the page.

Where... http://web2.airmail.net/gerryc/newham.html

Please bear in mind this site is still under construction and not all of them are there yet, but they soon will be. (I have Thanksgiving week off)

73's

Gerry Crenshaw

3245. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-24 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002411960917350001@news.vcnet.com>
Source record: 100432

In article <575aig$8de@villa.fc.net>, filipg@paranoia.com (Filip M Gieszczykiewicz) wrote:

> In Article <19961122120300.HAA29355@ladder01.news.aol.com>, through puissant locution, w8jitom@aol.com soliloquized:
> >In article <measures-ya023180002111960521570001@news.vcnet.com>,
> >measures@mail.vcnet.com (R. L. Measures) writes:
> >>Mr. Rauch appears not to have answered these seemingly-simple questions.
> >>How can we go over theories point by point if one party is pointedly less
> >>than forthcoming?
> [zap]
> >I am supposed to answer you and spend hours correcting nonsensical claim
> >after nonsensical claim, while you are free to avoid any question or spit
> >out any response you choose. You, and in particular the magazine that gave
> >you a platform to publish such obvious technical garbage, should be
> >ashamed of what was done to people trying to learn. I think undoing the
> >damage is impossible. More time arguing with you is simply wasted time.
>
> Greetings. I would just like to interject here that as someone who
> grew up after tubes "died" but is still MOST interested in these
> discussions... I'm now totally confused and lost.

I understand the confusion, Filip. There has been plenty of smoke and mirrors in this debate, and I suspect there will be more. Briefly---The roots of the debate date from 1926, when Mr. F. E. Handy said on page 72 in the *Radio Amateur's Handbook*:

"The combination of both resistance and inductance is very effective in limiting parasitic oscillations to a negligible value of current."

In other words, Mr. Handy found that VHF parasitic-oscillation suppressors performed measurably better when the suppressor's inductor (L) was made from resistance wire instead of copper wire. Nichrome has the highest volume-resistivity among resistance wire alloys, but it is not easily-soldered and is not commonly available..
After a few years, Handy's observation was somehow left out of the Handbook. After WW2, people apparently forgot what Mr. Handy wrote in 1926 and 1927, and people started making suppressors out of whatever was handy and easily soldered---i.e., copper. Some folks even started silver-plating suppressor inductors, evidently for cosmetic reasons. In the 1940's and 1950's, it didn't matter much what the suppressor L was made from because large amplifier tubes did not exhibit very much VHF gain. With modern, high-gain amplifier tubes, VHF suppressors with a high VHF-dampening ability seem to be indicated. High VHF-dampening means low VHF Q.

The difference between VHF suppressor inductors made from resistance wire, and those made from copper or silver-plated material, can easily be compared with a dipmeter. The first time I made this comparison was in 1986. With a copper suppressor inductor, the VHF dip was sharp and deep. With a nichrome suppressor inductor, the VHF dip was broad and shallow. Subsequent tests with a Boonton Q meter showed a substantive difference in VHF Q between otherwise-similar inductors made from copper and those made from nichrome. Additional tests with other alloys demonstrated that if a small percentage of iron was added to the nichrome recipe, an even lower VHF Q, and better VHF dampening resulted.
My findings were published in the October 1988 issue of QST magazine. The reader response was startling. During the next ten months, I received around 1200 telephone calls and letters from readers. I had to hire a helper to keep up with the mail.
Other articles I wrote about VHF parasitic oscillation were published in the March 1989, September 1990, October 1990, and the January, 1994 issues of QST magazine. The January 1994 article was written at the request of QST magazine. However, the January, 1994 article reportedly irritated some amplifier manufacturers, who still use high VHF-Q parasitic suppressors, who advertise in QST. (see QST, Sept., 1994, page 71)

For at least the past 6 years, Mr. Rauch has stentorianly asserted that essentially no VHF current flows through the L, virtually all VHF current flows through the R, and virtually all HF current flows through the L. Mr. Rauch believes that the suppressor L should be made from copper.

I contend that since roughly half of the VHF current flows through the L, a resistive conductor offers a VHF-dampening advantage. Dipmeter-tests with such a VHF-suppressor installed in various amplifiers demonstrates that with a nichrome L, the VHF dip is broad and shallow.

Now that Mr. Rauch has discovered that his oft-repeated assertion of the past 6 years is somewhat lacking in technical accuracy, he seems to want to talk about ANYTHING BUT the VHF current distribution between a suppressor's L and R. On and on, round and round. Apparently, "recognized amplifier experts" have a public image to defend at any cost---even though it's beginning to look like "The combination of both resistance and inductance is very effective in limiting parasitic oscillations to a negligible value of current."
---
e-mail copies to Messrs. Gieszczykiewicz and Rauch

--
--Rich-- ag6k, 805.386.3734

3246. vhf-matching to ant balun

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: drx1001@ibm.net
Message-ID: <57b52h$1km0$1@news-s01.ca.us.ibm.net>
Source record: 100338

Any info on toroid type baluns is very helpful.like to use 50ohm unbalanced to
300 ohms balanced. thanks,

Tim KF4FCO-EM70 Spamless Ham REPLY WITH CARE
I'AM PC HANDICAPED AND I TYPE WITH TWO FINGERS
AND I SUFFER FROM LAP TOP FEVER!!!!!!!!!!!!!
:***]

3247. Valves for 50MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: haraguti@de.neec.fc.nec.co.JP
Message-ID: <199611250742.QAA08233@densvr.de.neec.fc.nec.co.jp>
Source record: 100339

>Does anyone know if 572B's will also work on 6m?

It might work on 6m. I was able to get 400Watts output by modified YAESU
FL-2100B (572B pallarel GG amplifier). The driving power is required 80W.

Tadashi Haraguchi
JE3TXU/1, Tokyo Japan
E-Mail : haraguti@de.neec.fc.nec.co.jp

3248. Re: RELCOM M6D MIXERS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <329969c5.5322232@news.lin.foa.se>
Source record: 100340

WJ-M6D
DOUBLE BALANCED MIXER
LO, RF 0.05 TO 200 MHz
IF DC TO 200 MHz
LO +7 dBm (graph shows drive level between -4 and +12 dBm)

Notes:
W-J logo is over pins 1 2 and 5 6
Colored glass insulator at pin 1

Mixer seen with pins facing you:

```
_________
| 1 2 3 4 |
| 5 6 7 8 |
| _________|
```

LO 1 and 5
RF 4 and 8
IF: formed by externally connectiong pins 2 and 6 together and pins 3 and 7 together. Best performance is obtained by grounding the 2 and 6

==========

WJ H5A
Reactive power divider
0.5-120 MHz
3 ports
0 degrees phase difference
50 ohm impedance
35 dB isolation at 1-60 MHz
Insertion loss 0.5 dB
max phase balance 1 deg
max amplitude unbalance 0.1 dB
max power 1 watt 1-60 MHz

------ -3dB--------pin1
pin 4 -35 dB 1 to 60 MHz
-------- -3dB--------pin 2
Pins 3 and 5 are groundpins, and both moust be used.

Package D H5A

2 1
5 4 3
Pins facing you.

I may supply you with copies of data sheets if you e-mail me your fax- no

73 Lasse SM5GLC
Rod Fitz-Randolph <w5hvv@aeneas.net> wrote:

>Does anyone have any information on the Watkins-Johnson/Relcom
>M6D Balanced Mixers and the H5A units? I need spec sheets or
>something that shows the frequencies, connections of pins, etc.
>Thank you for responding! Rod, W5HVV

3249. KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <18172@s55tcp.ampr.org>
Source record: 100341

Our PR-Internet link had some problems (hardware & software made in USA) so
I am bit late on interesting QRO tread. While preparing for CQ WW CW contest,
I survived 3600V shock thru both hands and combined with a recent light fire
under the bonet of my Chrysler LeBaron at petrol station, I live 4-th life now!
Gentleman 50 miles from Hollywood was asking while I did so brute test with my
SB-220 shorting the antenna. Well, I was convinced RF voltage can't go beyond
2 x DC and I went to the worst case situstion (is it scenario in South CA?).
However, I had many close situations in real life with intermittent antenna
problems, loading capacitor shorts, disconected coax cable shields etc...
AG6K math in calculating R/L current percentages on straight sum is WRONG!
Supressor inductance on VHF would affect oscilations by changing the phase
angle and not solely by reactance value.
I am sure KE4ZV supports KISS approach and if we can explain arcing with simple
model of light load on working frequency, lets refrain from mumbo-jumbo of UFO
effects in a good tradition of an engineering practice. Catastrophic failures
are beyond a reasonable price/performance design and are usually covered by
insurance or guarantee.
73 de Mario, S56A, N1YU.
P.S. My favored quote from Internet: Stupidity is a cosmic force!

3250. Re: Need Help (manuals) HP8060C 1-2600MHz Sig. Gen.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <32996f39.6716723@news.lin.foa.se>
Source record: 100342

Hi Scott
I have a 8660C, I guess thats what you got too! I might supply you
with copies from the manual, but they contains quite a few pages! My
8660 is dead but I plan to fix it someday..... I suspect the power
supply in my generator.

73 Lasse SM5GLC

sidener@saucer.cc.umr.edu (Scott Sidener) wrote:

>Hi, I am having problems with a HP 8060C Synthisized Signal Generator
>that has the 86633B Modulation System and 86603A RF Section 1-2600MHz.
>
>If you have any manuals or possibly dead pieces for spare parts or any
>suggestions could you please mail me.
>
>Thanks,
>
>Scott Sidener
>N0WFL
>
>sidener@umr.edu
>

3251. Valves/Tubes Data Website! !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <57c4dp$4f5@news1.mnsinc.com>
Source record: 100343
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Hey guys - check out this web site.
He has some great stuff here - tube base diagrams, pin-outs etc. etc.
Let's hope it grows! How about e-mailing him with some MORE pin-out data to
add to this list? It can be a GREAT resource on the WWW. I wish more people
would put up data like this that tube homebrew folks can use!

Let me know what you think of his pages. All the best - Bry, AF4K

Begin forwarded messge:
==========
From: tgale@xs4all.nl ()
Subject: Valves/Tubes Web Page
Date sent: 14 Nov 1996 17:36:32 GMT
Organization: XS4ALL, networking for the masses

Good-day fellow radio enthusiasts. This is just a quick note to let
you know that I have started to set up a Web page with some valve/tube
information which I hope will be of help to those interested in restoring,
repairing or using valve/tube - based equipment. I have had a few positive
reactions to my first effort, but of course I welcome any good suggestions
and constructive criticism in order to improve the page, which I started
following a reply I was able to post to someone elses posted query.

The page should be accessible at: <http://www.xs4all.nl/~tgale/valves.html>

I find that most discussion in respect of this subject can be found
on the newsgroup <news:rec.antiques.radio+phono> but I thought I would
post this note to a couple of other groups where people might be
interested as well.

Regards, and 73's, F.C. Trevor Gale, G8GFH (resident in The Netherlands).
==========
End forwarded message.

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

3252. Re: balancing tubes: how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002511960425560001@news.vcnet.com>
Source record: 100344
Cross-posted to: rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <Pine.GSO.3.95.961124140256.8063D-100000@oso.slonet.org>,
Clifford Buttschardt <cbuttsch@slonet.org> wrote:

> What is the better way of balancing tubes such as 3-500Z units? Is is
> better to balance the standing current for a given bias (zero bias in the
> 3-500 units of course) or should the plate current be measured at a give
> RF drive for each tube? One measures the mu of the tube while the second
> approach measures the transconductance. Which is more practical for hams?
> Cliff Buttschardt K7RR ex W6HDO Morro Bay, CA cbuttsch@slonet.org

Balancing the zero signal anode current ('ZSAC) is probably more important
because if you don't have at least 70mA of ZSAC per anode, linearity will
suffer. However, if more than 100mA of ZSAC is used, heat becomes a
concern. As long as the ZSAC in one tube is at least 70mA and the ZSAC in
the other tube is less than 100mA, there should be no problem.
----
e-mail copy to Mr. Buttschardt

--
--Rich-- ag6k, 805.386.3734

3253. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002511960434040001@news.vcnet.com>
Source record: 100345

In article <56qeie$scu@lace.colorado.edu>, tiemann@spot.Colorado.EDU
(TIEMANN BRUCE) wrote:

> In article <measures-ya023180001811960651460001@news.vcnet.com>,
> R. L. Measures <measures@mail.vcnet.com> wrote:
>
> > Be sure to short the unused turns,
> >
>
> Many articles using air-wound coils direct one to short unused turns,
> and you do too. I see how the voltage would be high at the end, like a
> Tesla coil, but it seems like it would also lower the Q, possibly a lot.
> Shorting unused turns on an inductor-with-a-core amounts to having a
> transformer with a shorted secondary - which is no good! What
> are the pros of shorting turns? (And how much does it lower Q?)
>
While it is true that relatively high currents circulate in the shorted
turns at settings of roughly 80% to 95% of Lmax, the alternative is far
more consequential--i.e., arcing at the unshorted end when settings of 5%
to 20% of Lmax are used. My own preference is to short the unused turns
with 1uH of L air-wound from #12 solid copper wire. This prevents the
tesla coil v buildup, and it limits the current that circulates in the
shorted turns.
---
e-mail copy to Bruce

--
--Rich-- ag6k, 805.386.3734

3254. Re: Band pass filter for 144MHz reqd?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <I8xUGBAtEVmyEwW5@ifwtech.demon.co.uk>
Source record: 100346

Steve C wrote:
>Hi,
>
>I want a low (nil) loss on passband, and good loss out of band, filter
>for 2m (144-145 will do)
>
>I'd like it to be capable of passing full TX power (400W PEP), but at
>least 50W PEP if not.
>
>WHat design do I ned to use ?
>
Is this the right question?

If you have a receive problem, the filter doesn't need to be in the transmit path at all.

Any close-in filtering of a transmitter signal should be done at low level, in the exciter. With most commercial 2m transceivers you can fairly safely assume that close-in spurious products within a few MHz will be well suppressed (unless there's a fault).

The PA will contribute only intermodulation distortion (which is too close-in to be filtered) and harmonics, which are well separated from the output frequency and can be removed by a lowpass filter or even a multiple-notch filter.

Therefore there's absolutely no point in putting a large, difficult and expensive narrowband filter after the power amplifier.

>Lastly, I need to be able to make it fairly cheaply as its for an
>experiment.
>
Very cheap and effective harmonic notch filters cut from ordinary coax were described by G4SWX in RadCom about a year ago.

If this is a breakthrough problem, you can probably have your station officially inspected and your equipment checked by the Radio Investigation Service at no charge - e-mail me for details.
(Limited offer, applies in Britain only :-)

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3255. Web Info - parts & suplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <57c558$4f5@news1.mnsinc.com>
Source record: 100347

Have a look at:
http://www.mnsinc.com/bry/
I have a lot of resources there of interest to AMATEUR and SW RADIO
enthusiasts!

All the best - Bry
73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

3256. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002511960336490001@news.west.net>
Source record: 100348

In article <19961125020000.VAA03737@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Rich recently posted the following:
>
> >Big organizations don't always do the right thing, Tom. NASA launched
> >Shuttle Mission 25 even though NASA had videotapes of 10 previous
> >missions
> >where fire could be seen coming through the o-rings on the booster
> >rockets,
> >adjacent to the main hydrogen tank, no less.
>
> This isn't radio, but I also don't think it's true. I'm looking at a
> chart from Richard Feynman's account of the Challenger investigation and
> it shows only seven missions in which there was any O-ring incident and
> 17 in which there were none. The 7 incidents involved erosion of the
> O-ring, but not, so far as I know, fire shooting out the side of the
> rocket. Perhaps, a specific reference to Rich's source would be in
> order.
>
> Dave KE9ED
>

If my memory serves me right, the 10 missions out 24 figure was reported by NBC news. Even if there were only five previous incidents of shuttle booster rocket o-ring leaks, in my opinion it would have been a good idea to get the o-ring problem fixed, instead of firing the two people who were trying to get it fixed. Of course, if Dave and Tom have a different opinion, I support your right to that opinion. .

> Hi Dave,
>
> Perhaps Rich is preparing us for the revelation that the O ring failure
> was due to a parasitic oscillation, or perhaps photons from a solar flare
> caused the failure.

Tom pooh-poohs the importance of photon bombardment. NASA does not seem to share Tom's opinion. During a solar flare, photon radiation places astronauts at risk. As I recall, NASA does not lauch the shuttle during periods of intense solar activity. During a period of high solar activity about 170 years ago, photon bombardment of Earth created a continuous path of ionized gasses (a.k.a. arc) in the ionesphere between the northern and southern hemispheres. The path of ionization was reportedly seen by inhabitants of equatorial regions. The current flow in the arc has been estimated at 1000 amperes.

> Other than that, I'm having a hard time understanding what this has to do
> with all his wild theories and claims about parasitics.
>
> 73 Tom

The point is simply that big organizations do not always do the right thing. Did Ford really have "a better idea" when it knowing produced its family crematorium on wheels--i.e., the Ford Pinto?
According to a Ford internal memorandum, Ford executives assumed that it would cost less to settle the wrongful death lawsuits than to incorporate a gas tank protection member into the Pinto's frame. Were the Ford executives right or wrong, Tom? and Dave?

Tom:
ï¿½ Who is Mr. XXX? Why does he list an bogus Eimac e-mail address?.
ï¿½ Who are/is "they"?.
ï¿½ What are names of the people at Eimac, to whom you refer to as "it's the entire staff", who allegedly say that Mr. Foote and I are wrong about gold-sputtering being caused by an oscillation condition?
ï¿½ Does the AL-1500 8877 amplifier, which you designed, use a VHF parasitic oscillation suppressor?
ï¿½ What is the frequency of the anode-resonance in the Ameritron AL-80...amplifier ?
---
e-mail copy to Mr. Tom Rauch. // Tom--I don't have Dave, KE9ED's e-mail address. If you have it, forwarding a copy to Dave would be appredíated. Thank you.

--
--Rich--
ag6k, 805.386.3734

3257. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32999bc4.4155438@news.frazmtn.com>
Source record: 100349

On 25 Nov 96 14:51:34 GMT, s56a@s55tcp.ampr.ORG (Marijan Miletic)
wrote:

.
>AG6K math in calculating R/L current percentages on straight sum is WRONG!
>Supressor inductance on VHF would affect oscilations by changing the phase
>angle and not solely by reactance value.

Mario, in between self imposed catastrophic events in your life,
will you imbue this group with your interpretation of the CORRECT
mathematical formula for the design of suppressors?
Jesse , W6KKT (50 miles from L.A.)

3258. Re: TH-79A(D) 800Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: 1 <ACABAMS@WORLDNET.ATT.NET>
Message-ID: <01bbdaed$d2e44460$fe7174cf@default>
Source record: 100350
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

LOOK AT THE SCHEMATICS THAT CAME WITH THE RADIO. A LEGEND BOX LISTS WHAT PARTS CAME WITH THE NON US VERSIONS.

CJ Lagos <midnight@us.net> wrote in article
<01bbda7a$b8a7ca90$0a66f0c6@general>...
> Recently, A message was posted about the TH-79A(D) and 800Mhz. One
person
> said that 9 UHF parts were missing from the radio and that they were
worth
> about $14.00. I have not been able to contact him via e-mail due to a
> problem with Worldnet's mail server. Can anyone tell me which parts they
> are, where to get them etc ...?
>
> I was always under the impression that the radio's logic prevented
> reception not the actual parts on-board.
>
> Thanks again,
> CJ <midnight@us.net>
>

3259. Re: roller inductor where ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961125172700.MAA18869@ladder01.news.aol.com>
Source record: 100351

In article <measures-ya023180002511960434040001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>>
>While it is true that relatively high currents circulate in the shorted
>turns at settings of roughly 80% to 95% of Lmax, the alternative is far
>more consequential--i.e., arcing at the unshorted end when settings of 5%
>to 20% of Lmax are used. My own preference is to short the unused turns
>with 1uH of L air-wound from #12 solid copper wire. This prevents the
>tesla coil v buildup, and it limits the current that circulates in the
>shorted turns.

I go along with that completely. It is NOT a good idea to float the unused
turns. Unwanted series resonances cause much more problem than the shorted
turns. Flux leakage is so high in a conventional roller (the length is
often well over twice the diameter and turn to turn spacing can be wide)
that circulating currents are a minor problem. The idea of using a
reactive path seems to be a good one.

73 Tom

3260. Amplifier Plan Books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: pfurbert@ibl.bm
Message-ID: <pfurbert-2511961150050001@dial14-28.ibl.bm>
Source record: 100352

I would like to learn more about building RF transistor amplifiers. I cannot find any good literature around here. Can anyone recommend an information source for transistor amplifier building? I am particularly interested in building an amplifier using the 2SC2879. Any feedback would be appreciated.

3261. Re: Peter Dahl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <3299E452.638F@calweb.com>
Source record: 100353

Dan Bryden wrote:
>
> I've seen Peter Dahl's name listed several times in reference to
> supplying transformers for power amplifiers. Does anyone know where I
> can contact him for more info. Dan

Peter W Dahl Co.
5869 Waycross Ave
El Paso Texas 79924
tel (915) 751-2300
email pwdco@1eagle1.com
http://www.1eagle1.com/commercial/pwdco/

I called them an they sent me a very nice catalog of their products.

--
73 David KD6QFZ
dsipe@calweb.com

3262. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961125183300.NAA19824@ladder01.news.aol.com>
Source record: 100354

In article <32999bc4.4155438@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) writes:

>.
>>AG6K math in calculating R/L current percentages on straight sum is WRONG!
>>Supressor inductance on VHF would affect oscilations by changing the phase
>>angle and not solely by reactance value.
>
>Mario, in between self imposed catastrophic events in your life,
>will you imbue this group with your interpretation of the CORRECT
>mathematical formula for the design of suppressors?
>Jesse , W6KKT (50 miles from L.A.)

Rich's math is OK, as far as he went. The values he selected were at the extreme low end of reactance, but are realistic in a 3-500Z with short grid and anode leads. The important parameter is the equivilent series reactance of the anode system, and that can be calculated quite easily.

I already calculated and posted the equivilent parallel circuit values of the suppressors Rich described, as well as some other more typical values. The change in VHF Q, when a lossless coil was replaced with a 5 ohms ESR coil, was almost nil. When those values are translated to the series equivilent, that circuit is placed in the anode path, you can calculate the system Q.

There are several ways to do this with either scientific approach or the Edisonian (cut and try) approach. This would be a good topic for an article, because too much of this stuff has become "do it this way" rules of thumb or folklore. Just like the myth tank Q needs to be 12, or the PA will not operate properly.

73 Tom

3263. Re: Kenwood 850SAT & Autoswitching antenna systems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <57cr6h$bot@sf18.dseg.ti.com>
Source record: 100355

In article <19961124191900.OAA24576@ladder01.news.aol.com>, wb1dsw@aol.com says...
>
>I would like to find out if anyone has figured out how to have a Kenwood
>TS850SAT "drive" a remote antenna switch. I have a beam for 20-15-10 and
>a all-band wire. I want the Kenwood to "tell" the switch when it's on
>20-15-10 and then I'd like it to "tell" the switch when it's on any other
>band (to select the wire).
>
>It's my understanding that "data" appears SOMEWHERE coming out of the
>850SAT. This data supposedly has the band information selected from
>either the VFO or the mem channel. I'd like to use this "data" to drive
>the switch. I haven't purchased the switch yet but I feel most of the
>popular (Unadilla, Ameritron, etc) commercial brands would do.
>
>But, I suspect I'll be homebrewing an external interface to bring whatever
>"data" the Kenwood's putting out over to the relays (in the switch). But
>first I have to determine "Is there data" and "where the heck is it coming
>out and it'd be nice to know "what form is it being presented in". Don't
>tell me to call Kenwood - I burned up my life's savings last week on hold
>and got nowhere with them.
>
>So, if you know something about this (or if you know someone who might
>know) please share your info with me. If you know someone at Kenwood,
>that'd be helpful too. Wouldn't it be terrific IF someone out there HAS
>ALREADY DONE THIS and could share that information with me!!!??
>
>I thank you.
>
>AOL - WB1DSW @ AOL.COM
>AMATEUR RADIO - WB1DSW @ WB1DSW.NH.USA.NOAM

WB1DSW de KC5NG bt

Okay... I've done something SIMILAR that might help get you going in the right direction. MANY years ago, I had a Kenwood TS-430S, which had an output port for controlling a matching outboard antenna matching unit. The data was BCD (binary coded decimal) output. I used a BCD-to-decimal decoder chip (4-to-10 line decoder) and some open-collector transistor outputs to drive small reed relays to select taps on a mobile HF antenna loading coil. I never built the final circuit (sold the rig) but I did prototype it and it worked.

I would be willing to bet that similar info is output by your Kenwood. You might be able to do the same kind of thing. Check your rig manual

carefully, and perhaps check the service manual.

Good luck!

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3264. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002511961001360001@news.vcnet.com>
Source record: 100356

In article <19961125035900.WAA06674@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002411961128370001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> > With average-gain 3-500Zs, putting a VHF-dampening device in either the
> >input or output circuit may produce stability. However with
> above-average
> >gain 3-500Zs, using a VHF-dampening device in both the input and in the
> >output is indicated.
>
> This comment puzzles me Rich.
>
> You attribute a wide gain variation to tube differences, indicting it is
> an input to output feedback loop.

Gain-variation has nothing to do with feedback capacitance. Perhaps this will decrease your level puzzlement, Tom: The SB-220 has a VHF resonance in the input and a VHF resoance in the output. Both resonances happen to be around 110MHz. Approximately 0.2pF of capacitance exists between the input and the output. At 110MHz, 0.2pF has 8000 ohms of reactance. I believe that occasional oscillations at 110MHz can occur in the SB-220. The TL-922 has a similar problem at 140MHz, for the same reason. // According to the notes from our telephone conversation in 1990, you stated that you had worked on over 400 SB-220s, and that many of them had VHF parasitic-oscillation damage. Are you now saying that VLF is what you meant to say?

> The worse engineering mistake in the SB-220 was the inclusion of chokes
> in paralle with capacitors from the grids to ground in the SB-220. It
> makes that PA subject to VLF parasitics, and destroys gain flatness. It
> makes the tubes less stable at VHF also. The single most important mod to
> an SB-220 is to ground the grids right at the tube pins with very very
> short leads.
>
Tom: What is the grid-resonant frequency in a SB-220 with the factory-stock grid circuitry?

Tom: What is the grid-resonant frequency in a SB-220 with "very very short leads" to ground the grids?

Tom: What is the frequency of the anode circuit resonance in an AL-80...?

Tom: Who is the anonymous Mr. XXX? Why does he list a ficticious Eimac e-mail address?.

Tom: Who are/is "they"?.

Tom: What are the names of the people at Eimac, to whom you refer to as "it's the
entire staff", who allegedly say that Mr. Foote and I are wrong about
gold-sputtering being caused by an oscillation condition?

Tom: Does the AL-1500 8877 amplifier, which you designed, use a VHF parasitic
oscillation suppressor?

Tom: You proposed calculating the L/R VHF current-distribution for a typical
3-500Z suppressor. I calculated the VHF current-distribution, and posted
the results here. Would you prefer to drop this matter?
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805-386-3734

3265. Inexpensive but reliable frequency counter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: OSTERTAGK@SNYCORVA.CORTLAND.EDU
Message-ID: <01IC9LIMC5N000LOR1@SNYCORVA.CORTLAND.EDU>
Source record: 100357

I'm a new ham and a would-be electronics experimenter (no technical background). One item I would like to own is a frequency counter, but I don't feel I can justify $300-$400 for a bench model. So I have been looking around for a kit or some plans to build one myself. There's one in the latest ARRL Handbook (6-digit, 50MHz) which can be bought as a kit for $79 from Radio Adventures. I also found two plans in Popular Electronics, a 25MHz 4-digit model in the Feb 1995 issue and a 50MHz model in the Nov 1994 issue.

Does anyone have direct experience with any of the above? Or maybe someone can offer an alternative? For instance, might it be better for me to buy one of those $200 radio frequency counters made by Startek or MFJ?

I just want one to help me play around with RF circuits, for the fun and education.

-Thanks,

Keith Ostertag, N3KXZ

3266. Amp help w/ 304tl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: "Keith E. Spainhour" <KSpainhour@wilkes.net>
Message-ID: <01bbdb17$ffcbd5e0$LocalHost@ks>
Source record: 100358

Hi, I am looking for some help building an amplifier using a 304tl
I already have a 3kv supply for the plate supply. I have the specs on
the tube from Eimac, they are
DC Plate 3000v
DC Grid -400v
Plate Current 500ma
DC Grid Current 80ma

and so on

I have numerous questions, like , what would be a good circuit for this
tube?
Grounded Grid? What about an input circuit? What class would this be (A,
AB1, AB2)?
I saw somewhere the formula for figuring plate load, but can't remember
where.
I see alot of talk about parasitic suppressers, what would be the best
circuit for this?
I already have the basic hardware stuff started, I need some help on the
finer things!
Any schematics, component values, comments or what ever would be of great
help.
I know very little about designing amplifiers and any help would be
appreciated.
I also have a 3-400z amperex with socket, would this be a better tube for
this project?
anyone have the specs on this tube?

73
KT4XW
Keith Spainhour
KSpainhour@wilkes.net

3267. Re: Amplifier Plan Books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: Clif <avvid@onramp.net>
Message-ID: <329A1486.E4A@onramp.net>
Source record: 100359

pfurbert@ibl.bm wrote:
>
> I would like to learn more about building RF transistor amplifiers. I
> cannot find any good literature around here. Can anyone recommend an
> information source for transistor amplifier building? I am particularly
> interested in building an amplifier using the 2SC2879. Any feedback would
> be appreciated.

Contact RF Parts (1-800-RF-PARTS). They have plans and laid out boards
for the 2sc2879 and 2sc2290.

Clif
AVVid is an Authorized Kenwood and Icom Service Center
http://rampages.onramp.net/~avvid

3268. Anyone built their own UHF duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <57d543INN77I@sepia.wv.tek.com>
Source record: 100360

I ran across the plans recently in the ARRL Antenna book for building your own duplexer for the 2 meter band. I was wondering if anyone has similar plans or pointers to design formulas, plans, etc. for the 70 cm band?
I have access to a machine shop, and would like the chalenge of "rolling my own". Another question I had was to find out if anyone has experience with using aluminum for the cavity walls instead of copper? Would this lead to temperature instability, or greater insertion loss? Any references would be appreciated.

Thanks,
Ed Burress
KC7GFX

3269. Re: CHIMNEY FOR 4CX-10,000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002511961443500001@news.vcnet.com>
Source record: 100361

In article <3293BAE4.134F@worldnet.att.net>, Arthur Garabedian
<westernmobiletel@worldnet.att.net> wrote:

> I am looking for a chimney or phenolic material to make one for a
> 4CX-10,000 tube transmitter. Tube needs to be about 6" dia. 2" long.
> Thanks, ARTHUR KC6KUK ANAHEIM, CA. . .

the Eimac SK-1306 chimney is made from fiberglass. It is about 7 inches in
diameter. You can buy one from Richardson Electronics in Chicago. They
are not all that expensive. // I have a quantity of Eimac long-finger
stock for afixing an anode HF contactor to the top a fiberglas chimney. If
you need some, say so. Such an arrangement results in much less L in the
neutralization circuitry. You can find an illustration of this techniqueon
the Web. The URL is
http://www.vcnet.com/measures/
see Figure 11
----
e-mail copy to Arthur Garabedian

--
--Rich-- ag6k, 805-386-3734

3270. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002511961603370001@news.vcnet.com>
Source record: 100362

In article <19961125035900.WAA06674@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> You allude to Vectronics using your suppressor, yet you failed to mention
> after they installed your suppression system field service history did not
> improve. Your suppression kit was removed from the Vectronics PA's within
> several months of the initial test.
>
Vectronics built LA30 amplifiers for AEA. The field service was done by AEA---and, in November of 1991, AEA began retrofitting low VHF-Q parasitic suppressors into LA30 amplifiers that were returned because of parasitic-related damage. I have the sales records if you would like to see them, Mr. Rauch. Mr. Al Chandler was the person I delt with at AEA. As i recall, Vectronics recommended that Chandler contact me about retrofitting lower Q suppressors into LA30 amplifiers that were returned for service. .

Tom: who said that low Q suppressors were removed from Vectronics' amplifiers within several months of the initial test? I provided the names of the people I spoke with at Vectronics: engineer Jim Riach and owner Paul Rivnak. Who did you talk to at Vectronics?

It seems a bit curious that you would be skeptical about the glass envelope melting problem at Vectronics. I spoke to both the owner and the engineer about this problem, as well as to Rus Healy at QST. It also seems a bit curious that Raich and Rivnak would conclude that higher VHF-Q suppressors were better than lower VHF-Q suppressors if they recommended that AEA contact me about retrofitting lower VHF-Q suppressors into LA30s that were already in the field.

Tom: Have you posted your mathematical solution to the following, yet?

Tom: Are you suggesting that the primary path of VHF current is through the paralleled 50 ohm resistor? If you maintain that most of the VHF current passes through the 50 ohm resistor, Tom, please show us the mathematical solution that led you to your conclusion.
---
e-mail copies to Mr. Rauch, and the Good Source..... e-mailing list

--
--Rich-- ag6k, 805-386-3734

3271. Re: Anyone built their own UHF duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: miker <mreiney@hevanet.com>
Message-ID: <329A4756.282A@hevanet.com>
Source record: 100363

Ed Burress wrote:
>
> I ran across the plans recently in the ARRL Antenna book for
> building your own duplexer for the 2 meter band. I was
> wondering if anyone has similar plans or pointers to design
> formulas, plans, etc. for the 70 cm band?
> I have access to a machine shop, and would like the chalenge
> of "rolling my own". Another question I had was to find out
> if anyone has experience with using aluminum for the cavity
> walls instead of copper? Would this lead to temperature
> instability, or greater insertion loss? Any references would
> be appreciated.
>
> Thanks,
> Ed Burress
> KC7GFX
Hi ED.
I made my own aluminum 440 duplexers. 1.5" square aluminum tubing with
copper pipe center conductor. Use 'em in the house, so no experience
with what happens outside.
miker

3272. W Heath HP-20 Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: "Dennis L. Edinger" <dedinger@ecentral.com>
Message-ID: <329A81FA.3117@ecentral.com>
Source record: 100364

I need a schematic for a Heath HP-20 power supply. Please e-mail me at dedinger@ecentral.com for arrangements, or I am good in the QRZ database.

de Dennis/w0gd

3273. Baycom as TNC ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961125205905.4439A-100000@primeline.net>
Source record: 100365

Does anybody know of any software so that I can use an PC-XT and a
Baycom modem as a stand alone TNC?

I would prefer something that will work directly off of a floppy
disk (360 or 720 K, with system)

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

3274. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961125020000.VAA03737@ladder01.news.aol.com>
Source record: 100433

Rich recently posted the following:

>Big organizations don't always do the right thing, Tom. NASA launched
>Shuttle Mission 25 even though NASA had videotapes of 10 previous
>missions
>where fire could be seen coming through the o-rings on the booster
>rockets,
>adjacent to the main hydrogen tank, no less.

This isn't radio, but I also don't think it's true. I'm looking at a chart from Richard Feynman's account of the Challenger investigation and it shows only seven missions in which there was any O-ring incident and 17 in which there were none. The 7 incidents involved erosion of the O-ring, but not, so far as I know, fire shooting out the side of the rocket. Perhaps, a specific reference to Rich's source would be in order.

Dave KE9ED

>>

Hi Dave,

Perhaps Rich is preparing us for the revelation that the O ring failure was due to a parasitic oscillation, or perhaps photons from a solar flare caused the failure.

Other than that, I'm having a hard time understanding what this has to do with all his wild theories and claims about parasitics.

73 Tom

3275. assist

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: ko4sx@ocsonline.com
Message-ID: <57b1j0$gpg@paperboy.world-net.net>
Source record: 100434

Hello. I know there must be a proper group someplace to ask for help,
but I haven't found it yet..
I have a monitor with a leaking zener diode. Number on it is 27B2 .
I have been unable to find it in any of my reference books. Can someone
out there tell me the voltage ??
Thanks es 73
Keith..KO4SX

Keith Poindexter
ko4sx@ocsonline.com

Net-Tamer V 1.07 - Registered

3276. TH-79A(D) 800Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: CJ Lagos <midnight@us.net>
Message-ID: <01bbda7a$b8a7ca90$0a66f0c6@general>
Source record: 100435
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Recently, A message was posted about the TH-79A(D) and 800Mhz. One person said that 9 UHF parts were missing from the radio and that they were worth about $14.00. I have not been able to contact him via e-mail due to a problem with Worldnet's mail server. Can anyone tell me which parts they are, where to get them etc ...?

I was always under the impression that the radio's logic prevented reception not the actual parts on-board.

Thanks again,
CJ <midnight@us.net>

3277. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961125035900.WAA06674@ladder01.news.aol.com>
Source record: 100436

In article <measures-ya023180002411961128370001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

> With average-gain 3-500Zs, putting a VHF-dampening device in either the
>input or output circuit may produce stability. However with
above-average
>gain 3-500Zs, using a VHF-dampening device in both the input and in the
>output is indicated.

This comment puzzles me Rich.

You attribute a wide gain variation to tube differences, indicting it is
an input to output feedback loop.

The worse engineering mistake in the SB-220 was the inclusion of chokes
in paralle with capacitors from the grids to ground in the SB-220. It
makes that PA subject to VLF parasitics, and destroys gain flatness. It
makes the tubes less stable at VHF also. The single most important mod to
an SB-220 is to ground the grids right at the tube pins with very very
short leads.

You attribute problems to the gain of tubes. The gain of a grounded grid
PA, due to fact the input circuit is in series with the output RF path, is
determined by the ratio of cathode driving to anode output impedance.

In thousands of tubes of all types, I see very little gain difference.
There are even reject limits, for example 3CX1200A7's with as little as
.5 dB gain difference are rejected. That amounts to one tube in every few
hundred.

If there was a 3 dB gain difference, it would also show up as a radical
input (going from 1:1 to 2:1 VSWR) impedance difference, since the output
impedance is set by the amount of High Voltage and plate current.

I find your personal attacks an act of desperation. You seem to be unable
to support your claims technically, since most of your statements
contradict yourself. While you openly contradict yourself, you accuse me
of smoke and mirrors.'

Let me give an example of an obvious contradiction. You claim the Chinese
tube's glass is melted by parasitics, yet you also claim any parasitic
will arc the bandswitch, tuning cap or damage the grid of the tube. In
order to melt the glass, the parasitic would have to have many hundreds of
kilovolts sustained from the anode through the glass to an external
conductor.

You allude to Vectronics using your suppressor, yet you failed to mention after they installed your suppression system field service history did not improve. Your suppression kit was removed from the Vectronics PA's within several months of the initial test.

You cling to the idea that photons cause parasitics, even though a physicist that works in that area disputed your claims. You very clearly said you tested tubes involved in "standby flashovers", and they had no gas. Now you have claimed they DO have gas, like the geiger-muller tube.

The gas filled geiger-muller tube has less than a pico-ampere of current induced by radiation, yet you claim the almost perfect vacuum in a power grid tube tube (that had no gas in the start but now does) will support a large sustance current from external photons.

You claim in most PA's a sudden burst of VHF energy damages grids, bandswitches, and arcs capacitors over, yet we are to believe a Chinese 3-500 has glass failure from the same cause.

I measured the very same style capacitor used in the SB-220, AL-80 series, Vectronics PA's and later Drake PA's, and found no high impedance points up to several hundred MHz, yet you claim these PA's can arc that capacitor over from VHF energy.

You insist a tiny grid rated at 25 watts, will dissipate 500-700 watts. Yet we know the massive 3-500Z anode will become incandescent long before dissipating 500 watts.

None of your claims make technical sense, so you have now reverted to personal slander of me and even NASA. This act of desperation is pitiful.

73 Tom

3278. Re: Looking for 60KHz WWVB receiver circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <329B58B7.233D@erols.com>
Source record: 100238

Terry Simonds wrote:
>
> Didn't Heathkit make a clock controlled from WWV/WWVB? Maybe someone
> has the schematic
>

yeah. We use them here at work. The receiver in them sucks so badly
that it can draw a substantial vacuum ;-)

It is mostly a bunch of tone detectors and a cheap uP. I wouldn't
bother with it if I were you.

Jake Brodsky, mailto:frussle@erols.com
PP-ASEL IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

3279. Re: Inexpensive but reliable frequency counter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <57flhs$7mi@dfw-ixnews10.ix.netcom.com>
Source record: 100239

In <1996Nov26.195159.11361@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>In article <01IC9LIMC5N000LOR1@SNYCORVA.CORTLAND.EDU> OSTERTAGK@SNYCORVA.CORTLAND.EDU (J. Keith Ostertag) writes:
>>I'm a new ham and a would-be electronics experimenter (no technical
>>background). One item I would like to own is a frequency counter, but I don't
>>feel I can justify $300-$400 for a bench model. So I have been looking around
>>for a kit or some plans to build one myself. There's one in the latest ARRL
>>Handbook (6-digit, 50MHz) which can be bought as a kit for $79 from Radio
>>Adventures. I also found two plans in Popular Electronics, a 25MHz 4-digit
>>model in the Feb 1995 issue and a 50MHz model in the Nov 1994 issue.
>>
>>Does anyone have direct experience with any of the above? Or maybe someone can
>>offer an alternative? For instance, might it be better for me to buy one
>>of those $200 radio frequency counters made by Startek or MFJ?
>
>Buy the Radio Shack counter if you must have a counter. It is surprisingly
>good considering the source (better than MFJ). It's a lot handier than the
>kits, has more resolution, and covers a wider frequency range too. One big
>plus of the RS counter over the Startek is that the RS counter is relatively
>deaf. That means you can use it without it trying to read every radio station
>in the county. You really have to couple it to what you want to measure (and
>that's good because it means you won't be measuring something else and not
>know it).
>
>IMHO, a counter is a lot less useful than it may at first appear.
>Counters only give reliable readings when fed pure sinewaves.
>They will often lock to a harmonic or subharmonic of a typical
>complex signal. *AND YOU WON'T KNOW THAT.* I'd much rather have

>a scope, even a relatively cheap import scope, than to have a
>counter. Of course having both is better.
>
>There are two instruments I consider priority purchases for the
>electronics experimenter. Those are an *analog* VOM and a scope.
>Later you can add a DVM, a capacitance checker, a dipmeter, a
>signal generator, a spectrum analyzer, a communications monitor,
>a counter, etc. Often the best piece of RF test equipment you can
>have is a good quality transceiver. It can serve as signal generator
>and communications monitor, and negates the need for a counter in
>most cases.
>
>DVMs can be almost as devious as a counter. A good old analog VOM
>can be much more useful because you can spot trending in the readings.

>That can often tell you a lot more than the dancing digits of a DVM.
>It also makes checking electrolytic capacitor leakage and transistor
>junction leakage easy. IMHO, transistor checkers are mostly frills, a
>VOM will serve. OTOH, I really like capacitance checkers because they
>can read small value capacitors and a VOM can't.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider
problems
>Destructive Testing Systems | we break it. | with previous uucp
addresses
>534 Shannon Way | Guaranteed! | Email to
ke4zv@radio.org
>Lawrenceville, GA 30244 | |

Gary,

I Strongly agree with the good VOM and scope, but I personally think
the 3rd piece of equipment should be a signal tracer, preferably one
with a tube or FET in the probe for RF tracing. I have used this basic
tool over and over to find difficult to find problems and consider it
the most useful basic troubleshooting tool.

I get laughed at when I drag out my old RCA Senior Volt Ohmist, but I
will not give it up, I'm on my 3rd meter movement.

Glenn Sparks KI5GY

3280. Re: FS: HV PS Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: <>
Message-ID: <57fotk$kmt@kocrsv08.delcoelect.com>
Source record: 100240

In <572h01$iqn@news.e-tex.com>, spetri@e-tex.com (Spencer Petri) writes:
>These are 25KV diodes and I did a test run of 1.2Amps at 4 hours.
>Perfect for that big amp. $10 each or 4 for $35 + $3 postage.
>
>73 de Pete WA5JCI
>

3281. Re: Baycom as TNC ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: scicon@ix.netcom.com
Message-ID: <57fupb$19p@sjx-ixn5.ix.netcom.com>
Source record: 100241

In <Pine.LNX.3.95.961125205905.4439A-100000@primeline.net> Gary Tait
<tait@primeline.net> writes:
>
>Does anybody know of any software so that I can use an PC-XT and a
>Baycom modem as a stand alone TNC?
>
>I would prefer something that will work directly off of a floppy
>disk (360 or 720 K, with system)
>
>Gary Tait , VE3VBF
>- Please do not quote US prices, they are no good to me ,here in
Canada -
>

You should be able to download BAYCOM from the web somewhere. I know
it's small enough to run on a 720K diskette.

3282. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Tom <tomc@tiac.net>
Message-ID: <329BE4A7.5B2B@tiac.net>
Source record: 100242
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

FUman wrote:
>
> > In <329a34d2.1706618@news.syspac.com>, dnorris@k7no.com (CDN) writes:
> > >when you tell a joke about a lawyer it is called funny?
> > >hmmmm
>
> Maybe the jokes aren't funny. But neither is what lawyers are helping
> to do to our hobby, our country and our world.
>
> People oftn use humor to release frustration and tension. The cost of
> doing business with and the results of lawyers causes both. No wonder
> there are so many lawyer jokes.
>
> Perhaps if lawyers had a canon of ethics which kept them from taking
> frivolous cases, charging exorbanant rates, raping those who win large
> judgement sums, and taking or making action that hurt groups like
> amateur radio they would have a some respect from the general public.
>
> Of course, some lawyer will try and justify or nullify the above. That's
> what they do.
>
> de kg7fu
>

I won't try to nullify your argument...I'm ready for a return to the wild
west where things got settled with force instead of the law...

3283. Re: Anyone built their own UHF duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: markem@primenet.com
Message-ID: <57gi7r$i9p@nnrp1.news.primenet.com>
Source record: 100243

Ed Burress <edbu@sepia.wv.tek.com> wrote in article
<57d543INN77l@sepia.wv.tek.com>...
>> I ran across the plans recently in the ARRL Antenna book for
>> building your own duplexer for the 2 meter band. I was
>> wondering if anyone has similar plans or pointers to design
>> formulas, plans, etc. for the 70 cm band?
>> I have access to a machine shop, and would like the chalenge
>> of "rolling my own". Another question I had was to find out
>> if anyone has experience with using aluminum for the cavity
>> walls instead of copper? Would this lead to temperature
>> instability, or greater insertion loss? Any references would
>> be appreciated.
>>

I believe there were plans in either Ham Radio or QST several years ago to build 70cm duplexers. I seem to remember they used PC board material.

Maybe someone else will know more precisely when and where the article ran.

Then again, I could be all wrong. They say the memory is the second thing to go...

73... Mark AA7TA

3284. Hampage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <329BD48D.52BF@pactitle.com>
Source record: 100244

Just updated my hamradio page. Lots of new stuff and a few questions.
Also got my 1967 Camaro SS/RS pics up in jpg format so they will load
with Netscape.

Check it out and enjoy!!!!
73
kc6wfs dm04rk
http://www.geocities.com/Hollywood/5860/

--
Dave Booth

3285. Re: Looking for 60KHz WWVB receiver circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <57faap$km@news.icanect.net>
Source record: 100245

ctimmons@asic.sc.ti.com (Clay Timmons) wrote:

->Howdy from Dallas Texas,

->I'm an electronic hobbist working on an ultimate alarm
->clock project. I'm looking for any designs for 60KHz
->WWVB recievers. My clock currently uses a battery
->backed clock chip for timekeeping but I would like
->to upgrate it to use the WWVB signal instead.
->I have built a WWV receiver but I find that the
->signal fades to much from day to night.

->I have seen the article a few years ago in 73 magazine.
->Has anyone built this circuit?

->Any ideas would be appreciated.

->Later-

->Clay Timmons KB5SXS

->ctimmons@asic.sc.ti.com

->

Didn't Heathkit make a clock controlled from WWV/WWVB? Maybe someone
has the schematic

73--Terry/WB4FXD in Ft. Lauderdale, FL
fsimonds@icanect.net

3286. Re: FS: HV PS Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: <>
Message-ID: <57fpi6$kqq@kocrsv08.delcoelect.com>
Source record: 100246

In <572h01$iqn@news.e-tex.com>, spetri@e-tex.com (Spencer Petri) writes:
>These are 25KV diodes and I did a test run of 1.2Amps at 4 hours.
>Perfect for that big amp. $10 each or 4 for $35 + $3 postage.
>
>73 de Pete WA5JCI
>

How do they mount? How do they connect? What is the general form or shape?
What are approximate dimensions? Who is the manufacturer? Any way to find
out the maximum manufacturer's rated current? Enough questions? I thought so!

73,

Roy K9ER

3287. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002611961535110001@news.vcnet.com>
Source record: 100247

In article <19961126144200.JAA07780@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Rich, I think you overlooked this post.
>
> You arbitrarily assigned a value of 50 ohms to the resistor, and .070 uH
> to the inductor. The AL-80 series uses a 100 ohm resistor, not 50. The
> inductance of later units was indeed reduced to ~85 nH,
...snip...
What is the anode resonant frequency in the AL80? You find this with a dipmeter coupled to either side of the dc blocking capacitor. I can not calculate the current distribution without knowing the frequency of the anode resonance. If you do not have access to a dipmeter and an AL80, please let me know and I will call around and see if I can find someone who does.
>
> Your calculations are exact for the values "pulled from your hat", but the
> actual shift in current varies with the actual supperssor.

The values of L and R is the actual values we use in the SB-220, TL-922, 2K-4, and similar 2, 3-500Z amplifiers which use a 3000v anode supply.

> A second factor enters the equation, and this is the critical area. Adding
> nichrome to the primary HF path does almost NOTHING to system Q.
...snip...

First things first. I need to calculate the current distribution for 85nH and 100 ohms, but I can not do it until someone uses a dipmeter and measures the anode resonant frequency in the amplifier that this suppressor is used in.
---
e-mail copies to Mr. Rauch and the Good Source..... mailing list.

--
--Rich-- ag6k, 805-386-3734

3288. Anyone built DJ9BV long yagis ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Steve C <Steve@mjrigby.demon.co.uk>
Message-ID: <0TdBHLAmwxmyEwXR@mjrigby.demon.co.uk>
Source record: 100248

Hi,

I plan to build some DJ9BV long yagis for 144 and 432MHz.

Anyone built some, and have any useful dos and don'ts ?

I plan to use 50R coax rather than the open wire feed, and want to go
for a matching balun like the Eagle Antennas version.

Also, I did see somewhere an address for the insulating rivets in the
UK, anyone know this ??

Thanks
--
Steve C

3289. Re: Anyone built their own UHF duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Cliff Soderback <Cliff-s@worldnet.att.net>
Message-ID: <01bbdbf0$1edf3840$477893cf@worldnet.att.net>
Source record: 100249

Ed Burress <edbu@sepia.wv.tek.com> wrote in article
<57d543INN77l@sepia.wv.tek.com>...
> I ran across the plans recently in the ARRL Antenna book for
> building your own duplexer for the 2 meter band. I was
> wondering if anyone has similar plans or pointers to design
> formulas, plans, etc. for the 70 cm band?
> I have access to a machine shop, and would like the chalenge
> of "rolling my own". Another question I had was to find out
> if anyone has experience with using aluminum for the cavity
> walls instead of copper? Would this lead to temperature
> instability, or greater insertion loss? Any references would
> be appreciated.
>
> Thanks,
> Ed Burress
> KC7GFX
>
Ed:
Several commercial brands are made from Alum. tubing.
Sinclair makes
one from a square Alum. extrusion. The fabrication is not complicated. The
real trick
is to match the coeffcient of thermal expansion between the center tuning
rod
and the expansion of the outer tube cavity. This is done by using metals
of different expansion rates. The goal is to not have the cavity change
freq.
tuning with temp. The easy way would be to borrow one and copy it. The
metal
which is used in the tuning rod is usually Iconal which is a high nickel
content
stainless steel. Motorola made some out of copper sheet pressed into a
square can
and a couple of small copper straps to tune it. Real cintzy, but they sold
a lot
of them for many years. The bad part is they are almost impossible to tune
properly.
A very poor design.

Cliff, W7VVA

3290. Re: balancing tubes: how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Philip Peake <philip@vogon.rain.com>
Message-ID: <329B1383.4A38@vogon.rain.com>
Source record: 100250
Cross-posted to: rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.ssb

Clifford Buttschardt wrote:
>
> What is the better way of balancing tubes such as 3-500Z units? Is is
> better to balance the standing current for a given bias (zero bias in the
> 3-500 units of course) or should the plate current be measured at a give
> RF drive for each tube? One measures the mu of the tube while the second
> approach measures the transconductance. Which is more practical for hams?

Set the standing current (no drive) in each tube to be the
same (adjust bias). Apply drive, and adjust the drive level(s)
to each tube to get the same plate current.

If you are really pedantic, now try halving the drive. If there
is a large difference in plate current, replace the lower reading
tube.

Philip

3291. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <329a34d2.1706618@news.syspac.com>
Source record: 100366
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

kd1nr@anomaly.ideamation.com (Anthony S. Pelliccio) wrote:

>For some absolutely hysterical lawyer jokes surf on over to
>http://cartalk.com and look for the picture of a shark with a tie on. Click
>on it and be launched into a sampling of NOLO Press' favorite lawyer jokes.
>
>Tony

Why is it that when you tell a 'joke' about an Irishman it is called
tasteless; when you tell a joke about a black it is called racist, and
when you tell a joke about a lawyer it is called funny?

hmmmm

cdn

3292. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Mark Bryant <bryant@sohobusiness.com>
Message-ID: <01bbdb3e$8e1f6ca0$a3d879a8@soho>
Source record: 100367
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Have you ever gotten a nasty letter from an Irishman or black? And I and B
don't pretend that they know everything.

M

> Why is it that when you tell a 'joke' about an Irishman it is called
> tasteless; when you tell a joke about a black it is called racist, and
> when you tell a joke about a lawyer it is called funny?
>
> hmmmm
>
> cdn
>
>
>

3293. Re: TH-79A(D) 800Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: CJ Lagos <midnight@us.net>
Message-ID: <01bbdb45$e43e86f0$2f3960cf@general>
Source record: 100368
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

So your saying TH-79E recieves 800Mhz?

1 <ACABAMS@WORLDNET.ATT.NET> wrote in article
<01bbdaed$d2e44460$fe7174cf@default>...
> LOOK AT THE SCHEMATICS THAT CAME WITH THE RADIO. A LEGEND BOX LISTS
WHAT
> PARTS CAME WITH THE NON US VERSIONS.
>
> CJ Lagos <midnight@us.net> wrote in article
> <01bbda7a$b8a7ca90$0a66f0c6@general>...
> > Recently, A message was posted about the TH-79A(D) and 800Mhz. One
> person
> > said that 9 UHF parts were missing from the radio and that they were
> worth
> > about $14.00. I have not been able to contact him via e-mail due to a
> > problem with Worldnet's mail server. Can anyone tell me which parts
they
> > are, where to get them etc ...?
> >
> > I was always under the impression that the radio's logic prevented
> > reception not the actual parts on-board.
> >
> > Thanks again,
> > CJ <midnight@us.net>
> >
>

3294. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961126043600.XAA01376@ladder01.news.aol.com>
Source record: 100369

I have the flu, and may be a bit hazy today, but let me try to reply.

In article <measures-ya023180002511961001360001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:
> Gain-variation has nothing to do with feedback capacitance.

I never said it did. It is a complex function at VHF in a large tube.

>this will decrease your level puzzlement, Tom: The SB-220 has a VHF
>resonance in the input and a VHF resoance in the output. Both resonances
>happen to be around 110MHz. Approximately 0.2pF of capacitance exists
>between the input and the output. At 110MHz, 0.2pF has 8000 ohms of
>reactance. I believe that occasional oscillations at 110MHz can occur in
>the SB-220. The TL-922 has a similar problem at 140MHz, for the same
>reason.

Rich, I think you've looked at the feedback path incompletely or
incorrectly. The input capacitance each tube is 8.3 pF, the feedback
capacitance .07 pF.

With the filament floating perfectly, and the grid grounded, capacitive
feedback is through a 118:1 voltage divider. This of course neglects the
driving impedance of the parallel tubes, perhaps 50 ohms.

The reactance of the feedback path at 100 MHz is through 11,365 ohms Xc,
and the shunt capacitance is 95.5 ohms Xc. Even if the cathode was
resonated by a parallel inductance of 95.5 ohms Xl, the 50 ohm driving
impedance would remain. Voltage division would be through a ~11,000 to 50
ohm divider (with about 90 degrees phase shift).

So if we perfectly resonated the anode and cathode at 100 MHz, we would
have over 46 dB path loss.

Does the gain of a 3-500 tube exceed 46 dB?

What you have failed to see is the oscillation path is not via feedback to
the cathode, it is to the grid. The grid simply looses it's "grounding"
ability due to the shunt capacitance and series inductance of the grid
leads and structure. The cathode is NO part of the oscillation path except
as it couples to the grid. The dominant effect is the anode grid
capacitance, and that's why the grid needs to be compact and the grid
leads need to be very short. We want to move that effect up away from the
operating frequency.

// According to the notes from our telephone conversation in
>1990, you stated that you had worked on over 400 SB-220s, and that many
of

>them had VHF parasitic-oscillation damage. Are you now saying that VLF
is
>what you meant to say?

No, I never said they had VHF damage. I think you have the same tendency we all do, you hear what you like to hear. I only would have said I suspected they had, on occasion, VLF parasitic damage. The grid choke resonates with the parallel capacitors, and the anode blocking capacitor tunes the anode via incorrect loads. With the correct load, we might have a simple TPTG oscillator.

That issue aside, placing any parallel resonant hi Q circuit in the grid leads is idiotic. The grid needs to be grounded with short low impedance leads to the chassis.

That circuit came from what was a good idea, the Collins 30S1 (I think that is the model, the PA with the 4CX1000). In that PA, it provided negative feedback as well as grid current limiting. But it ONLY works in a PA without grid current. Applied to the SB-220, it was a disastrous mistake.

>Tom: What is the grid-resonant frequency in a SB-220 with the
>factory-stock grid circuitry?

I am not positive, it has been over 20 years since I looked at the 220. As I recall it was about 250 kHz with several lower Q resonances below the BCB, and the VHF resonance moved down to less than 90 MHz, depending on lead dress.

>Tom: What is the grid-resonant frequency in a SB-220 with "very very
short
>leads" to ground the grids?

Over 100- 120 MHz.

>Tom: What is the frequency of the anode circuit resonance in an
AL-80...?

That is a complex circuit. There are various frequencies where the reactance crosses zero. Be more specific.

> Tom: You proposed calculating the L/R VHF current-distribution for a
>typical
>3-500Z suppressor. I calculated the VHF current-distribution, and posted
>the results here. Would you prefer to drop this matter?

Current division using simple L/R values is nothing Rich. You used the extreme low reactance range of the suppressor and did it at the low frequency end. Even at that, currents were almost equal. The Q of the non-nichrome suppressor was almost one.

Your claim deals with suppressor Q. My claim was that the resistance dominated the circuit at VHF in a properly designed suppressor, that it was the primary path for VHF currents..while the coil was the primary path

for HF currents. You pushed the example to the edge, still the Q was near ONE with a small conventional suppressor.

Rich, a Q of ~1 is NOT high Q. The conventional suppressor had a Q of 1.14 with a lossless coil. With 5 ohms ESR nichrome it dropped to 1. Is that significant?

Do you really think that very small VHF Q drop has anything to do with less arcing and smoother tuning, or do you think you might be accidentally lowering HF Q?

When you did you suppressor measurements on you Q meter, did you have the resistor in place? If not, your measurements were totally flawed.

I posted the resulting Q change from adding nichrome. Did you find my figures flawed in any way? How much Q change does the nichrome produce? Tell me the wire gauge and I'll do it precisely at two frequencies, at 30 and 100 MHz. Let's see if the nichrome lowers Q more at 100 MHz, or at 30 MHz.

Or would you rather forgo that, and talk about advantages of nichrome. I can think of specific applications where it would be useful for stabilizing a PA.

As per the photons that is silly Rich. Let go of it. Photons are used to explain any energy transfer by electromagnetic disturbances. Your antenna radiates photons, the tank circuit does, so does the tube's filament and anode. Photons are everywhere. You might as well blame the arcing on vibrations. Perhaps a vibration rattles an electron off the cathode and it hits the anode causing a parasitic. That could be why tubes don't last as long in mobile applications, the vibrations shake electrons off and start a parasitic, and the parasitic causes high currents that break the elements of the tube.

When I drop a tube off a shelf, it breaks into oscillation. Tubes should be packed in nichrome packing material, then if they are dropped parasitics won't cause them to fail. That makes just as much sense.

73 Tom

3295. Re: Amplifiers & NASA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961126.004146.4679.0.d.nordquest@juno.com>
Source record: 100370

Rich is surely correct that Challenger shouldn't have been launched. My point, though, was that NASA did not have pictures of 10 previous launches in which fire could be seen -- and was seen -- shooting out the booster rocket's side. That suggests real recklessness. The truth is less melodramatic.

Anyway, Richard Feynman's account can be found in his book "What Do You Care What Other People Think?" A sociologist recently published a book under the title "The Challenger Launch Decision." It handles questions such as Rich raised, but comes to different conclusions.

In another collection of Feynman's writings, "Surely You're Joking, Mr. Feynman," there's a great chapter called "He Fixes Radios By Thinking," which deals with, as I recall, amplifier tubes. I think anyone on this list would love it. Anyway, fixing radios by thinking is what you guys do, while I watch, so have at it.

Dave

3296. Re: Peter Dahl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: sam2316@america.com
Message-ID: <329ad528.2919075@news.america.com>
Source record: 100371

Dan Bryden <bryden@deltanet.com> wrote:

>I've seen Peter Dahl's name listed several times in reference to
>supplying transformers for power amplifiers. Does anyone know where I
>can contact him for more info. Dan

PETER W. DAHL CO. AMATEUR RADIO TRANSFORMER LISTING AS OF 02/19/96.
TELE: (915) 751-2300 5869 WAYCROSS AVENUE EL PASO, TX 79924 FAX: (915)
751-0768. MODEL.

3297. Re: Ham-Homebrew Digest V96 #529

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199611261301.IAA17615@service1.cc.uky.edu>
Source record: 100372

Keith E. Spainhour Worte:
>Subject: Amp help w/ 304tl
>
>Hi, I am looking for some help building an amplifier using a 304tl
>I already have a 3kv supply for the plate supply.....
>Grounded Grid?
You can operate the 304TL grounded grid but for about 900 watts out
you will have to provide 200 watts drive. If you are still interested
I can dig the info out for you. It was published in a old Bill Orr
Radio Handbook. Can't remember which one.
73
Bill wa4lav

3298. KISS complex math

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <19045@s55tcp.ampr.org>
Source record: 100373

I don't remember seeing any exact mathematical calculation for QRO supressors
but I do remember the following rules of complex algebra involved in R/L case.
Let's take R=50 Ohms and L with reactance of 67 Ohms and apply 200 Volts RF.
R current will be 4A and L will carry 3A. Total current will NOT be 7A but
square root of the sum of Ir**2 + Il**2 which equals 5A because of 90 degrees
phase angle. Now we can calculate percentages in AG6K fashion...
But I guess this kind of math in USA might be understand by Oriental students
only while all the others are watching Dow Jones shooting over 7000 mark :-)
I also noticed that Jesse, W6KKT is equal distance from L.A. & Hollywood...
73 de Mario, S56A, N1YU.

3299. Re: KISS complex math

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.204.002FD8EB@azstarnet.com>
Source record: 100374

In article <19045@s55tcp.ampr.org> s56a@s55tcp.ampr.ORG (Marijan Miletic) writes:
>From: s56a@s55tcp.ampr.ORG (Marijan Miletic)
>Subject: KISS complex math
>Date: 26 Nov 96 17:26:17 GMT

>I don't remember seeing any exact mathematical calculation for QRO supressors
>but I do remember the following rules of complex algebra involved in R/L case.
>Let's take R=50 Ohms and L with reactance of 67 Ohms and apply 200 Volts RF.
>R current will be 4A and L will carry 3A. Total current will NOT be 7A but
>square root of the sum of Ir**2 + Il**2 which equals 5A because of 90 degrees
>phase angle. Now we can calculate percentages in AG6K fashion...
>But I guess this kind of math in USA might be understand by Oriental students
>only while all the others are watching Dow Jones shooting over 7000 mark :-)
>I also noticed that Jesse, W6KKT is equal distance from L.A. & Hollywood...
>73 de Mario, S56A, N1YU.

Now Now, Mario

After reading about these "ratios" for days, I too brought this up when I pointed out to Rich that "this ain't DC".

Of course, I was not as succinct as you. I was preferring to, as is said in the literature, leave the solution to the reader <g>.

73, Wes N7WS

3300. Cellular phones for ham use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Thor Wiegman <thorw@sierra.net>
Message-ID: <01bbdb9d$28ca0fe0$0eec87cf@thorw.nidlink.com>
Source record: 100375

Does anyone have any information on converting old cellular mobile phones to do something in the ham bands? I've got a couple of these and would like to build up a 900 MHz link or something like that. Please let me know if you have any info like that.

Thor Wiegman
N7JCT
thorw@sierra.net

3301. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961126144200.JAA07780@ladder01.news.aol.com>
Source record: 100376

Rich, I think you overlooked this post.

You arbitrarily assigned a value of 50 ohms to the resistor, and .070 uH to the inductor. The AL-80 series uses a 100 ohm resistor, not 50. The inductance of later units was indeed reduced to ~85 nH, mainly due to reduced grid lead and anode lengths, but the earlier models (the "A" series) used about 120 nH. Early AL-80 series units had longer grid and anode paths, requiring larger values of inductive reactance. The SB-220, with its' long grid leads, required more inductance also in combination with less resistance. The typical inductance required in these PA's varied somewhat, but was typically in
the 100-200 nH range.

Your calculations are exact for the values "pulled from your hat", but the actual shift in current varies with the actual supperssor.

A second factor enters the equation, and this is the critical area. Adding nichrome to the primary HF path does almost NOTHING to system Q. I have no idea what guage wire you use, but let's look at some typical suppressors when 5 ohms of ESR is added to the inductor Here are the numbers:

With your suggested values of 70 nH and 50 ohms at 100 MHz.
Q = 1.14 (par equiv values (p eq) are 50r and 70 nH
with 5 ohm esr from nichrome.
Q = 1.0 (p eq) = 44.34r and 70.9 nH

With 70 nH and 100 ohms:
Q = 2.3
with 5 ohm esr nichrome
Q = 1.8 (p eq) = 79.7 r and 70.9 nH

With 150 nH and 50 ohms:
Q = 0.53
with 5 ohms esr nichrome
Q = .5 (p eq) 48.6r and 150.4 nH

(This is the typical 220 suppressor, it has almost a 2:1 current ration in the suppressor, with resistor dominant)

With 150 nH and 100 ohms:
Q = 1.06
with 5 ohms esr nichrome
Q = 1.02 (p eq) 94.7r and 150.4 nH

In all cases, the slightest reduction in load resistance across the coil woul do much more than winding the coil out of a 5 ohms loss material. Of course this considers the non-nichrome coil to be lossless, so the actual

reduction in Q would be less.

From this very small reduction in 100 MHz Q, Rich claims all ills of the PA are cured. No melted glass, no photons, no oscillations, no arcs.

Rich, please explain why you go through the bother of adding a nichrome coil when the Q reduction is so very slight? In almost ALL the cases above, removal of 5-10 ohms of parallel resistance would have changed Q the same amount or more.

> At DC, nichrome alloys are about 57 times more resistive than copper. To
>the best of my knowledge, there is no type of wire that has more VHF
>resistance, and produces a lower VHF-Q on a Boonton Q-Meter, than
>nickle-chromium-iron alloys.

If you measured the coil WITHOUT the loading resistor, as I recall you saying, your measurement method was flawed. Add the loading resistor, and measure the CIRCUIT. You will find almost no measureable change in Q until you lower the Boonton's frequency to HF. If you send me a suppressor, I'll measure it on my HP or Wiltron, they go up over 1 GHz.

I think though we can safely conclude making the coil out of nichrome mainly lowers HF Q, NOT VHF Q.

If any of my numbers are wrong, let me know.

73 Tom

3302. Re: Amplifiers & NASA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961126144200.JAA07776@ladder01.news.aol.com>
Source record: 100377

In article <19961126.004146.4679.0.d.nordquest@juno.com>,
d.NOrdquest@juno.COM writes:
>
>Anyway, Richard Feynman's account can be found in his book "What Do You
>Care What Other People Think?" A sociologist recently published a book
>under the title "The Challenger Launch Decision." It handles questions
>such as Rich raised, but comes to different conclusions.

I think Rich is tryng to say organizations lie and try to cover things up.

But organizations don't lie, only the people in them do. This applies to individuals acting alone more than organizations, however. Organizations have checks and balances that prevent this from going on forever.

An organization that doesn't understand their business goes out of business, partially because they waste time and money correcting non-problems. When they finally realize the truth, it is often too late. So it is a self-eliminating problem. Companies that don't know what they are doing, or lie to customers or themselves, die. Companies that are technically strong and honest survive.

Some people lie to themselves, especially when they have a public offering that brings them fame and notoriety. This is pretty common in electronics, a wild theory with no technical merit gets published due to lack of technical review, and it becomes accepted as fact. Eventually, the theory goes so far astray that it falls apart.

Despite mounds of evidence to the contrary, a few people remain believers. Almost like a techno-religion. Most of this occurs in antennas, where circuit theory is difficult to apply and the effect of accelerating charges rippling through the universe at light speed is almost "magical". The only other area of our hobby where it obviously occurs is power amplifiers.

The trend I notice is techno-folklore exists only when the general population is interested in something that is poorly explained. They want to learn, and look for simple answers. The fellow that can give one single answer that applies to any situation is often followed, because even if he is dead wrong.... he is easy to understand.

I see this in my other hobby, automobiles. These wild amplifier and antenna theories are the equal of automotive folklore, such as putting a wooden clothespin or a potatoe on a fuel line to prevent vapor lock.

Myself, I prefer facts when dealing with machines. I save my spiritual side for personal thoughts, and not mystical techo-religious cures. I think I've read enough of this self-contradicting parasite voodoo and the

supporting fabrications (passed off as fact) to last a lifetime.

73 Tom

3303. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002611960656340001@news.vcnet.com>
Source record: 100378

In article <19961126043600.XAA01376@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> I have the flu, and may be a bit hazy today, but let me try to reply.

> In article <measures-ya023180002511961001360001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
> > Gain-variation has nothing to do with feedback capacitance.
>
> I never said it did. It is a complex function at VHF in a large tube.
>
...snip...
>
> Rich, I think you've looked at the feedback path incompletely or
> incorrectly. The input capacitance each tube is 8.3 pF, the feedback
> capacitance .07 pF.

I have seen spec sheets for 0.07pF to 0.1pF. Are you saying that 2 times 0.07pF is 0.07pF? However, it's a moot point because although feedback C is applicable at HF., at VHF, it's a different ballgame. At 110MHz, add 300nH of lead-inductance to the cathode and the 8.3pF vanishes---and in the SB-220, the cathode dips at 110MHz. Oops.

Your explanation of the VHF un-oscillation mechanism in the 3-500Z is too hazy for me to understand. /// Did anyone understand it?

> // According to the notes from our telephone conversation in
> >1990, you stated that you had worked on over 400 SB-220s, and that many
> of
> >them had VHF parasitic-oscillation damage. Are you now saying that VLF
> is
> >what you meant to say?
>
> No, I never said they had VHF damage.

That raises an interesting possibility, Tom. ....After the caller who identified himself as Tom Rauch agreed with me that Heath SB-220s have parasitic oscillation problems which damages components, I told the caller that I had some bad news. I said: Tom Rauch uses virtually the same suppressor-design that Heath uses in the SB-220. At this point, the caller appeared to "loose it"---rather convincingly I might add. The caller began speaking so loudly that I had to remove the receiver from my ear. I laid the receiver down on the table. A third party, who was across the room could hear the caller's voice plainly.
But of course----if the person who telephoned me was an imposter, then it is absolutely, positively, 100% true that the real Tom Rauch did NOT say

that SB-220s suffer from damage due to parasitic oscillations. Since I mentioned the telephone caller loosing-it incident in my rebuttal, now I think I understand why you wrote the letter threatening me and QST with a libel lawsuit if my rebuttal was ever published in QST. ..... OTOH, the caller was curiously insistent that I NOT tape record the conversation.

> >Tom: What is the frequency of the anode circuit resonance in an
> AL-80...?
>
> That is a complex circuit. There are various frequencies where the
> reactance crosses zero. Be more specific.
>
Nah, it's a simple check with a dipmeter, Tom. I'm beginning to get the impression that someone is trying to complicate simple things in order to lay a smokescreen.

Tom: Does the AL-1500 amplifier, which you designed, use a VHF parasitic-oscillation suppressor?
---
e-mail copies to Mr. Rauch and the Good Source..... mailing list.

--
--Rich-- ag6k, 805-386-3734

3304. Looking for 60KHz WWVB receiver circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: ctimmons@asic.sc.ti.com
Message-ID: <57f419$h0k@spock.asic.sc.ti.com>
Source record: 100379

Howdy from Dallas Texas,

I'm an electronic hobbist working on an ultimate alarm
clock project. I'm looking for any designs for 60KHz
WWVB recievers. My clock currently uses a battery
backed clock chip for timekeeping but I would like
to upgrate it to use the WWVB signal instead.
I have built a WWV receiver but I find that the
signal fades to much from day to night.

I have seen the article a few years ago in 73 magazine.
Has anyone built this circuit?

Any ideas would be appreciated.

Later-

Clay Timmons KB5SXS

ctimmons@asic.sc.ti.com

3305. Re: Amplifiers & NASA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002611960807260001@news.vcnet.com>
Source record: 100380

In article <19961126.004146.4679.0.d.nordquest@juno.com>,
d.NOrdquest@juno.COM wrote:

> Rich is surely correct that Challenger shouldn't have been launched. My
> point, though, was that NASA did not have pictures of 10 previous
> launches in which fire could be seen -- and was seen -- shooting out the
> booster rocket's side. That suggests real recklessness. The truth is
> less melodramatic.

Yeah, well when the ground shakes a little in Southern California, by the time the story hits the East Coast media, the 'quake is awesome. NBC might have included three incidents of insignificant incidents of o-ring lakage along with the seven serious ones. In any event, NASA lied about whether or not the astronauts survived the Challenger explosion. NASA prevaricated about the reason why they fired the two safety engineers. The lone-holdout from Morton Thiokol, who refused to sign-off on the launch---who was overruled by his supervisor---told this story: About 5 minutes before launch, he was walking down a hallway when he spotted his supervisor sitting in a room watching the countdown on a TV. The supervisor spotted the lone-holdout and invited him to stay and watch the launch. The supervisor informed the lone-holdout that he had just prayed for 20 minutes to almighty God that the launch would be successful, so not to worry. The lone-holdout sat down beside his supervisor and they watched the launch.

> Anyway, Richard Feynman's account can be found in his book "What Do You
> Care What Other People Think?" A sociologist recently published a book
> under the title "The Challenger Launch Decision." It handles questions
> such as Rich raised, but comes to different conclusions.
>
Hmmm. So Mr. Feynman concludes that NASA was justified in firing (and threatening) the two safety engineers who were trying to get the booster-rocket o-ring problem fixed prior to Mission 25.

> In another collection of Feynman's writings, "Surely You're Joking, Mr.
> Feynman," there's a great chapter called "He Fixes Radios By Thinking,"
> which deals with, as I recall, amplifier tubes. I think anyone on this
> list would love it. Anyway, fixing radios by thinking is what you guys
> do, while I watch, so have at it.
>
Thinking is about half of what I do, Dave. Over the years my 100w, 60w and 25w soldering irons have consumed a modicum of Weller replacement parts.
---
e-mail copy to Mr. Nordquist and the Good Source..... mailing list

--
--Rich-- ag6k, 805-386-3734

3306. tube data/mil gear web site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: n7oo@azgate.nj7p.ampr.ORG
Message-ID: <12403@NJ7P>
Source record: 100381

Bill, NJ7P has been extensively upgrading his web site with tube data and military equipment info, including schematics for some of the mil gear. The site features search engines to quickly determine whether the desired info for a specific tube or mil gear nomenclature exists.

Check it out at: http://linux.hqisec.army.mil

73 de Jack

3307. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <57f5ou$22h@cc.iu.net>
Source record: 100382
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In <329a34d2.1706618@news.syspac.com>, dnorris@k7no.com (CDN) writes:
>when you tell a joke about a lawyer it is called funny?
>hmmmm
>cdn

because a number of high-profile members of the profession diligently slave
to become the ambulance-chaser stereotype that is the root of the gags.

all you gotta do is listen to the radio and tv ads.

one radio station personality locally commented once that for the money the
law firm was paying for the spot, and for the production cost of the spot, the
cost of a professional voice talent would have been peanuts and would
enhance their appearance and remove some of the "used car salesman" image
the founder projects...

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

3308. Re: Audio Compander, Mic preamp and improved Audio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <57f7g1$ik6@service3.uky.edu>
Source record: 100383

In article <3292eefd.1301091@news.upei.ca>, Seeler@upei.ca (David Seeler) says:
>
>Hi _ I am in the process of building a mike preamp/equalizer that
>was described in the Feb 1986 issue of CQ Magazine. The circuit
>uses a Signetics NE580 (or 570?) audio compander to maintain
>constant audio input through the circuit.
>
>Does anyone know of a source (Canadian or US) that has This
>(these) chip(s) and is willing to ship in small numbers? I have
>so far been unable to find a Canadian distributer. Philips has
>taken over Signetics, but I can get no information about their
>availability from the Canadian office.
>
>Thanks for any pointers you might be able to give me!
>
>
>
>Regards,
>David Seeler, VY2DCS
Try to cross reference it in a ECG "transistor" substitution handbook.
I think the refference is ECG-101. The diagram I am have has the top
"sliced" off and it could be 101, 107, 701, or even 707. I will try
to get a better number for you.
Terry

3309. pat bunn oner kits..info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: mckinne <mmckinne@fontbonne.edu>
Message-ID: <329B506B.21DE@fontbonne.edu>
Source record: 100384

pat my e mail had incomplete mail adress for you....
interested in oner kit...where is story of one er to see what it is
mmckinne@fontbonne.edu

3310. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov26.191316.11108@ke4zv.atl.ga.us>
Source record: 100385

In article <18172@s55tcp.ampr.org> S56A@s55tcp.ampr.org writes:
>I am sure KE4ZV supports KISS approach and if we can explain arcing with simple
>model of light load on working frequency, lets refrain from mumbo-jumbo of UFO
>effects in a good tradition of an engineering practice. Catastrophic failures
>are beyond a reasonable price/performance design and are usually covered by
>insurance or guarantee.
>73 de Mario, S56A, N1YU.

I agree that Occam's Razor is usually the best course. Certainly a lot
of reported arcing problems are the result of inadvertent light loading.
But I'm not convinced we can blame all arcs on that. I think we can count
on a gassy tube arcing too, and I wouldn't be surprised if VHF oscillations
might not cause problems in some cases as well. (If there were no chance
of that, no amplifier would have VHF suppressors.) So I think that some
protection is warranted if it can save some expensive parts in the event
of a fault, whatever the cause.

I do think that many of Rich's proposed mechanisms are highly implausible.
OTOH, Tom's rather cavalier explanations don't wash either. Amplifiers *can*
break into oscillation. As Chris Bowick says, "The easiest way to make an
oscillator is to try to build an amplifier." Many oscillators *are* hard
to start, and may only oscillate sporadically. Unless you test under
exactly the right conditions, you may not realize you have an oscillator
until someone experiences the condition in the field. (Most FEBs are
issued when a customer finds a problem in the field and engineering has
to come up with a fix.)

I have come to the conclusion that Rich's nichrome inductors don't
do anything useful at VHF. The shunt R lowers the Q nicely at VHF
without adding any series resistance to the inductor. All that does
is introduce extra loss at HF. In some cases that might be useful
if the parasitic is *also* at HF (unlikely with a GG amp, but more
plausible with a common cathode circuit, though ordinary neutralization
or unilateralization are better ways to deal with that), but otherwise
it just lowers amplifier tank Q to no good result.

If tank Q is too high, that's a design or operational problem, and
needs to be addressed directly rather than being bandaided. I am a
very strong believer in addressing real problems and deplore the idea
of using bandaids to merely mask symptoms of an underlying defect.
OTOH, things fail, and operators make mistakes. Design features
which mitigate the impact of failures or operator errors make sense
if they potentially save more money than they cost. (You wouldn't
leave emergency brakes off a car under the assumption that insurance
will cover the damage when the driver crashes due to lack of backup

when the main brakes fail would you?)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3311. Gamma Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: Tim Johnston - KF4FTP <tim@naxs.com>
Message-ID: <329B78FB.5897@naxs.com>
Source record: 100386

I am a fairly new ham (ticket in Jan 96) and have a question about a gamma match ... what is it? I was listening in to a technical roundtable the other nite about building an HF antenna and feeding it with a gamma match, and was afraid to show my ignorance.

Tnx!
--
Tim Johnston, KF4FTP
E-mail: mailto:tim@naxs.com -or- mailto:70333.406@compuserve.com
Web: http://www.hapcopoles.com

3312. Re: Inexpensive but reliable frequency counter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov26.195159.11361@ke4zv.atl.ga.us>
Source record: 100387

In article <01IC9LIMC5N000LOR1@SNYCORVA.CORTLAND.EDU> OSTERTAGK@SNYCORVA.CORTLAND.EDU (J. Keith Ostertag) writes:
>I'm a new ham and a would-be electronics experimenter (no technical
>background). One item I would like to own is a frequency counter, but I don't
>feel I can justify $300-$400 for a bench model. So I have been looking around
>for a kit or some plans to build one myself. There's one in the latest ARRL
>Handbook (6-digit, 50MHz) which can be bought as a kit for $79 from Radio
>Adventures. I also found two plans in Popular Electronics, a 25MHz 4-digit
>model in the Feb 1995 issue and a 50MHz model in the Nov 1994 issue.
>
>Does anyone have direct experience with any of the above? Or maybe someone can
>offer an alternative? For instance, might it be better for me to buy one
>of those $200 radio frequency counters made by Startek or MFJ?

Buy the Radio Shack counter if you must have a counter. It is surprisingly good considering the source (better than MFJ). It's a lot handier than the kits, has more resolution, and covers a wider frequency range too. One big plus of the RS counter over the Startek is that the RS counter is relatively deaf. That means you can use it without it trying to read every radio station in the county. You really have to couple it to what you want to measure (and that's good because it means you won't be measuring something else and not know it).

IMHO, a counter is a lot less useful than it may at first appear. Counters only give reliable readings when fed pure sinewaves. They will often lock to a harmonic or subharmonic of a typical complex signal. *AND YOU WON'T KNOW THAT.* I'd much rather have a scope, even a relatively cheap import scope, than to have a counter. Of course having both is better.

There are two instruments I consider priority purchases for the electronics experimenter. Those are an *analog* VOM and a scope. Later you can add a DVM, a capacitance checker, a dipmeter, a signal generator, a spectrum analyzer, a communications monitor, a counter, etc. Often the best piece of RF test equipment you can have is a good quality transceiver. It can serve as signal generator and communications monitor, and negates the need for a counter in most cases.

DVMs can be almost as devious as a counter. A good old analog VOM can be much more useful because you can spot trending in the readings. That can often tell you a lot more than the dancing digits of a DVM. It also makes checking electrolytic capacitor leakage and transistor junction leakage easy. IMHO, transistor checkers are mostly frills, a VOM will serve. OTOH, I really like capacitance checkers because they

can read small value capacitors and a VOM can't.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3313. Re: 8 Hz lightning receiver ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: browns@nimue.eng.ohio-state.edu
Message-ID: <57g38c$9na@charm.magnus.acs.ohio-state.edu>
Source record: 100251

In article <32949544.239363@news5.inter.NL.net>,
Bart Mudde <W.B.Mudde@net.HCC.nl> wrote:
>Hello OM, who knows something about a receiver for lightning ?
>I was told, the activities can be monitored with a 8 Hz receiver, but is
>it possible to built something like that. It very very low ofcourse and
>is it true ?
>I am always very curious and interested in thunder etc. so when it is
>possible to built something please let me hear.
>73 es cuagn de Bart PA3GGM.

For a schematic of a 300 kHz receiver, go to
http://www.wenzel.com/pages/mystrylb.htm
and grab the `Lightning detector' (it's down at the bottom of the page.)

--
Steve Brown, N8HFI browns@er4.eng.ohio-state.edu
http://er4www.eng.ohio-state.edu/~browns
Chief Engineer, The Ohio State University Radio Observatory ("Big Ear")

3314. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961127002400.TAA17657@ladder01.news.aol.com>
Source record: 100252

In article <measures-ya023180002511961001360001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Tom: Who is the anonymous Mr. XXX? Why does he list a ficticious Eimac
>e-mail address?.
>
>Tom: Who are/is "they"?.
>
>Tom: What are the names of the people at Eimac, to whom you refer to as
>"it's the
>entire staff", who allegedly say that Mr. Foote and I are wrong about
>gold-sputtering being caused by an oscillation condition?

Rich,

I tried to avoid this, because it would leave you no way out. I really don't enjoy this, but I see no alternative. You've pushed too hard on this issue and impugned my credibility with "stories", so you can have what you demanded.

The former *R+D engineering manager*, Buzz Miklos, of the Salt Lake City Varian plant has agreed to speak to one or two people on the telephone about your theories. He said he will also come on line, but since he just took a position as engineering manager with another tube manufacturer in PA, it will be sometime in January before he is able to connect directly to this newsgroup.

But if you want a quick answer, let's find someone to talk to Mr. Miklos. A second person still at Varian Salt Lake, John Button, will confirm Mr. Miklos' employment status with Varian, and the fact that Mr. Miklos was indeed R+D engineering manager for Varian and a long term employee in power grid tube design and research. Mr. Brandon will also conform Mr. Miklos' qualifications. Incidentally, both Mr. Button and Reid disagree with you completely also.

Mr. Miklos feels, and says his Eimac engineering staff felt, your theories have no merit and display a complete misunderstanding of how a power grid tube operates and the mechanisms of tube failures.

He prefers you not receive his phone number, since he understands you have more time to argue than he does. He will, however, call you if you always promise to include his views whenever you mention the person assigned to answer customer letters, Mr. Foote.

You wanted to know who at Varian disagrees with you. You now have what you have asked for...and perhaps more than you wanted.

Mr. Miklos said my interpretation of grid damage was correct, that the 8877 can only dissipate perhaps two times the rated dissipation (50 watts) before grid damage occurs. He further stated a major cause of gold sputtering is poor alignment between the grid and cathode bands in the tube, or grid dissipations above the 35-50 watt range.

He also says, as I did, gold migrates slowly on its' own accord from normal electron bombardment. Excessive grid current speeds this process. Excessive dissipation makes the gold migration fatal to the cathode in a very short time.

Let's pick someone to call Mr. Miklos. He will confirm all of this, and as much more as needed. Or we can drop all this parasitic nonsense and do better things.

Your move.

73 Tom

3315. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: FUman <kg7fu@rio.com>
Message-ID: <01bbdc0a$ff402c40$9f8260ce@surf.rio.com>
Source record: 100253
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

> In <329a34d2.1706618@news.syspac.com>, dnorris@k7no.com (CDN) writes:
> >when you tell a joke about a lawyer it is called funny?
> >hmmmm

Maybe the jokes aren't funny. But neither is what lawyers are helping to do to our hobby, our country and our world.

People oftn use humor to release frustration and tension. The cost of doing business with and the results of lawyers causes both. No wonder there are so many lawyer jokes.

Perhaps if lawyers had a canon of ethics which kept them from taking frivolous cases, charging exorbanant rates, raping those who win large judgement sums, and taking or making action that hurt groups like amateur radio they would have a some respect from the general public.

Of course, some lawyer will try and justify or nullify the above. That's what they do.

de kg7fu
=20

3316. Re: More Amplifier Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: rfman1@aol.com
Message-ID: <19961127014600.UAA19596@ladder01.news.aol.com>
Source record: 100254

Anyone have information on building a homebrew 6 Meter amp (350-1000 watts).

with a input of atleast 10 watts?

Have been looking every where.

73

3317. Re: Inexpensive but reliable frequency counter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <57gao0$nce@hpscit.sc.hp.com>
Source record: 100255

In article <1996Nov26.195159.11361@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>
>
>IMHO, a counter is a lot less useful than it may at first appear.
>Counters only give reliable readings when fed pure sinewaves.
>They will often lock to a harmonic or subharmonic of a typical
>complex signal. *AND YOU WON'T KNOW THAT.* I'd much rather have
>a scope, even a relatively cheap import scope, than to have a
>counter. Of course having both is better.
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems

This depends on the counter. For cheap "ham" type counters,
this is probably fairly accurate. However, many "universal"
type counters, such as the HP 5334B*, have front ends and triggering
circuits that are practically the same as scopes. I.E., you
can set triggering for positive slope or negative slope, and
set the trigger level as well. There is also adjustable
hysteresis, and the input impedance can be selected to work
with a scope probe (1 Megohm input). BTW, the optimum signal
to feed a universal counter is a square wave, not a sine wave.
This reduces jitter.

Above 100 MHz, most counters go to a prescaler mode, with
50 ohm input only, and no adjustable triggering. However,
there are vast difference in performance between well designed
prescalers and cheap ones. For example, the rather expensive
HP 5386 has a GaAsFET preamplifier and static divider IC.
The less expensive 5334B used Si MMIC preamplifiers and a
dynamic divider IC. The 5386 is more tolerant of "funny"
signals and more tolerant of noise.

*(the author was the R&D project manager for the 5334B counter)

Rick Karlquist, N6RK
rkarlqu@scd.hp.com

3318. TK-370 info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Bruce <radiosys@nld.bravo.net>
Message-ID: <329C67C4.6282@nld.bravo.net>
Source record: 100256

I need kenwood tk-370 programing info. If you have some info or links
for this please e-mail me
Bruce
radiosys@nld.bravo.net

3319. Re: More Amplifier Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Bob Morris K2RK <robrk@fyi.net>
Message-ID: <329BFEE8.2B08@fyi.net>
Source record: 100257

rfman1@aol.com wrote:
>
> Anyone have information on building a homebrew 6 Meter amp (350-1000
> watts).
>
> with a input of atleast 10 watts?
>
> Have been looking every where.
>
> 73
Two minute check of 'shelf.... ARRL Handbooks '78 has a single 3-500z.
'81 has a 4CX1000....'95 has 3cx800.. Bill Orr has 3-400z
Read up on design and do 6146's 5894 etc, etc, etc........

Everywhere ??????????????????????????

3320. Re: Specs 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <329C18E2.73D5@mwt.net>
Source record: 100258

Sonja og Petter Brevik wrote:
>
> I am planning to build a new PA, using the 4-1000 tube. Does anybody
> have more complete specs than the summary found in the handbooks?
>
> 73,
> Petter
> --
> ----> LA7YG
> Petter Brevik
> ï¿½stliveien 15 Tel +47 6707 1846
> 1482 Nittedal Fax +47 6706 1846You can visit Eimac's webpage at http://www.eimac.com/ and request info
on any of their tubes.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

3321. Re: NE602AN Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <329C17CE.4B3C@mwt.net>
Source record: 100259

Rod Fitz-Randolph wrote:
>
> Does anyone have any circuit diagrams for the
> NE602AN? Could you please tell me a source for
> good circuits using this device? Thank you. Rod, W5HVV

Most, if no all, QRP books available from ARRL have circuits using the
NE602 Mixer. These are good starting points...73, Scott (N0EDV)

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

3322. Looking for RF power module S-AV22A (FM 2m)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: chalpm@hqlab.ico.olivetti.COM
Message-ID: <199611270933.BAA09086@mail.ucsd.edu>
Source record: 100260

I am looking for the RF VHF FM power module
(Mitsubishi type S-AV22A), used in the rtx Kenwood TH77E
which is powered with 9-12 V and provides around 5 W.

Could you please tell me how much this item costs
and where I can buy it?

Please send your reply to my e-mail address, as detailed below.

73 de IW1DZD

e-mail address: chalpm@hqlab.ico.olivetti.com

3323. WANTED: good VOX schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Michael Richardson <mrich@u.washington.edu>
Message-ID: <329C1148.4F01@u.washington.edu>
Source record: 100261
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

I'm looking for a good VOX schematic -- something simple, yet
effective.

TIA,

Mike Richardson N5MR/7
mrich@u.washington.edu

3324. Re: Gamma Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: mays@indigo
Message-ID: <57g5nl$25e@mark.ucdavis.edu>
Source record: 100262

: I am a fairly new ham (ticket in Jan 96) and have a question about a
: gamma match ... what is it? I was listening in to a technical
: roundtable the other nite about building an HF antenna and feeding it
: with a gamma match, and was afraid to show my ignorance.
: Tnx!
: Tim Johnston, KF4FTP
: E-mail: mailto:tim@naxs.com -or- mailto:70333.406@compuserve.com

Tim,
The gamma match is a name for the physical hardware on an antenna used to couple the energy/power that comes from your radio through the coax (typical) to the antenna. The common example is the Aluminum tube trombone type for beam antennas, but there are others.

The gamma can be considered a few different things at the same time, matching the typical 50 ohm coax to the driven element of the beam which has a different complex impedance (ac resistance), you could call it a tuner and/or matching network.

Single band antennas have the classic trombone type design which are frequency dependent. Typical Multi band antennas use a varity of designs which are less frequency restricted and a slightly diff physical design.

Pick up an antenna book or some of the amateur catalogs, better yet an ARRL Handbook has it all and it can prob be found at the local library.

73's
skip may wv6f
mays@indigo.ucdavis.edu

3325. TRADE : 2 AD7008's for 'C26 DSK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: tmahanna@ziplink.net
Message-ID: <57h5rl$jm5@zip1.zipnet.net>
Source record: 100263

Anyone got a TMS320C26 DSK to trade for 2 new AD7008's?

-Tom

(617) 783-9384

3326. WANTED TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: ke4ejq@melb.mindspring.com
Message-ID: <57hdom$428@camel4.mindspring.com>
Source record: 100264

Looking for tubes, especially 8908. Does anyone know where to find
them ?

3327. Yaesu FT-107M Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: "P. Belisle" <belisle@contact.net>
Message-ID: <01bbdc6b$6e3ca460$41b3cdcd@belisle>
Source record: 100265

I Have a YAESU FT-107 M to repair,on the LSI
counter unit PB-2086A the counter led driver
MSM9520 made for Yaesu is dead and is not
available fromYaesu . I tried to find in the
IC MASTER an equivalent andso far I have had
no luck would ther be a good soul that could help
me to find either a board or a MSM9520 or an
equivalent six digit driver counter.

Thank you in advance
Pierre Belisle VE2VO

3328. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002711960639110001@news.vcnet.com>
Source record: 100266

In article <19961127002400.TAA17657@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002511961001360001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >Tom: Who is the anonymous Mr. XXX? Why does he list a ficticious Eimac
> >e-mail address?.
> >
> >Tom: Who are/is "they"?.
> >
> >Tom: What are the names of the people at Eimac, to whom you refer to as
> >"it's the
> >entire staff", who allegedly say that Mr. Foote and I are wrong about
> >gold-sputtering being caused by an oscillation condition?
>
> Rich,
>
> I tried to avoid this, because it would leave you no way out. I really
> don't enjoy this, but I see no alternative.
...snip...

OK. I will deal with Mr. Miklos when he comes on the Internet in January.

What is Mr. 'Buzz' Miklos' given first name? Who was Mr. Miklos' immediate supervisor when Mr. Miklos was allegedly employed as"R+D engineering manager" at Varian-Eimac's Salt Lake City division?

Tom:
> Mr. Miklos said my interpretation of grid damage was correct, ...

Congratulations, Tom. However, if Mr. Miklos won't be on the Internet until January, how would he be reading this debate? .... Oops.. ...

You said that Mr. Miklos "further stated a major cause of gold sputtering is poor alignment between the grid and cathode bands " I was not aware that Varian-Eimac was selling amplifier tubes with poor grid/cathode alignment. This is a surprising revelation, Tom. In earlier times, Eimac-quality was excellent. In fact, all of the gold-sputtered tubes I cut open and inspected for the article "Parasitics Revisited" appeared to have correct alignment between the grid and the cathode.

Tom: You said "I tried to avoid this,... ..."---like hang on to your hats, folks, here it finally comes. (trumpets heard off-stage) However, after the smoke and fanfare drifted away, it was abundantly clear to us that you did NOT reveal the name of the anonymous Mr.XXX.

Tom: What is the anode-resonant frequency in the AL-80? Why do you appear to be avoiding the answer to this question?

Tom Does the AL-1500 8877 amplifier, which you designed, use a VHF parasitic oscillation suppressor? Why do you appear to be avoiding the answer to this question?

---

e-mail copies to Mr. Rauch and the Good Source... mailing list

--

--Rich-- ag6k, 805-386-3734

3329. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: rstevens@voicenet.com
Message-ID: <57gokd$dvu@news1.voicenet.com>
Source record: 100267

Let's see here. Is this a 15-rounder, or an unsanctioned non-title fight?

I would have to deduct a point from Mr. Measures for taunting, and award a point to Mr. Rauch for even-temperedness.

However, on these and one other issue on which I am in need of guidance (whether or not to short unused turns in a T-match rotary inductor), I must plead OJ-Jury-Syndrome: it's like the DNA evidence--too complicated--discount it, effectively throwing it out. All I know for sure is that QRO amplifiers look great on their web page, and I need an amp. Although they sure have saved some parts in that HF-2500 with no tuned input circuits.

While Nero fiddles, Svetlana may be getting their act together, which could be good news for all of us (cheaper amps).

Just one idiot's opinion.

73, Roger WA3FLE
Norristown, PA
(Visit my webpage at http://www.voicenet.com/~rstevens)

In article <19961127002400.TAA17657@ladder01.news.aol.com>, w8jitom@aol.com says...
>
>In article <measures-ya023180002511961001360001@news.vcnet.com>,
>measures@mail.vcnet.com (R. L. Measures) writes:
>
>>Tom: Who is the anonymous Mr. XXX? Why does he list a ficticious Eimac
>>e-mail address?.
>>
>>Tom: Who are/is "they"?.
>>
>>Tom: What are the names of the people at Eimac, to whom you refer to as
>>"it's the
>>entire staff", who allegedly say that Mr. Foote and I are wrong about
>>gold-sputtering being caused by an oscillation condition?
>
>Rich,
>
>I tried to avoid this, because it would leave you no way out. I really
>don't enjoy this, but I see no alternative. You've pushed too hard on this
>issue and impugned my credibility with "stories", so you can have what you
>demanded.
>
>The former *R+D engineering manager*, Buzz Miklos, of the Salt Lake City
>Varian plant has agreed to speak to one or two people on the telephone

>about your theories. He said he will also come on line, but since he just
>took a position as engineering manager with another tube manufacturer in
>PA, it will be sometime in January before he is able to connect directly
>to this newsgroup.
>
>But if you want a quick answer, let's find someone to talk to Mr. Miklos.
>A second person still at Varian Salt Lake, John Button, will confirm Mr.
>Miklos' employment status with Varian, and the fact that Mr. Miklos was
>indeed R+D engineering manager for Varian and a long term employee in
>power grid tube design and research. Mr. Brandon will also conform Mr.
>Miklos' qualifications. Incidentally, both Mr. Button and Reid disagree
>with you completely also.
>
>Mr. Miklos feels, and says his Eimac engineering staff felt, your theories
>have no merit and display a complete misunderstanding of how a power grid
>tube operates and the mechanisms of tube failures.
>
>He prefers you not receive his phone number, since he understands you have
>more time to argue than he does. He will, however, call you if you always
>promise to include his views whenever you mention the person assigned to
>answer customer letters, Mr. Foote.
>
>You wanted to know who at Varian disagrees with you. You now have what you
>have asked for...and perhaps more than you wanted.
>
>Mr. Miklos said my interpretation of grid damage was correct, that the
>8877 can only dissipate perhaps two times the rated dissipation (50 watts)
>before grid damage occurs. He further stated a major cause of gold
>sputtering is poor alignment between the grid and cathode bands in the
>tube, or grid dissipations above the 35-50 watt range.
>
>He also says, as I did, gold migrates slowly on its' own accord from
>normal electron bombardment. Excessive grid current speeds this process.
>Excessive dissipation makes the gold migration fatal to the cathode in a
>very short time.
>
>Let's pick someone to call Mr. Miklos. He will confirm all of this, and as
>much more as needed. Or we can drop all this parasitic nonsense and do
>better things.
>
>Your move.
>
>73 Tom

--
Roger W. Stevens (rstevens@voicenet.com)
amprnet: wa3fle@wa3fle.ampr.org [44.80.12.33]
ax25: WA3FLE@WB3JOE.#EPA.PA.USA.NA
"Be a Hero--Be a Donor!"--Mickey Mantle

Visit my homepage at http://www.voicenet.com/~rstevens

3330. Re: More Amplifier Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: grhosler1@mmm.com
Message-ID: <57hkl0$f46@dawn.mmm.com>
Source record: 100268

Bob Morris K2RK <robrk@fyi.net> wrote:

>rfman1@aol.com wrote:
>>
>> Anyone have information on building a homebrew 6 Meter amp (350-1000
>> watts).
>>
>> with a input of atleast 10 watts?
>>
>> Have been looking every where.
>>
>> 73
>Two minute check of 'shelf.... ARRL Handbooks '78 has a single 3-500z.
>'81 has a 4CX1000...'95 has 3cx800.. Bill Orr has 3-400z
>Read up on design and do 6146's 5894 etc, etc, etc........

>Everywhere ??????????????????????????

Check out the handbooks in the early 80's. For instance the 1981 ARRL Handbook has in addition to the above mentioned 4CX1000, a nice single 4CX250B based amp. 10 watts of drive will result in about 500 watts PEP. You might also check out the July 85 issue of 73. Nice article on a 6M 4-1000 brute. The 23rd edition (and I'm sure others) of Bill Orr's Radio Handbook has a design for a 3-400Z or 3-500Z. This one will produce a KW for 35 watts of drive. I could go on listing other sources but don't think that is necessary. 6M amp designs abound! Not sure where you have been looking but I'd find a different source or find a good Elmer.

de KN0Z Gary

3331. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: kd6clo@radio.org
Message-ID: <NEWTNews.849120461.19442.kd6clo@kd6clo.radio.org>
Source record: 100269
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In Article<01bbdc0a$ff402c40$9f8260ce@surf.rio.com>, <kg7fu@rio.com> writes:
> Path: news.radio.org!metro.atlanta.com!news.he.net!www.nntp.primenet.com!nntp.primenet.com!howland.erols.net!newsfeed.internetmci.com!news.rio.com!news
> From: "FUman" <kg7fu@rio.com>
> Newsgroups: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space
> Subject: Re: ARRL lawyer to sue member
> Date: 27 Nov 1996 02:28:05 GMT
> Organization: kg7fu
> Lines: 25
> Message-ID: <01bbdc0a$ff402c40$9f8260ce@surf.rio.com>
> References: <01bb739f.8e9f00c0$7f8260ce@surf.rio.com> <32883836.4DD2@rcru.rl.ac.uk> <56clho$8cp$4@news3.microserve.net> <57a3vj$n9m@news3.texas.net> <57ac8a$1hd@anomaly.ideamation.com> <329a34d2.1706618@news.syspac.com> <57f5ou$22h@cc.iu.net>
> NNTP-Posting-Host: p59.t0.rio.com
> Mime-Version: 1.0
> Content-Type: text/plain; charset=ISO-8859-1
> Content-Transfer-Encoding: quoted-printable
> X-Newsreader: Microsoft Internet News 4.70.1155
> Xref: news.radio.org rec.radio.amateur.antenna:16645 rec.radio.amateur.digital.misc:9027 rec.radio.amateur.dx:1192 rec.radio.amateur.equipment:24086 rec.radio.amateur.homebrew:11023 rec.radio.amateur.misc:29505 rec.radio.amateur.policy:12573 rec.radio.amateur.space:3862
>
> > In <329a34d2.1706618@news.syspac.com>, dnorris@k7no.com (CDN) writes:
> > >when you tell a joke about a lawyer it is called funny?
> > >hmmmm
>
> Maybe the jokes aren't funny. But neither is what lawyers are helping
> to do to our hobby, our country and our world.
>
> People oftn use humor to release frustration and tension. The cost of
> doing business with and the results of lawyers causes both. No wonder
> there are so many lawyer jokes.
>
> Perhaps if lawyers had a canon of ethics which kept them from taking
> frivolous cases, charging exorbanant rates, raping those who win large
> judgement sums, and taking or making action that hurt groups like
> amateur radio they would have a some respect from the general public.
>

> Of course, some lawyer will try and justify or nullify the above. That's
> what they do.
>
>
> de kg7fu
> =20
>
>
>
YEA! YOU TELL'EM JAMES!!!!!!!!!!!!!!!!!!!!!!!!!

de kd6clo :)

3332. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961127154600.KAA28742@ladder01.news.aol.com>
Source record: 100270

In article <19961127002400.TAA17657@ladder01.news.aol.com>,
w8jitom@aol.com writes:

>
>Your move.
>
>73 Tom

Great work Tom!

I follow this thread with anticipation as do many more.

I can't talk 'tubes' like you and Rich do but I do some repair on
amps you all have mentioned.

Rich's grid dissipation rules would sell alot of replacement tubes.
Although I'm sure the warranty would fade away fast.

Enough of that.

Can you tell me why 4 472B PENTA tubes in a Clipperton L lasted
only a few days. I replaced the original tubes and they are still working
but at reduced output which was the reason to buy the new tubes. The
new tubes fell to 100 watts out on 10. Nothing was changed in the
amp..nothing.
Same exciter - FT-767.
Just bad tubes?

Carl The2x4
N9EFJ

3333. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961127163100.LAA29426@ladder01.news.aol.com>
Source record: 100271

In article <measures-ya023180002611960656340001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>n article <19961126043600.XAA01376@ladder01.news.aol.com>,
w8jitom@aol.com
>wrote:
>
>> I have the flu, and may be a bit hazy today, but let me try to reply.
>> In article <measures-ya023180002511961001360001@news.vcnet.com>,
>> measures@mail.vcnet.com (R. L. Measures) writes:
>> > Gain-variation has nothing to do with feedback capacitance.

Tom said
>> I never said it did. It is a complex function at VHF in a large tube.

>> Rich, I think you've looked at the feedback path incompletely or
>> incorrectly. The input capacitance each tube is 8.3 pF, the feedback
>> capacitance .07 pF.
>
>I have seen spec sheets for 0.07pF to 0.1pF. Are you saying that 2 times
>0.07pF is 0.07pF? However, it's a moot point because although feedback C
>is applicable at HF., at VHF, it's a different ballgame. At 110MHz, add
>300nH of lead-inductance to the cathode and the 8.3pF vanishes---and in
the
>SB-220, the cathode dips at 110MHz. Oops.

That's either technical stupidity or the obvious "distortion of facts
game" you like to play Rich.

1.) First, you indicated the P/K feedthrough C was the problem, not me.

2.) I gave the feedback Xc for 0.14 pF (two tubes) , and the shunt
resistance for the driving impedance of two tubes if the cathode was
resonant.

3.) The feedthrough capacitance is internal to the tube, and so the lead
reactance can not cancel the anode-cathode capacitance.

4.) Resonating the cathode would have little or no effect on stability in
a GG PA, the gain is too low and the feedback of the wrong phase.

5.) I actually intentionally resonate the cathode at the third harmonic of
ten and fifteen meters in some PA's to increase efficiency without hurting
IMD or stability.

As usual, your wild guess falls apart upon examination.

>Your explanation of the VHF un-oscillation mechanism in the 3-500Z is too
>hazy for me to understand. /// Did anyone understand it?

Let me clarify it for you. The cathode to anode capacitance is almost always an insignificant part of any stability problem. It is primarily a grid anode problem, but it is a complex problem.

The only case I recall where it is becomes a problem is in the Amp Supply LA-1000 where the control grid is tied to the cathode directly. In that PA, it will oscillate on ten and 15 meters if the loading control is closed and the tuning control rotated. But then, the control grid is tied to the cathode directly. This is still not a VHF oscillation, but rather an HF oscillation.

>> // According to the notes from our telephone conversation in
>> >1990, you stated that you had worked on over 400 SB-220s, and that
many
>> of
>> >them had VHF parasitic-oscillation damage. Are you now saying that
VLF
>> is
>> >what you meant to say?

Are these "notes" as accurate and straight forward as your "notes" from the Foote conversation? Did you save "notes" from the Eimac conversations where, in long telephone conversations, the staff explained why you were incorrect?

>> No, I never said they had VHF damage.
>
>That raises an interesting possibility, Tom. ....After the caller
who
>identified himself as Tom Rauch agreed with me that Heath SB-220s have
>parasitic oscillation problems which damages components, I told the
caller
>that I had some bad news.<snip>

Rich, you seem to be losing control. Wild accusations and personal attacks on my character have no place in technical discussions. Your theories either stand on their own merit, or they don't.

The only thing you were ever told, was if you personally slander or tell malicious lies about anyone it might be cause for legal action. That was because of your history of inventing or distorting stories to impugn other persons character.

Life is quite simple Rich. If you confine yourself, like an intellegent gentleman, to the facts and issues, you don't have to be threatened. Say anything you want technically, and anything you say will be fine.

The very reason the person at CPI requested I not allow his name into this conversation is he felt you have a history of public exaggeration, personal attack and slander. That is also the very reason people at Eimac are hesitant to speak to you, they are concerned about being slandered or

personally attacked for merely disagreeing with you. They are afraid that what they say in private conversation will be distorted to suit your personal needs and aired publicly.

You, after failing to respond with good technical answers to questions, have now taken the approach of "if I can't get Tom technically I'll get him personally".

You may have no idea how that behavior makes you look. Most people are intellegent enough to realize technical discussions are technical, and not personal. If I came at you like that, no matter how correct I was technically, most people would be disgusted and write me off as a complete ass.

One offer remains, the former R+D engineering manager has agree to talk to one or two people and explain that your theories are incorrect. He refuses to allow you his phone number (because of the behavior outlined above), but will call you.

If you wish to end this at this point, I understand. I have to say I hoped you would remain a gentleman, I am very disapponted in your behavior. This is not 40 meters. Calm down and think before you reply, please don't be so emotional in public. If you want to cuss me out or call me names, you can do it over the telephone again. But you'll have to pay for the call ! :-)

If you wish to have a technical discussion, get back to the issues and out of the personal attack mode. Do you still want Mr. Miklos and others input? It can now be arranged. You have what you asked for, Varian's engineering and tube designer's final word.

73 Tom

3334. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961127163100.LAA29424@ladder01.news.aol.com>
Source record: 100272

In article <1996Nov26.191316.11108@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>I do think that many of Rich's proposed mechanisms are highly implausible.
>OTOH, Tom's rather cavalier explanations don't wash either. Amplifiers *can*
>break into oscillation.

I never said amplifiers "can't" oscillate. I just indicated that by proper design and testing the likelyhood of oscillation can be reduced to zero. My point was a properly operating PA does not go happily along for weeks, months or years and suddenly require a transfusion of nichrome.

My point is a linear PA with near critical feedback doesn't suddenly break into oscillation and produce currents that destroy components like tubes. The very mechanics of oscillation prevent that, let alone emission limits in the tube.

By far the most destructive oscillations are those that occur near the operating frequency. Dentron Clippertons do this, because the 4 572B tubes are unstable in the upper HF regon.

In over 20 years of commercial PA design and 34 years of amateur PA design and construction I have never found a PA that "oscillates" in the field through a defect or fault rooted in the PA that can not be made to oscillate in a test situation.

That's not a guess, it's a fact.

73 Tom

3335. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <329C69DF.36D2@mail.teclink.net>
Source record: 100273

>>AG6K math in calculating R/L current percentages on straight sum is WRONG!
>>Supressor inductance on VHF would affect oscilations by changing the phase
>>angle and not solely by reactance value.<<

Hi Mario-

OK. But.....what guarantees that the phase shift you refer to will
dampen a potential oscillation, rather than *add* to it?

As some others have said, it's a complex situation......

73, Tom KJ5IE
(2000 miles from Hollywood)

3336. Re: Ham-Homebrew Digest V96 #532

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: aa6eg@tmx.COM
Message-ID: <Pine.LNX.3.91.961127083906.17029A-100000@tmx.com>
Source record: 100274

Re Amplifier using 304tl tube.....
Many transmitting tubes become defective with age, even if stored carefully, due to gas intrusion through the metal to glass seals over time. The 304 TL tube is a very old design....you might want to verify it's usable condition before you design an amp around it. Also, to design an amp is a very satisfying project. I wish you luck, and also, I found that friendly talks with FM broadcast engineers, particularly with those who mainain 1 or 2 kw FM stations to be valuable. Many use 4-400A based transmitters, and sometimes have spare tubes available to radio amateur builders....I built my first KW amp around 4-400A tubes that I got at no cost from the local broadcast engineers...
good luck....
de Pat, AA6EG, aa6eg@tmx.com

3337. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002711960846440001@news.vcnet.com>
Source record: 100275

In article <57gokd$dvu@news1.voicenet.com>, rstevens@voicenet.com (Roger Stevens) wrote:

> Let's see here. Is this a 15-rounder, or an unsanctioned non-title fight?
>
> I would have to deduct a point from Mr. Measures for taunting, and award a
> point to Mr. Rauch for even-temperedness.

Mr. Rauch has repeatedly not answered simple questions like whether or not he incorporated a VHF parasitic- oscillation suppressor in the design of his AL-1500 amplifier. The answer is either yes or no.

Mr. Rauch proposed that I calculate the VHF current distribution in the AL-80's parasitic suppressor. Three things are needed to do the calculations. L, R and the frequency (of the anode resonance). Mr. Rauch states that L is 85nH, that R is 100 ohms, but despite an abundance of requests from me, he has so far not stated what the frequency is.

ï¿½ Roger: how many points would you award to each pugilist for evasiveness?
>
> However, on these and one other issue on which I am in need of guidance
> (whether or not to short unused turns in a T-match rotary inductor), I must
> plead OJ-Jury-Syndrome: it's like the DNA evidence--too complicated.

If you enjoy seeing eyebrow-raising, eye-popping, coil-to-frame arcing at the open end of the inductor, DO NOT short the unused turns. OTOH, if you would rather loose a few watts, and forgo the arcing, short the unused turns.

However, I absolutely, positively, 100% have no idea whatsoever how one can gash one's finger on a cellphone.

Alas, this debate was not my idea, Roger. Since 1990, Mr. Rauch has indicated that he wanted a public debate with yours truly about the subject of parasitics. Debating with Mr. Rauch has so far been like trying to play poker with a guy who proudly declares he has the winning hand, but refuses to lay his cards on the table.
---
e-mail copies to Messrs. Clark, Rauch and the Good Source... mailing list.

--
--Rich-- ag6k, 805-386-3734

3338. ? Mitsubishi Semiconductor Homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <1996Nov27.175000.1895.79611@descn121.oen.siemens.de>
Source record: 100276

Hello all,

The page

http://design-net.com/cgi-bin/dlsrch

is a good page to request datasheets of Motorola's RF power devices.

But, does anyone know if and where to request the datasheets of Mitsubishi'=
s =
power devices? I think they should be considered if someone is looking for =
power amps on hf and vhf, but do not know where to get the datas.

vy 73, Guenter, DL4MEA=40DB0KCP.=23BAY.DEU.EU (AX.25)
dl4mea=40amsat.org (Internet)
http://www.scn.de/=7Ekoellner (WWW)

3339. Re: Looking for RF power module S-AV22A (FM 2m)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <57hs9c$3gq@li.oro.net>
Source record: 100277

chalpm@hqlab.ico.olivetti.COM shared these priceless pearls of wisdom:

->I am looking for the RF VHF FM power module
->(Mitsubishi type S-AV22A)

I believe (although am not positive) that the actual mfg. is Toshiba; I've gotten mine from an outfit called RF Parts, in San Marcos CA. Regrets I don't have their phone number or email address.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company -- and I'm damned proud to do so.
Grass Valley CA 95945 | Airport: O17 (Grass Valley Intentional Airpatch)
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---C-182A N73CQ
jim@rst-engr.com | Comm'l/CFI-Airplane/Glider-A&P-FAA Counselor

3340. Re: Looking for RF power module S-AV22A (FM 2m)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Dave Maley <dgmaley@inav.net>
Message-ID: <329C753D.48F6@inav.net>
Source record: 100278

chalpm@hqlab.ico.olivetti.COM wrote:
>
> I am looking for the RF VHF FM power module
> (Mitsubishi type S-AV22A), used in the rtx Kenwood TH77E
> which is powered with 9-12 V and provides around 5 W.
>
> Could you please tell me how much this item costs
> and where I can buy it?
>
> Please send your reply to my e-mail address, as detailed below.
>
> 73 de IW1DZD
>
> e-mail address: chalpm@hqlab.ico.olivetti.com
>
>

Check with Richardson Electronics. They normally sell big transmitting
tubes, but are starting to sell these things. Dave WA0ZZG

3341. Re: KISS complex math

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <329C6D3E.7DCB@mail.teclink.net>
Source record: 100279

Marijan Miletic wrote:
>
> I don't remember seeing any exact mathematical calculation for QRO supressors
> but I do remember the following rules of complex algebra involved in R/L case.
> Let's take R=50 Ohms and L with reactance of 67 Ohms and apply 200 Volts RF.
> R current will be 4A and L will carry 3A. Total current will NOT be 7A but
> square root of the sum of Ir**2 + Il**2 which equals 5A because of 90 degrees
> phase angle. Now we can calculate percentages in AG6K fashion...
> But I guess this kind of math in USA might be understand by Oriental students
> only while all the others are watching Dow Jones shooting over 7000 mark :-)
> I also noticed that Jesse, W6KKT is equal distance from L.A. & Hollywood...
> 73 de Mario, S56A, N1YU.

Hi Mario-

Well, unless I missed something, the total current through the
suppressor was not the point of disagreement. It was how the current
was divided between the inductor and the resistor.

In your example above, how does the phase shift alter the balance of
current between the two legs of the circuit?

Thanks and 73,

Tom KJ5IE

3342. Re: KISS complex math

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <329C6DC2.123@mail.teclink.net>
Source record: 100280

>But I guess this kind of math in USA might be understand by Oriental students
>only while all the others are watching Dow Jones shooting over 7000 mark :-)

Last time I checked, Tom was in the USA too. <g>

73, Tom KJ5IE

3343. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961127183500.NAA01686@ladder01.news.aol.com>
Source record: 100281

Hi Carl,

Would you (or any other person) like to talk to Mr. Miklos about tubes, and report back to us about his opinions of Measures articles and suggestions? He hasn't the time to get on now, but he would be willing to answer questions on the land line.

If you had time, a few other Eimac and ITT design engineers might also be located. You could tell us in your own words what their opinions of Rich's theories are.

In article <19961127154600.KAA28742@ladder01.news.aol.com>, the2x4@aol.com writes:

>Can you tell me why 4 472B PENTA tubes in a Clipperton L lasted
>only a few days. I replaced the original tubes and they are still working
>but at reduced output which was the reason to buy the new tubes. The
>new tubes fell to 100 watts out on 10. Nothing was changed in the
>amp..nothing.
>Same exciter - FT-767.
>Just bad tubes?

I don't know Carl. Anything I say would be a guess, unless I had much more information. I am working with some 572B's now in a homebrew PA, but the circuit I have used is quite different than the Dentron.

I don't think highly of the Dentron design. It has a very poor layout, and the tubes are not neutralized. I am also not sure of the reliabilty or service history of Penta 572B's.

I'd like to have any information I could about them. Did the tubes work correctly initially? Can you describe in detail how the failed? Do the old tubes still work the same? Who was the vendor, what was the country of origin?

73 Tom

3344. looking for low ppm trim pots

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Chris Mesibov <mesibov@unix.asb.com>
Message-ID: <329C9941.6C69@unix.asb.com>
Source record: 100282

Looking for some good sources that have "RJR" style trimmer pots with low tempco. Dale/Vishay is quoting me 6 weeks on a 17s102! Who has stock?

Thanks,
Chris

3345. Re: W Heath HP-20 Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <57i2hm$k24@sf18.dseg.ti.com>
Source record: 100283

Dennis,

You might write to Marty Drift, WB2FOU, and see if he has this manual. He's a Heathkit collector, and I know he has an HP-20 (he got it from me several years ago). He's listed in the QRZ database (Blawenburg, New Jersey).

73 de KC5NG

In article <329A81FA.3117@ecentral.com>, dedinger@ecentral.com says...
>
>I need a schematic for a Heath HP-20 power supply. Please e-mail me at
>dedinger@ecentral.com for arrangements, or I am good in the QRZ
>database.
>
>de Dennis/w0gd

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3346. Re: Looking for RF power module S-AV22A (FM 2m)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <57i2ki$k24@sf18.dseg.ti.com>
Source record: 100284

SAV22A $44.95 plus s/h from RF Parts Company 1-800-RF-PARTS

73 de KC5NG

In article <199611270933.BAA09086@mail.ucsd.edu>,
chalpm@hqlab.ico.olivetti.COM says...
>
>
>I am looking for the RF VHF FM power module
>(Mitsubishi type S-AV22A), used in the rtx Kenwood TH77E
>which is powered with 9-12 V and provides around 5 W.
>
>Could you please tell me how much this item costs
>and where I can buy it?
>
>Please send your reply to my e-mail address, as detailed below.
>
>73 de IW1DZD
>
>
>e-mail address: chalpm@hqlab.ico.olivetti.com
>
>

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3347. Re: Looking for RF power module S-AV22A (FM 2m)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: timh@xetron.com
Message-ID: <E1JI6K.80K@xetron.com>
Source record: 100285

RF Parts (800)RF-PARTS orders. ((619)744-0750 Technical questions.
(619)744-1943 FAX

SAV22A 144-148MHz (130-160MHz BW Max), Pin=15mW, Pout=7W. $46.95(qty. 1-4)

In article <199611270933.BAA09086@mail.ucsd.edu>, chalpm@hqlab.ico.olivetti.COM
says...
>
>
>I am looking for the RF VHF FM power module
>(Mitsubishi type S-AV22A), used in the rtx Kenwood TH77E
>which is powered with 9-12 V and provides around 5 W.
>
>Could you please tell me how much this item costs
>and where I can buy it?
>
>Please send your reply to my e-mail address, as detailed below.
>
>73 de IW1DZD
>
>
>e-mail address: chalpm@hqlab.ico.olivetti.com
>
>

--
Timothy W. Huster
http://www.xetron.com/~timh timh@xetron.com
"...and Dad! Just wait a Minute, for a Second!" Andrew H. age 4

3348. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961127183500.NAA01685@ladder01.news.aol.com>
Source record: 100286

In article <measures-ya023180002611961535110001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>What is the anode resonant frequency in the AL80? You find this with a
>dipmeter coupled to either side of the dc blocking capacitor. I can not
>calculate the current distribution without knowing the frequency of the
>anode resonance. If you do not have access to a dipmeter and an AL80,
>please let me know and I will call around and see if I can find someone
who
>does.

>First things first. I need to calculate the current distribution for
85nH
>and 100 ohms, but I can not do it until someone uses a dipmeter and
>measures the anode resonant frequency in the amplifier that this
suppressor
>is used in.

Resonance tells us nothing about impedance, except the reactance cancels
or crosses zero. Even though you do not understand VAR power, phase shift,
or Q I still expect you should understand a very simple concept like
resonance!

A circuit at resonance could look like zero ohms, infinite impedance, or
anything in between. So even if we know the frequency of resonance, we
know nothing about the impedance of the circuit and can do no
calculations.

Why ask for meaningless data? What is it you want to do, and I will tell
you what numbers you need to do that.

Tom

3349. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: jaykq4ms@ipass.net
Message-ID: <329c84ef.7445476@news.ipass.net>
Source record: 100287
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

rickets@earthlink.com (Dave Rickmers) wrote:

>n1btq@tiac.net (Tim Smith) wrote:
>
>
>>Can you tell me what the s/w is called and where I could d/l it?
>>
>>> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
>>> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
>>>
>>> sbfft11.zip Sound Blaster spectral display and filtering
>dr
Is the software anywhere else on the net?? I can't connect to
simtel.net for some reason. Netscape keeps giving me "no DNS entry"

Thanks
Jay
jaykq4ms@ipass.net

3350. Re: Band pass filter for 144MHz reqd?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Steve C <Steve@mjrigby.demon.co.uk>
Message-ID: <OYw$VAAVIKnyEwpM@mjrigby.demon.co.uk>
Source record: 100288

Hi Ian,

>Is this the right question?

Well, I think so..

The prob is thus:

I operate on a portable site near a commercial mast. We get some QRM
which shuts down the rig almost completely. I think this is caused by
the mast, maybe taxi band, or even police YK type repeaters.

My idea is to band stop all but 2m and see the results.

I dont always use the same rig, so I want a filter to put in line,
preferably after the amp, so that if it works, I can have it before the
amps' pre-amp.(Not got mast-head :-(

>Very cheap and effective harmonic notch filters cut from ordinary coax
>were described by G4SWX in RadCom about a year ago.

Now this is a good point, I had overlooked this.

(Has been to work and tried it...)

I tried a simple quarter wave stub, which gave a great notch, and tried
shorting it.(Was sure read shorted stub opposite of open) but not really
any good.Just a notch at 2 lambda.
Is there a simple coax bandpass I can try ?? (I can sweep from 400hz to
2500Mhz, so can look all over...)
I did notice the notch was only about -40dB (though our power head
doesn't go much lower, it wasn't noisy at all so I trust it) and
sometimes was only -30dB.

>If this is a breakthrough problem, you can probably have your station
>officially inspected and your equipment checked by the Radio
>Investigation Service at no charge - e-mail me for details.
>(Limited offer, applies in Britain only :-)

I've used the open quarter wave (if remember right) as filters for
neighbours, worked very well.(Which is why I should have thought of a
coax filter :-)

Thanks for the reply..
--
Steve C

3351. Re: Gamma Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Steve C <Steve@mjrigby.demon.co.uk>
Message-ID: <kIS1xAAciKnyEwsQ@mjrigby.demon.co.uk>
Source record: 100289

In article <329B78FB.5897@naxs.com>, Tim Johnston - KF4FTP
<tim@naxs.com> writes
>I am a fairly new ham (ticket in Jan 96) and have a question about a
>gamma match ... what is it? I was listening in to a technical
>roundtable the other nite about building an HF antenna and feeding it
>with a gamma match, and was afraid to show my ignorance.
>
>Tnx!
Hi Tim,

A gamma match is a good way to feed an unbalanced feeder (coax) to a
balanced antenna (the dipole on the yagi).
It is essentially a capacitor and an inductor (simply).
The shield of the coax is connected to the centre of the grounded (to
boom) driven element. The inner goes through a capacitor (which can be a
real capacitor, or a rod inside a tube insulated from it) into an
inductor which normally runs parallel with one side of the dipole, and
is shorted to it at some point.

Its actually an easy feed to homebrew...

--
Steve C

3352. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002711961508040001@news.vcnet.com>
Source record: 100290

In article <19961127183500.NAA01685@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180002611961535110001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >What is the anode resonant frequency in the AL80? You find this with a
> >dipmeter coupled to either side of the dc blocking capacitor. I can not
> >calculate the current distribution without knowing the frequency of the
> >anode resonance. If you do not have access to a dipmeter and an AL80,
> >please let me know and I will call around and see if I can find someone
> who
> >does.
>
snip...

> Why ask for meaningless data?...snip....

At this point in the debate I need a volunteer who owns an AL-80 or SB-1000, who has access to a dipmeter, to measure the anode resonant frequency. (Be sure to disconnect the electric-mains plug before performing the measurement.) The best place to measure the dip is at the DC blocking capacitor. The resonance is probably between 110MHz and 160MHz. The dip should be sharp and pronounced. Set the tune capacitor to about 50% of C maximum. This measurement is needed in order to be able to solve the current division problem for the 85nH inductor and 100 ohm resistor parasitic suppressor that Mr. Rauch suggested.

Please telephone me collect if you make this measurement.

Tom: Does the AL-1500 8877 amplifier, which you designed, use a VHF parasitic oscillation suppressor?

---

e-mail copies to Mr. Rauch and the Good source..... mailing list.

--
--Rich-- ag6k, 805-386-3734

3353. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: cj@hth.com
Message-ID: <329cd21c.24141432@news.buller.se>
Source record: 100291
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something (big or small) with the BASIC Stamp
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
```

New Contribution [ ] Update [ ]

Title :
Author: Date:

E-mail: (optional)

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

/Christer

-=-=-=

3354. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002711960917120001@news.vcnet.com>
Source record: 100292

In article <19961127154600.KAA28742@ladder01.news.aol.com>, the2x4@aol.com wrote:

> In article <19961127002400.TAA17657@ladder01.news.aol.com>,
> w8jitom@aol.com writes:
>
> >
> >Your move.
> >
> >73 Tom
>
> Great work Tom!

ï¿½ Carl: the intro was great, but did you ever figure out what the name of Mr. XXX is?

...snip...

>
> Can you tell me why 4 472B PENTA tubes in a Clipperton L lasted
> only a few days. I replaced the original tubes and they are still working
> but at reduced output which was the reason to buy the new tubes. The
> new tubes fell to 100 watts out on 10. Nothing was changed in the
> amp..nothing.
> Same exciter - FT-767.
> Just bad tubes?

ï¿½ Carl: In the new, Penta 572B tubes that failed, did you see bits of filament wires and springs at the bottom of the glass envelope?

---

e-mail copies to Messrs. Mottsinger, Rauch and others

--
--Rich-- ag6k, 805-386-3734

3355. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002711961719560001@news.vcnet.com>
Source record: 100293

In article <18172@s55tcp.ampr.org>, S56A@s55tcp.ampr.org wrote:

> AG6K math in calculating R/L current percentages on straight sum is WRONG!

Please show us the CORRECT solution, Mario.

--
--Rich-- ag6k, 805-386-3734

3356. E.F.Johnson Ceramic Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: "Chuck (Jack) Hawley" <c-hawley@uiuc.edu>
Message-ID: <329D191C.43CC@uiuc.edu>
Source record: 100294

```
>From - Mon Nov 25 10:36:27 1996
Message-ID: <3299CB0B.2F05@uiuc.edu>
Date: Mon, 25 Nov 1996 10:36:27 -0600
From: "Chuck (Jack) Hawley" <c-hawley@uiuc.edu>
Organization: University of Illinois at Urbana-Champaign
X-Mailer: Mozilla 3.0Gold (Win95; I)
MIME-Version: 1.0
To: Multiple recipients of list <boatanchors@theporch.com>
Subject: E. F. Johnson pre WW2 coils
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
X-Mozilla-Status: 0001
Content-Length: 830

Hi,

A friend of mine (Bill, N4VMY) would like to find a source of the
ceramic plug in coils manufactured by E. F. Johnson prior to WW2. The
ones he wants are wound on ceramic forms, rated at 500 watts and are
mounted on a 5 pin plug bar. He has a complete set of the 150 watt ones
(which he calls the grid coils) and wants the 500 watt ones (plate
coils) to complete an AM transmitter. There is a picture of these in the
10th Radio Handbook on page 650 (in the ad section) but there are no
part #'s listed. If anyone has part #'s for these coils, I would
appreciate those too.

After the war in about 1948, Johnson introduced the air wound coils with
the swinging link deal, so the only pictures in the handbooks of these
ceramic ones should be in the pre 1948 or pre war publications.

Thanks,

Chuck, KE9UW
```

3357. Re: TRADE : 2 AD7008's for 'C26 DSK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: Mark Sandford <sandford@tridsys.com>
Message-ID: <329CC44C.41C6@tridsys.com>
Source record: 100295

Thomas Mahanna wrote:
>
> Anyone got a TMS320C26 DSK to trade for 2 new AD7008's?
>
> -Tom
>
> (617) 783-9384

I don't have a C26 DSK but I do have a couple C50 DSK's, as far as I know the only real difference between the C26 and C50 except minor architectural improvements is that C25/C26 use 4 clocks per instruction while the C50 uses only two so the C50 should always be twice as fast, and should be 100% compatable will all code as long as C25/C26 complatability in specified in the compiler/assembler. E-mail if interested.

Mark Sandford
Principal Engineer
Trident Systems

3358. Re: Amp help w/ 304tl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-27 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <57gmsk$rh0$1@news3.microserve.net>
Source record: 100296

In article <01bbdb17$ffcbd5e0$LocalHost@ks>, KSpainhour@wilkes.net
says...
>
>Hi, I am looking for some help building an amplifier using a 304tl
>I already have a 3kv supply for the plate supply. I have the specs on
>the tube from Eimac, they are
> DC Plate 3000v
> DC Grid -400v
> Plate Current 500ma
> DC Grid Current 80ma
>
> and so on
>
>I have numerous questions, like , what would be a good circuit for
this
>tube?
>Grounded Grid? What about an input circuit? What class would this be (
A,
>AB1, AB2)?
>I saw somewhere the formula for figuring plate load, but can't
remember
>where.
>I see alot of talk about parasitic suppressers, what would be the best
>circuit for this?
>I already have the basic hardware stuff started, I need some help on
the
>finer things!
>Any schematics, component values, comments or what ever would be of
great
>help.
>I know very little about designing amplifiers and any help would be
>appreciated.
>I also have a 3-400z amperex with socket, would this be a better tube
for
>this project?
>anyone have the specs on this tube?
>
>73
>KT4XW
>Keith Spainhour
>KSpainhour@wilkes.net
Remember one thing about the 304 TL, It is like 4 75TL tubes
in parrallel. So it has a much lower plate impeadance than most
other power tubes. It was designed for higher than expected plate

currents. Also the TL designation means it is the low gain version.
The high gain triodes provided about 10-13 db of gain, and the low
gain versions about half of that, or 5-6 db in the original circuits.
304's make great AM modulator tubes but I don't know about their
rf merit. Certainly many hams used them for rf anyway.

3359. good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbdcc7$669ba6a0$58219bcf@kn6dv.qnet.com>
Source record: 100297

I have upload part 6 (this is a long one):
http://www.av.qnet.com/~kn6dv
Thanks 73 Will, KN6DV
REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3360. Re: ? Mitsubishi Semiconductor Homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: carl@ais.net
Message-ID: <57inpu$1sn@news2.ais.net>
Source record: 100298

In <1996Nov27.175000.1895.79611@descn121.oen.siemens.de>, guenter.koellner@oen.siemens.DE (Koellner, Guenter) writes:
>
>Hello all,
>
>The page
>
>http://design-net.com/cgi-bin/dlsrch
>
>is a good page to request datasheets of Motorola's RF power devices.
>
>But, does anyone know if and where to request the datasheets of Mitsubishi'=
>s =
>power devices? I think they should be considered if someone is looking for =
>power amps on hf and vhf, but do not know where to get the datas.

Try:

http://www.mitsubishi.com

that's the home page for Misutbishi Electric ... with pointers to the
various product areas ...

Carl - wa6vse
carl@ais.net

3361. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <57ivmd$fnp@news03.deltanet.com>
Source record: 100299
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,sci.electronics.design,sci.electronics.misc

Mike McCarty (jmccarty@sun1307.spd.dsccc.com) wrote:
: In article <56f1bi$pp6$1@news3.microserve.net>,
: tyler <tyler@cyberia.com> wrote:
:)
:)>>The standard varactor FM modulator does not inherently add pre-emphasis,
:)>>so an external pre-emphasis network is used to allow PM and FM radios
:)
:)Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
:)it's used in FM communications, but how and why? Why is it needed? FM
:)commercial stations use it. Why? I'm reading this post on it and I'm kind of
:)lost. Any help would be greatly appreciated. Thanks.
:)Tyler
:)N3SPD

: It is a noise-reduction scheme. Most of the noise in FM systems is what
: might be termed "high frequency" or "hiss" (similar to tape). So the
: high frequencies are "pre-emphasized" (i.e. get more gain than the lower
: frequencies). Then when played back, the high frequencies are
: "de-emphasized" (get lower gain). This raises the overall signal/noise
: ratio.

: Similar schemes are used in tape decks, and on vinyl records (RIAA
: equalization, also called 75us equalization). Dolby is a similar scheme.

With reccords, the velocity of the needle is lower at low freqs, so the
signal is much lower in amplitude. SO the EQ curve has more gain at lo
freqs. THat's the opposite of FM which has equal gain up to 2 kHz, then
the gain falls off.

Dolby isn't a static equalization, it's dynamic.

: Mike
: --
: ----
: char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

: I don't speak for DSC. <- They make me say that.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:

|http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html|
| "Babe Ruth struck out 1,330 times... keep on swinging." |
| says the lid on the jar of Laredo & Lefty's Picante Salsa |
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

3362. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961128022700.VAA10290@ladder01.news.aol.com>
Source record: 100300

Hi Rich,

You must be having E-mail trouble. Could you look this over an comment. It seems to indicate you do not understand Q. Could you tell me if I did something wrong?

>>
A second factor enters the equation, and this is the critical area. Adding nichrome to the primary HF path does almost NOTHING to system Q. I have no idea what guage wire you use, but let's look at some typical suppressors when 5 ohms of ESR is added to the inductor Here are the numbers:

With your suggested values of 70 nH and 50 ohms at 100 MHz.
Q = 1.14 (par equiv values (p eq) are 50r and 70 nH
with 5 ohm esr from nichrome.
Q = 1.0 (p eq) = 44.34r and 70.9 nH

With 70 nH and 100 ohms:
Q = 2.3
with 5 ohm esr nichrome
Q = 1.8 (p eq) = 79.7 r and 70.9 nH

With 150 nH and 50 ohms:
Q = 0.53
with 5 ohms esr nichrome
Q = .5 (p eq) 48.6r and 150.4 nH

(This is the typical 220 suppressor, it has almost a 2:1 current ration in the suppressor, with resistor dominant)

With 150 nH and 100 ohms:
Q = 1.06
with 5 ohms esr nichrome
Q = 1.02 (p eq) 94.7r and 150.4 nH

In all cases, the slightest reduction in load resistance across the coil woul do much more than winding the coil out of a 5 ohms loss material. Of course this considers the non-nichrome coil to be lossless, so the actual reduction in Q would be less.

From this very small reduction in 100 MHz Q, Rich claims all ills of the PA are cured. No melted glass, no photons, no oscillations, no arcs.

Rich, please explain why you go through the bother of adding a nichrome coil when the Q reduction is so very slight? In almost ALL the cases above, removal of 5-10 ohms of parallel resistance would have changed Q the same amount or more.

> At DC, nichrome alloys are about 57 times more resistive than copper. To
>the best of my knowledge, there is no type of wire that has more VHF
>resistance, and produces a lower VHF-Q on a Boonton Q-Meter, than
>nickle-chromium-iron alloys.

If you measured the coil WITHOUT the loading resistor, as I recall you saying, your measurement method was flawed. Add the loading resistor, and measure the CIRCUIT. You will find almost no measureable change in Q until you lower the Boonton's frequency to HF. If you send me a suppressor, I'll measure it on my HP or Wiltron, they go up over 1 GHz.

I think though we can safely conclude making the coil out of nichrome mainly lowers HF Q, NOT VHF Q.

If any of my numbers are wrong, let me know.

73 Tom<<<

When you answer this, and we resolve any errors I''ll move on to one of your questions.

By the way, a grid dip meter will not allow you to calculate anything about impedance in a complex system, surely you understand that much about RF?

73 Tom

3363. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: Erik Skovgaard <Erik.Skovgaard@bc.sympatico.ca>
Message-ID: <01bbdcdf$8a603840$3fc56cce@default>
Source record: 100301
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt

Jay,

It must be a local problem. It works for me. Try it a couple of times.
Sometimes the DNS cache needs to be refreshed and a second or third attempt
does the job. Netscape is a little impatient with DNS.

73 de VE7MDL ....Erik.

Jay <jaykq4ms@ipass.net> wrote in article
<329c84ef.7445476@news.ipass.net>...
> rickets@earthlink.com (Dave Rickmers) wrote:
>
> >n1btq@tiac.net (Tim Smith) wrote:
> >
> >
> >>Can you tell me what the s/w is called and where I could d/l it?
> >>
> >>> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> >>> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
1032518 bytes
> >>>
> >>> sbfft11.zip Sound Blaster spectral display and filtering
> >dr
> Is the software anywhere else on the net?? I can't connect to
> simtel.net for some reason. Netscape keeps giving me "no DNS entry"
>
> Thanks
> Jay
> jaykq4ms@ipass.net
>

3364. request for information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: intech@carib-link.NET
Message-ID: <329D188A.25C2@carib-link.net>
Source record: 100302

(1) Looking for a CW memory keyer using a microprocessor maybe Z80. One that can be truly homebrew.

(2) Information on Audio voice gating with circuit(s) if possible

(3) A link to an Audio site e.g. amplifiers, speaker design etc.

Frank Brooker
9Y4VU

3365. Re: Gamma Match

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961128051000.AAA13489@ladder01.news.aol.com>
Source record: 100303

In article <57g5nl$25e@mark.ucdavis.edu>, mays@indigo (Skip May) writes:

>
>The gamma can be considered a few different things at the same time,
>matching the typical 50 ohm coax to the driven element of the beam
>which has a different complex impedance (ac resistance), you could call
>it a tuner and/or matching network.
>
>
Nice answer....
It is indeed. The YAGI feedpoint is about 20 ohms.

Carl

3366. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961128051000.AAA13492@ladder01.news.aol.com>
Source record: 100304

In article <measures-ya023180002711960917120001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>&#65533; Carl: In the new, Penta 572B tubes that failed, did you see bits of
>filament wires and springs at the bottom of the glass envelope?

I don't think so Rich. It has been a while. But the owner still has the
Penta tubes
and next time around I will look. I do remmeber that the tubes looked
brand new.
Do these Penta tubes have rusty ol' innards?

Carl
N9EFJ

3367. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961128051000.AAA13491@ladder01.news.aol.com>
Source record: 100305

Yes, I have the time to talk to Mr. Miklos and others.

The 572B's were installed and all appeared OK. I was not
there when they failed. The exciter was a FT-767. I did however
put the old tubes back in and they worked at their previous
output before the Pentas were installed which is about 600 watts.
These old tubes are in fact still in use after two years. Upon initial
installation
the 4 Penta's output was a little low but not enough to be concerned with.
My customer still has the old tubes and if I get a chance I'll check them
out.
Rich asked if pieces of the tube innards were floating around. I don't
think so but I'll look again. If fact the tubes looked brand new just
dead.
I wish I could tell you more.

I had a similar case last week with a SB200. In fact it is still here
waiting to
be picked up. A previous owner other than my customer had installed a
standby switch and messed up the bias placing -130 some odd volts on the
bias line at all times

My customer bought it and couldn't get the amp to put out more than 100
watts, so he bought a pair of new Russian tubes from RF PARTS then brought
it to me.

The old tubes were Certron and ended up doing about 350 on 80. Exciter was
an
FT-757. I installed the new, still in the taped up boxes, Svetlana tubes
and only got 100 watts or so output. Same exciter, same amp. What gives? I
made no attempt to delve further in to the situation. Just thought you
might provide an answer from a similar problem. I think these tubes are
terrible! I would hope they are direct replacements and I'm sure everyone
else assumes that. How can they sell them? Why do the offer them for sale?
So they are cheaper. That won't get you across
town with these tubes.

Carl N9EFJ

3368. PARTS TRADING

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <57k2us$4k2@news1.mnsinc.com>
Source record: 100306

I have parts for trading - specifically a bunch of ICs and transistors etc.
What I am looking for is a "Grid Dip" meter, a newer Tube Tester that works
on 7 and 9 pin bottles etc, and any tubes or tube-era type parts, chassis,
carcasses or whatever.

Please e-mail me or write to:
Brian Carling
18016 Fertile Meadow Court
Gaithersburg, MD 20877 USA

Thanks & 73 - AF4K / G3XLQ
73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

3369. Returned mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: Mailer-Daemon@mailbox.enel.IT
Message-ID: <9611282019.AA3680@mail.ctir.enel.it>
Source record: 100307

```
---- message ----
```

Errore trasferimento a NRMINTGW/RM/ENEL/IT mail.box; Superato massimo numero del contatore a breve distanza. Il messaggio probabilmente in un ciclo di loop.

```
---- message ----
Content-Type: Message/rfc822
Content-Description: RFC822

To: Ham-Homebrew <Ham-Homebrew@UCSD.EDU>
bcc: 630777 bassano alessandro <630777_bassano_alessandro.na
@mail.ctir.enel.it>
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Date: 28 Nov 96 4:30:34
Subject: Ham-Homebrew Digest V96 #536
MIME-Version: 1.0
Content-Type: Text/Plain

Ham-Homebrew Digest Thu, 28 Nov 96 Volume 96 : Issue 536

Today's Topics:
Gamma Match
Good source for amplifier tips (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: 28 Nov 1996 05:08:34 GMT
From: the2x4@aol.com
Subject: Gamma Match

In article <57g5nl$25e@mark.ucdavis.edu>, mays@indigo (Skip May) writes:

>
>The gamma can be considered a few different things at the same time,
>matching the typical 50 ohm coax to the driven element of the beam
>which has a different complex impedance (ac resistance), you could call
>it a tuner and/or matching network.
```

>
>
Nice answer....
It is indeed. The YAGI feedpoint is about 20 ohms.

Carl

Date: 28 Nov 1996 05:08:36 GMT
From: the2x4@aol.com
Subject: Good source for amplifier tips

Yes, I have the time to talk to Mr. Miklos and others.

The 572B's were installed and all appeared OK. I was not
there when they failed. The exciter was a FT-767. I did however
put the old tubes back in and they worked at their previous
output before the Pentas were installed which is about 600 watts.
These old tubes are in fact still in use after two years. Upon initial
installation
the 4 Penta's output was a little low but not enough to be concerned with.
My customer still has the old tubes and if I get a chance I'll check them
out.
Rich asked if pieces of the tube innards were floating around. I don't
think so but I'll look again. If fact the tubes looked brand new just
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I wish I could tell you more.

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be picked up. A previous owner other than my customer had installed a
standby switch and messed up the bias placing -130 some odd volts on the
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watts, so he bought a pair of new Russian tubes from RF PARTS then brought
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The old tubes were Certron and ended up doing about 350 on 80. Exciter was
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FT-757. I installed the new, still in the taped up boxes, Svetlana tubes
and only got 100 watts or so output. Same exciter, same amp. What gives? I
made no attempt to delve further in to the situation. Just thought you
might provide an answer from a similar problem. I think these tubes are
terrible! I would hope they are direct replacements and I'm sure everyone
else assumes that. How can they sell them? Why do the offer them for sale?
So they are cheaper. That won't get you across
town with these tubes.

Carl N9EFJ

Date: 28 Nov 1996 05:08:38 GMT
From: the2x4@aol.com
Subject: Good source for amplifier tips

In article <measures-ya023180002711960917120001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>&#65533; Carl: In the new, Penta 572B tubes that failed, did you see bits of
>filament wires and springs at the bottom of the glass envelope?

I don't think so Rich. It has been a while. But the owner still has the
Penta tubes
and next time around I will look. I do remmeber that the tubes looked
brand new.
Do these Penta tubes have rusty ol' innards?

Carl
N9EFJ

End of Ham-Homebrew Digest V96 #536
****

---- message ------

3370. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002811960829550001@news.vcnet.com>
Source record: 100308

In article <19961128051000.AAA13492@ladder01.news.aol.com>, the2x4@aol.com
wrote:

> In article <measures-ya023180002711960917120001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >
> >ï¿½ Carl: In the new, Penta 572B tubes that failed, did you see bits of
> >filament wires and springs at the bottom of the glass envelope?
>
> I don't think so Rich. It has been a while. But the owner still has the
> Penta tubes
> and next time around I will look. I do remmeber that the tubes looked
> brand new.
> Do these Penta tubes have rusty ol' innards?
>
> Carl
> N9EFJ

Nope, Carl. I haven't spotted any rust. I have heard reports of virtually
new Penta 572Bs that wound up with broken filament wires. Did notice that
the light from the filaments went out in the 572Bs that failed? Were the
grids directly-grounded in the amplifier?
---
e-mail copy to Carl, N9EFJ

--
--Rich-- ag6k, 805-386-3734

3371. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002811960813190001@news.vcnet.com>
Source record: 100309

In article <19961128022700.VAA10290@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Rich,
>
> You must be having E-mail trouble. Could you look this over an comment. It
> seems to indicate you do not understand Q. Could you tell me if I did
> something wrong?
>
Hello, Tom---

Nah, you haven't done anything wrong yet--if you are trying to play this debate for stalemate instead of checkmate. It is true that if you continue to stonewall embarrassing questions, stall, and smokescreen, I will eventually walk.

Either you are reluctant to admit that you don't own a dipmeter with which to make the anode-resonance measurement that we need to proceed, or you don't have access to an AL-80, or you are trying to misdirect attention away from the problem that you proposed---i.e., to find the current ratio in the 85nH (Ls) and100 ohm (Rs) parasitic suppressor which you use in one version of the AL-80. I am starting to lean toward the latter possibility.

Tom: In order to try and get a handle on what's happening, I will give you the benefit of the doubt and guesstimate that the anode resonant frequency in the AL-80 is 160MHz, although I seem to recall hearing a lower number from AL-80 (and SB-1000) owners. Using the formula XL=2*Pi*f*L, at 160MHz, 85nH has 6.28*1.6*10^5*85*10^-9=85.4513, or roughly 90 ohms of reactance. To find the current distribution, we can apply 1V to the paralleled Rs and Ls. The resulting current through Rs is 1v/100 ohms = 10mA. The current through Ls is 1v/90 ohms = 11.1mA. The total current is 10mA plus 11.1mA = 21.1mA. The current through Rs is 10/21.1 = 0.474 of the total current. The current through Ls is 11.1/21.1 = 0.526 of the total current. If 52% of the VHF current is flowing through Ls, and 48% of the VHF current is flowing through Rs, there is obviously a large hole in the opinion Tom Rauch has held since 1990--i.e., that no significant VHF current flows through a VHF parasitic-suppressor's L. The bottom-line is that in the typical VHF parasitic-oscillation suppressor, significant current flows in Rs and significant current flows in Ls.
However, in actual practice, the anode-resonance in the typical single 3-500Z amplifier is closer to 130MHz,, so the reactance of Ls would be lower and Ls would carry a slightly greater share of the current---and the hole in Tom Rauch's opinion seems to grow larger.. OTOH, it can be argued that the intrinsic VHF-R in nichrome would slightly decrease the current in Ls. ....All things considered, significant current flows in Rs and

significant flows in Ls.

On page 74 in the September, 1994 issue of QST, Tom Rauch states:

"The coil's reactance increases with frequency and at VHF most of the
signal path is through the resistor. It is plainly evident that the
dominant component at VHF is the resistor, not the coil."
(note: Mr. Rauch appears to use the word "coil" in place of the word inductor)

It is PLAINLY EVIDENT that neither Tom Rauch nor QST Editor Mark Wilson
took the humble minute necessary to perform the calculations to check the
validity of Tom's statement before it became a sorrowful chapter in QST
history.
This easily-preventable blunder would NOT have happened in the days when
George Grammer, W1DF, stood watch over the technical reputation of QST
magazine. According to those who knew him, George Grammer placed nothing
above technical accuracy.
---
e-mail copies to Mr. Rauch et al.

--
--Rich-- ag6k, 805-386-3734

3372. Re: QST auto ATU (Jan '96)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov28.141644.20252@ke4zv.atl.ga.us>
Source record: 100310

In article <57822u$74u@runswick.octacon.co.uk> pmooney@onyx.octacon.co.uk (Paul Mooney) writes:
>In the January 1996 issue of QST an automatic ATU (the AT-11) is
>described.
>
>Has anybody built this, and if yes, how satisfied with it are you?

Mine is almost ready for the smoke test. I've stuffed the board, but I haven't wired it into the cabinet yet. Board quality is Ok, parts quality seems Ok, and the instructions are adequate. The acid test will be if it actually tunes.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3373. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: tomrice@netcom.com
Message-ID: <tomriceE1LF3E.A9x@netcom.com>
Source record: 100311
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Why is it that you never see lawyers at the beach?

Because the cats keep covering them up with sand.

73 de WB6BYH
--
"Start off every day with a smile and get it over with." --W.C.Fields
Tom R. Rice
tomrice@netcom.com
CIS: 71160,1122

3374. RF Parts FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: bspeed@swbell.net
Message-ID: <57kmud$mn5@news1.rcsntx.swbell.net>
Source record: 100312

"Junk Box Parts" for sale:

Email: bspeed@swbell.net
After 12-5-96: bspeed@cyberramp.net

Amperex OM350 RF Hybrid Amp $5.00
CDL 30W 50Ohm u-Wave Termination $10.00
Philips BFQ34 RF Pwr Xsistor $5.00
Plessey SP4653 RF IC $5.00
Plessey SP6440 IC RF Mixer $5.00
Plessey SL1362C RF Amp IC $5.00
Mini Ckt LMX-148 Mixer +10dBm LO $15.00
Mini Ckt RMS-2H Mixer, +17dBm LO $5.00
Motorola SHW1045 Cell RF Pwr Amp $10.00
Motorola MHW807-1 CellRF Pwr Amp $12.00
Motorola MRF134 RF Pwr Mosfet $15.00
Motorola MRF137 RF Pwr Mosfet $19.00
Motorola MC12011P ECL PreScale $5.00
Murata MQC309-836 836Mhz VCO $5.00
Murata CFM455A IF Filter $8.00
Toshiba TD6105P 1Ghz Pre Scaler, $5.00
Toshiba TD6107P 1Ghz Pre Scaler $5.00
Toshiba TD6110P 1Ghz Pre Scaler $5.00
Toshiba TD6112P 1Ghz Pre Scaler $5.00
Toyocom 35P13 14.85Mhz Xtal Osc $5.00
Toyocom 69.9 Mhz 4Pole Xtal Filter $10.00
Sage Wirelin Coupler, 6inch Flex $15.00
Sage Wireline Cplr, Semi-rigid 4" $5.00
New Micros Forth U-contlr w/68HC11 $50.0

3375. TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: "David B. Holtkamp" <holtkamp@roadrunner.com>
Message-ID: <01bbdd57$e8537f20$8f6d3bc6@holtkamp.roadrunner.com>
Source record: 100313

I have a several year old TL922A (mod for 10 m) and I've been having some trouble with it arcing (or oscillating - can't tell which). The details are in the next paragraphs, and I'd appreciate any help/suggestions on what to try next.

When I got the TL922 (from a silent key's estate), I noticed that the plate capacitor exhibited arcing damage - the position corresponded to a lower capacitance setting (little capacitor area active). The arcing had pitted and melted part of one of the plates (the fixed position one). I cleaned it up as best as I could (filed off, smoothed and straightened the plates, etc.) I used it for several more months and then it began arcing more or less steadily whenever I tried to tune up. I usually operate SSB with the HV setting on the lower (CW) setting in the amp. I don't push the amp particularly hard - usually running about 500 w out. Our altitude here is about 7000 feet so HV may have a little more trouble with arcing than at sea level, but I'm not sure that this is a contributing factor.

I replaced the tuning cap with a new one from Kenwood (~$120!!) and hoped that my problem was solved . I figured that the arcing was due to surface roughness and pitting that I really couldn't fix and I hoped that the new one would solve my problem.

Well, as you may have gathered by now, it has started arcing again. I'm very careful to tune it into a nice low SWR load (G5RV + tuner or a 5 el log periodic), but I have problems with arcing at full output (~600 w) on 160m and somethimes the higher bands (15 and 20 in particular).

I also found earlier that trying to use SSB on the SSB HV position would almost invariably cause arcing so I don't even try to use the higher voltage settings. I can always tune it up successfully at low power 200 w or so, but then why bother with an amp?

I've seen AG6K's material on his web pages (Thank you!), but I'm not sure that VHF parasitics are the cause of my problems (although they may very well be!). I've looked elsewhere on the web with little luck (so any pointers to other sources would be appreciated).

So the following questions come to mind:
1) am I "arcing" or suffering from VHF parasitics? How can I tell the difference?
2) I haven't suffered (I think) any damage to tubes or resistors or other components in the TL922 (yet) - should I be on the lookout for other damage? What should I look for?
3) Can this problem be aggravated by RF in the shack? I have a modest amount of it I'm sure...
4) Should I pass on the TL922 and buy a more modern design? If so, what is

the recommendation?

Thanks in advance for all your help!!!

Best regards,

David Holtkamp (K5KH)

email: holtkamp@roadrunner.com

3376. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002811961117130001@news.vcnet.com>
Source record: 100314

In article <19961128022700.VAA10290@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Rich,
>
> You must be having E-mail trouble. Could you look this over an comment. It
> seems to indicate you do not understand Q. Could you tell me if I did
> something wrong?
>
Hello, Tom---

Nah, you haven't done anything wrong yet--if you are trying to play this debate for stalemate instead of checkmate. It is true that if you continue to stonewall embarrassing questions, stall, and smokescreen, I will eventually walk.

Either you are reluctant to admit that you don't own a dipmeter with which to make the anode-resonance measurement that we need to proceed, or you don't have access to an AL-80, or you are trying to misdirect attention away from the problem that you proposed---i.e., to find the current ratio in the 85nH (Ls) and100 ohm (Rs) parasitic suppressor which you use in one version of the AL-80. I am starting to lean toward the latter possibility.

Tom: In order to try and get a handle on what's happening, I will give you the benefit of the doubt and guesstimate that the anode resonant frequency in the AL-80 is 160MHz, although I seem to recall hearing a lower number from AL-80 (and SB-1000) owners. Using the formula XL=2*Pi*f*L, at 160MHz, 85nH has 6.28*1.6*10^5*85*10^-9=85.4513, or roughly 90 ohms of reactance. To find the current distribution, we can apply 1V to the paralleled Rs and Ls. The resulting current through Rs is 1v/100 ohms = 10mA. The current through Ls is 1v/90 ohms = 11.1mA. The total current is 10mA plus 11.1mA = 21.1mA. The current through Rs is 10/21.1 = 0.474 of the total current. The current through Ls is 11.1/21.1 = 0.526 of the total current. If 52% of the VHF current is flowing through Ls, and 48% of the VHF current is flowing through Rs, there is obviously a large hole in the opinion Tom Rauch has held since 1990--i.e., that no significant VHF current flows through a VHF parasitic-suppressor's L. The bottom-line is that in the typical VHF parasitic-oscillation suppressor, significant current flows in Rs and significant current flows in Ls.
However, in actual practice, the anode-resonance in the typical single 3-500Z amplifier is closer to 130MHz,, so the reactance of Ls would be lower and Ls would carry a slightly greater share of the current---and the hole in Tom Rauch's opinion seems to grow larger.. OTOH, it can be argued that the intrinsic VHF-R in nichrome would slightly decrease the current in Ls. ....All things considered, significant current flows in Rs and

significant current flows in Ls.

On page 74 in the September, 1994 issue of QST, Tom Rauch states:

"The coil's reactance increases with frequency and at VHF most of the
signal path is through the resistor. It is plainly evident that the
dominant component at VHF is the resistor, not the coil."
(note: Mr. Rauch appears to use the word "coil" in place of the word inductor)

It is PLAINLY EVIDENT that neither Tom Rauch nor QST Editor Mark Wilson
took the humble minute necessary to perform the calculations to check the
validity of Tom's statement before it became a sorrowful chapter in QST
history.
This easily-preventable blunder would NOT have happened in the days when
George Grammer, W1DF, stood watch over the technical reputation of QST
magazine. According to those who knew him, George Grammer placed nothing
above technical accuracy.
---
e-mail copies to Mr. Rauch et al.

--
--Rich-- ag6k, 805-386-3734

3377. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov28.211626.21736@ke4zv.atl.ga.us>
Source record: 100315

In article <measures-ya023180002411960917350001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>In article <575aig$8de@villa.fc.net>, filipg@paranoia.com (Filip M >Gieszczykiewicz) wrote:
>> Greetings. I would just like to interject here that as someone who
>> grew up after tubes "died" but is still MOST interested in these
>> discussions... I'm now totally confused and lost.
>------------
>I understand the confusion, Filip. There has been plenty of smoke and
>mirrors in this debate, and I suspect there will be more. Briefly---The
>roots of the debate date from 1926, when Mr. F. E. Handy said on page 72 in
>the *Radio Amateur's Handbook*:
>
> "The combination of both resistance and inductance is very effective in
>limiting parasitic oscillations to a negligible value of current."
>
> In other words, Mr. Handy found that VHF parasitic-oscillation
>suppressors performed measurably better when the suppressor's inductor (L)
>was made from resistance wire instead of copper wire.

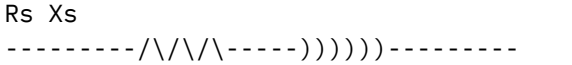
That does not appear to be what Mr. Handy was saying at all. The quote indicates that a combination of an inductor and a resistor is very effective as a parasitic suppressor. That advice is, of course, correct, and is the way *every* parasitic suppressor is made today. Even yours. The resistance needs to be in *parallel* with the reactance, however, not in series with it, for best results.

>Nichrome has the
>highest volume-resistivity among resistance wire alloys, but it is not
>easily-soldered and is not commonly available..
> After a few years, Handy's observation was somehow left out of the
>Handbook. After WW2, people apparently forgot what Mr. Handy wrote in 1926
>and 1927, and people started making suppressors out of whatever was handy
>and easily soldered---i.e., copper. Some folks even started silver-plating
>suppressor inductors, evidently for cosmetic reasons. In the 1940's and
>1950's, it didn't matter much what the suppressor L was made from because
>large amplifier tubes did not exhibit very much VHF gain. With modern,
>high-gain amplifier tubes, VHF suppressors with a high VHF-dampening
>ability seem to be indicated. High VHF-dampening means low VHF Q.

Indeed, which is why there is a *paralleled* resistor across the inductor, to lower the suppressor's *VHF Q*, or more to the point, to increase the suppressor's *dissipation* at VHF. At *HF*, however, we want high Q so that we don't have attenuation of the *desired* HF energy. That's why the coil is made of copper (silver plating *is* mostly cosmetic). The reactance

of the coil is *non-dissipative*, but any series resistance in the coil *is* dissipative. That's bad because we want HF energy to have free passage through the reactive branch of the suppressor.

Lets look at a couple of circuits. This one is equivalent to your nichrome coil.



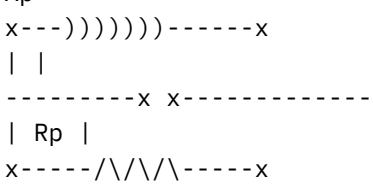
Q is just Rs/Xs, and for a given current I, the power dissipated in the circuit is simply

P = Rs*I^2 + PF*Xs*I^2

Now the PF of a pure reactance is zero, so the attenuation of the circuit is simply Rs*I^2.

Of course the value of I is dependent on the total impedance of the branch, IE Z = R +jX, and X is dependent on frequency. The higher the frequency, the greater the value of X, the lower the I through the circuit, and the lower the power dissipated in Rs. So the circuit dissipates maximum power at lower frequencies and dissipates least at higher frequencies, exactly opposite of what we want a VHF suppressor to do.

Now lets change things around.



Now we can use a transform to get the equivalent series resistance and reactance of this circuit like so

Rs = (Rp*Xp^2)/(Rp^2 + Xp^2)

Xs = (Rp^2*Xp)/(Rp^2 + Xp^2)

The equivalent Q is

Qe = Rs/Xs = (1/Rp) * Xp/(Rp^2 + Xp^2)^2

As Xp increases, Q falls rapidly due to the Xp^4 term in the denominator.

For a current, I, flowing through the circuit, I divides between the Xp branch and the Rp branch in inverse proportion to their impedances, and only in the Rp branch is any power dissipated. When Xp is high (VHF) more current flows in Rp, and dissipation is high. When Xp is low (HF), less current flows in Rp, and dissipation is low. PF=0 in the Xp branch of course, so no dissipation occurs there. This is exactly what we want a VHF suppessor to do. If we were to add series resistance to the coil,

as you do, then our dissipation at low frequencies would also be high, which we don't want since it adds nothing to stability but does decrease HF efficiency.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3378. Vintage test equipment for sale, pick up in Bergen county NJ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseE1LM5x.6CK@netcom.com>
Source record: 100316
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.audio.tubes,rec.antiques.radio+phono

Vintage test equipment list:

Best offer, this stuff is heavy-probably not economical to ship
(unless you want something really bad! you pay shipping).
AS-IS condition, though I believe most everything was in operating
condition a few years ago, and since sat on shelves in a heated dry
room since then.
call me at 201-261-4066 or e-mail

Test Equipment for sale, pick-up in Bergen county NJ only

Manuf model description

General Radio:

1215A 50-250mhz osc
1216A "IF amp"
1214AS2 120c osc
1214A osc
1209BL 180-600mhz
1142A freq meter descriminator
650A impedance bridge
716B capacitance bridge
1210C RC osc
1604B comparison bridge

Eico:
368 TV-FM sweep gen
232 vacuum tube voltmeter (vtvm)
425 oscillscope

HP
210A square wave gen
400AB vtvm
415B standard wave indicator
400 vtvm
RCA
senior voltohmest
wv-97a volt ohmest

Tektronix
1A6 plug-in diff amp
105 square wave gen
180A time mark gen
RM122 low level preamp

1A5 plug-in diff amp

Triplet VOM
Premier 570A signal gen
Freed transformer co 1110A inductance bridge
Gertch pt-2 standard ratio transformer
Texscan VS-80A sweep gen
PRD 809A klystron power supply
Kay 159B multisweep gen
Signal Corps R48/TRC-8 reciever 230-250MHz
Measurements 65P signal gen
Jetronic TS497C/URR signal gen
MB electronics N80 random noise gen
Digital VT220 terminal
Collins KWM-2A HF transciever w/ powersupply $500

Heathkit 10-4101 TV vector scope
2036 2m rig
hm102 swr meter
am2 swr meter

3379. Program Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: Dave <ka1wgn@tiac.net>
Message-ID: <01bbdd7b$c006af00$29ed77ce@ka1wgn>
Source record: 100317

Hi all,
I hope this is the news group to use. ?

This is a program I put together to do the math for me.
use QBASIC or GWBASIC to check it out.

How do I make it so all you have to do is pick the dB ATT.
value and the watts to give me the answer.

Any help would be GREAT !

Dave,n1iqo
ka1wgn@tiac.net

```
10 CLS : CLEAR , , 10000: SCREEN 9
20 DRAW "BM 0,0 C1 S4;R639D349L639U349"
30 COLOR 2
40 LOCATE 12, 20: PRINT "Pi-Network Resistive Attenuator (50 ohm)"
50 COLOR 4: LOCATE 22, 60: PRINT "BY N1IQ0"
60 LOCATE 23, 61: PRINT "6/2/95"
70 AA$ = INKEY$: IF AA$ = "" THEN 70
80 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349D40R639"
90 COLOR 2
100 COLOR 4
110 LOCATE 2, 15: PRINT "db R1
R2"
120 COLOR 3
130 LOCATE 5, 16: PRINT "1 870.0
5.8"
140 LOCATE 7, 16: PRINT "2 436.0
11.6"
150 LOCATE 9, 16: PRINT "3 292.0
17.6"
160 LOCATE 11, 16: PRINT "4 221.0
23.8"
170 LOCATE 13, 16: PRINT "5 178.6
30.4"
180 LOCATE 15, 16: PRINT "6 150.5
37.3"
190 LOCATE 17, 16: PRINT "7 130.7
44.8"
200 LOCATE 19, 16: PRINT "8 116.0
52.8"
210 LOCATE 21, 16: PRINT "9 105.0
61.6"
220 LOCATE 23, 15: PRINT "10 96.2
```

```
71.2"
230 AA$ = INKEY$: IF AA$ = "" THEN 230
240 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349D40R639"
250 COLOR 4
260 LOCATE 2, 15: PRINT "db R1
R2"
270 COLOR 3
280 LOCATE 5, 15: PRINT "11 89.2
81.6"
290 LOCATE 7, 15: PRINT "12 83.5
93.2"
300 LOCATE 9, 15: PRINT "13 78.8
106.0"
310 LOCATE 11, 15: PRINT "14 74.9
120.3"
320 LOCATE 13, 15: PRINT "15 71.6
136.1"
330 LOCATE 15, 15: PRINT "16 68.8
153.8"
340 LOCATE 17, 15: PRINT "17 66.4
173.4"
350 LOCATE 19, 15: PRINT "18 64.4
195.4"
360 LOCATE 21, 15: PRINT "19 62.6
220.0"
370 LOCATE 23, 15: PRINT "20 61.0
247.5"
380 AA$ = INKEY$: IF AA$ = "" THEN 380
390 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
400 DRAW "BM 165,133 C2 S8;R40D10F3G3F3G3F3G3D10L5R10L2BD3L6R2BD3R2"
410 DRAW "BM 245,133 C2 S8;R20E3F3E3F3E3F3R20"
420 DRAW "BM 362,133 C2 S8;R40L40D10F3G3F3G3F3G3D10L5R10L2BD3L6R2BD3R2"
430 COLOR 4
440 LOCATE 4, 34: PRINT "Attenuator"
450 COLOR 1:LOCATE 10, 10: PRINT "Input"
460 LOCATE 10, 63: PRINT "Output"
470 COLOR 6:LOCATE 13, 27: PRINT "R1a"
480 LOCATE 13, 49: PRINT "R1b"
490 LOCATE 8, 38: PRINT "R2"
500 COLOR 4: LOCATE 21, 23: PRINT "Value of R1 is for both R1a & R1b"
510 AA$ = INKEY$: IF AA$ = "" THEN 510
520 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
530 COLOR 2: LOCATE 12, 23: INPUT "ENTER INPUT POWER IN WATTS"; A
540 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
550 LOCATE 12, 30: INPUT "ENTER R1a"; B
560 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
570 LOCATE 12, 30: INPUT "ENTER R1b"; C
580 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
590 LOCATE 12, 31: INPUT "ENTER R2"; D
600 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
```

```
610 LOCATE 12, 30: PRINT "Wait"
620 REM Find the voltage for the input
630 E = A * 50
640 F = SQR(E)
650 REM Find the current for R1
660 G = F / B
670 REM Find the power for R1
680 H = G * G * B
690 REM Find the series parallel resistance for R2 R3 R4
700 REM R4 is the radio yes this is important
710 I = C * 50: J = C + 50: K = I / J + D
720 REM Find current for total
730 L = F / K
740 REM Find voltage drop
750 M = L * D
760 REM find power for R2
770 N = M * M / D
780 REM Find voltage after R2
790 O = F - M
800 REM Find power for R3
810 P = O * O / C
820 REM Find power for R4
830 Q = O * O / 50
840 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
850 LOCATE 8, 25: PRINT USING "POWER IN TO ATT. = ##.##"; A
860 LOCATE 10, 25: PRINT USING "POWER FOR R1a = ##.##"; H
870 LOCATE 12, 25: PRINT USING "POWER FOR R2 = ##.##"; N
880 LOCATE 14, 25: PRINT USING "POWER FOR R1b = ##.##"; P
890 LOCATE 16, 25: PRINT USING "POWER OUT TO THE AMP = ##.##"; Q
895 COLOR 4:LOCATE 22,26:PRINT"POWER IS IN WATTS FOR ALL !"
900 AA$ = INKEY$: IF AA$ = "" THEN 900
910 CLS : DRAW "BM 0,0 C1 S4;R639D349L639U349"
920 LOCATE 10,30:PRINT"START OVER ------- S"
930 LOCATE 12,30:PRINT"CHANGE VALUES ---- C"
940 LOCATE 14,30:PRINT"EXIT ------------- X"
945 BB$ = INKEY$: IF BB$ = "" THEN 945
950 IF BB$="S" OR BB$="s" THEN CLS:GOTO 10
960 IF BB$="C" OR BB$="c" THEN CLS:GOTO 80
970 IF BB$="X" OR BB$="x" THEN CLS:END:END
980 END:END
```

3380. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961128151525.10435B-100000@oso.slonet.org>
Source record: 100318
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

I've had the very same difficulty for weeks! Cliff K7RR

On Wed, 27 Nov 1996, Jay wrote:

> rickets@earthlink.com (Dave Rickmers) wrote:
>
> >n1btq@tiac.net (Tim Smith) wrote:
> > >
> > >
> > >>Can you tell me what the s/w is called and where I could d/l it?
> > >>
> > >>> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> > >>> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
> > >>>
> > >>> sbfft11.zip Sound Blaster spectral display and filtering
> > >dr
> > Is the software anywhere else on the net?? I can't connect to
> > simtel.net for some reason. Netscape keeps giving me "no DNS entry"
> >
> > Thanks
> > Jay
> > jaykq4ms@ipass.net
> >
> >

3381. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov28.162231.20735@ke4zv.atl.ga.us>
Source record: 100319

In article <19961125020000.VAA03737@ladder01.news.aol.com> w8jitom@aol.com writes:
>Rich recently posted the following:
>>Big organizations don't always do the right thing, Tom. NASA launched
>>Shuttle Mission 25 even though NASA had videotapes of 10 previous
>>missions
>>where fire could be seen coming through the o-rings on the booster
>>rockets,
>>adjacent to the main hydrogen tank, no less.
>
[Dave responded:]
>This isn't radio, but I also don't think it's true. I'm looking at a
>chart from Richard Feynman's account of the Challenger investigation and
>it shows only seven missions in which there was any O-ring incident and
>17 in which there were none. The 7 incidents involved erosion of the
>O-ring, but not, so far as I know, fire shooting out the side of the
>rocket. Perhaps, a specific reference to Rich's source would be in
>order.

In almost all of the launches, a puff of smoke can be seen coming
from the SRB joints at engine start. This is normal behavior for
this sort of joint design. Internal pressure tightens the seals,
but until that pressure builds up, some gas leakage is expected.
This is different from O-ring erosion or O-ring failure. Some people
have claimed that this smoke indicates flame leakage, but it doesn't.
The flamefront of the engine is not yet at the level of the joint
when the smoke is seen.

>Perhaps Rich is preparing us for the revelation that the O ring failure
>was due to a parasitic oscillation, or perhaps photons from a solar flare
>caused the failure.

Actually, parasitic oscillations (mechanical resonances) were one of the
potential causes examined during the Challenger investigation. It isn't a
silly idea, and it turns out the joints do suffer hoop flex during operation.
Thanks mainly to Feynman, we know the proximate cause in the Challenger
disaster was O-ring brittleness caused by the cold temperature at launch.
That doesn't mean that was the only failure mechanism to which the SRBs are
subject. The bandaids fitted by NASA and Thiokol after Challenger were mainly
to address this resonance issue (the O-ring problem was addressed by changing
the launch rules to prevent launch when the field joints were too cold).

>Other than that, I'm having a hard time understanding what this has to do
>with all his wild theories and claims about parasitics.

I expect he is trying to say that large organizations (or small ones
either) don't always owm up to their design failures. Rather, they try

to hide them or discount them or bandaid them, even when a catastropic public failure brings them to light. NASA knew there was a problem with the SRB field joints, but chose to ignore it. Thiokol management knew there was a problem with the SRB field joints, but chose to ignore it. When the two on-site Thiokol engineers advised against launch, NASA management and Thiokol management ridiculed and browbeat them, and proceeded with the launch anyway. The result was spectacularly obvious, and tragic.

After Challenger, not only was the weakness of the O-rings to cold exposed, but other problems with the joint design were brought to light as well. NASA and Thiokol put some bandaids on, but the joints are still a serious failure hazard to this day. There have been recent launch delays due to concerns about the joints.

There is a proper technical solution to the problem, which completely eliminates the field joint issue, but it was not designed by NASA or Thiokol, so it has not been put into service. That bit of "not invented here" (driven by some very heavy politics) may yet come back to bite NASA. Rich may be implying that there is a large dose of "not invented here" behind the opposition to his suppressors too.

Sidebar;

The politics mentioned above involves producing the SRBs in Utah, which necessitates segmenting the boosters to allow their transport by rail to the Cape. This was done to "buy the vote" of the Utah delegation in Congress. The competing solution was to have the boosters built in Mississippi by a Thiokol competitor. They would have been barged from there to the Cape via the intercoastal waterway non-segmented. That eliminates the joints, and any possibility of joint failure, entirely. Cost and weight would have been lower too.

Politics is generically why space hardware is made all over the place instead of being constructed near the launch site. At least for large components, construction near the launch site would be the rational thing to do, but only buys the vote of one state's Congressional delegation. Space pork had already been spread throughout the South where barge shipping to the Cape was practical, so the boosters wound up being made in Utah to buy that distant landlocked state's vote too. Pork barrel politics is a nasty business, and it cost 7 lives. But without it, there likely would be no manned space program, because short sighted legislators can't see past their next re-election campaign, and "bringing home the bacon" is a proven re-election strategy.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3382. SSTV,FAX,RTTY,CW plus much more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <329E58A6.70E3@concentric.net>
Source record: 100320

If you wanted to get in to SSTV and always thought it was just
too much cash, check out this page:

http://www.cris.com/~n9zle/hc.html

Christmas sale going on now!
Bruce

3383. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-28 00:00:00 UTC
From: Lee Eschen <leeschen@cdsnet.net>
Message-ID: <329E6E28.205A@cdsnet.net>
Source record: 100321
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

Clifford Buttschardt wrote:
>
> I've had the very same difficulty for weeks! Cliff K7RR
>
> On Wed, 27 Nov 1996, Jay wrote:
>
> > rickets@earthlink.com (Dave Rickmers) wrote:
> >
> > >n1btq@tiac.net (Tim Smith) wrote:
> > >
> > >
> > >>Can you tell me what the s/w is called and where I could d/l it?
> > >>
> > >>> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
> > >>> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
> > >>>
> > >>> sbfft11.zip Sound Blaster spectral display and filtering
> > >dr
> > Is the software anywhere else on the net?? I can't connect to
> > simtel.net for some reason. Netscape keeps giving me "no DNS entry"
> >
> > Thanks
> > Jay
> > jaykq4ms@ipass.net
> >
> >

I just got it using Netware 3.01 with no problems whatever. Try again!

-- N6AXB in Cave Junction, Orygon.

Lee, of the Independent Republic of Jefferson: (leeschen@cdsnet.net)
We laugh at honor and are shocked to find traitors in our midst.
-C. S. Lewis

3384. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: "Richard F. Gillette" <r.f.gillette@ieee.org>
Message-ID: <329ED4A8.592F@ieee.org>
Source record: 100188

commquart@aol.com wrote:
>
> In article <01bbd944$0ba84040$50c087cf@occupant.psyber.com>, "A Redshirt"
> <occupant@psyber.com> writes:
>
> >Hello.
> >
> >Any suggestions on what is available/where to find a software
> >package that I can use to replace the endless drawings I have
> >"created" on the back side of Safeway market bags et al over
> >the years?
> >
> >I do not need the functionality of transferring the drawings to
> >four-sided PC board layouts, or anything as fancy as that;
> >I'm just looking for a way to clean up and file a lot of loose
> >sketches, and document some of junk I have "invented" (?!)
> >over the last thirty years or so.
> >
> >I assume that the library of "gadgets" or "elements" would
> >be of some importance also. And I can relate to the terms
> >such as Condenser and Kilocycle.
> >
> >I'd appreciate your comments...
> >
> >Thanks
> >
> >de John
> >A Redshirt in Rocklin
> >"HILLARY SHOT VINCE!!"

KeyCAD Complete 29.95 from Softkey 407-367-1415 is a complete
cad program. The CDROM version has a large number of libraries
electric/plumbing/etc. You can also add to the library yourself
or buy same from them. It will do layers if you need them, as it
is a full cad drafting program it can scale, replicate , etc.

Comes in both DOS and MAC flavors.

73 W9PE

--
Richard F. Gillette P.E., Board Member, Harper C.C. \\////
RF gillette inc. PO Box 1605, Palatine, IL 60078-1605 (OO)
r.f.gillette@ieee.org, v)847-526-2626, f)847-526-2944 oo00=={}==00oo=

3385. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002911960734060001@news.vcnet.com>
Source record: 100189

In article <19961128051000.AAA13491@ladder01.news.aol.com>, the2x4@aol.com wrote:

> Yes, I have the time to talk to Mr. Miklos and others.

Mr. Miklos needs to speak for Mr. Miklos. Mr. Rauch proffers the story that Mr. Miklos can't get on the Internet until January. I am on ISP number three. It takes me about an hour to get set up with a new ISP---and I am no computer genius by any means. Apparently, Mr. Rauch does not even know Miklos' first name or the name of Miklos' ex-supervisor at Varian-Eimac's Salt Lake City div. Hmmm. I suspect that the story about Miklos is a Rauchian ruse to play for time---like the "Tom: does the AL-1500 amplifier use a VHF suppressor?" issue. Tom knows that if he answers yes, then I am going to point out that he said a parasitic suppressor was not needed in an 8877 amplifier. Mr. Rauch knows full well that eventually I will tire of stalling, bs, and hogwash---whereupon I will bail out---whereupon Mr.Rauch will proudly proclaim a draw. // BTW, Carl, would you like to take a wild guess whether or not Rauch's AL-1500 amplifier uses a VHF suppressor?

> The 572B's were installed and all appeared OK. I was not
> there when they failed.
snip
> the 4 Penta's output was a little low but not enough to be concerned with.
> My customer still has the old tubes and if I get a chance I'll check them
> out.
snip
> I wish I could tell you more.

Did the customer report hearing a noise at the time the tubes died? If you do not recall whether you noticed the filaments lit up in the dead tubes, Carl, then we will have to wait for the second encounter.

I have heard that the newer 572Bs have a somewhat higher mu than the Cetron and RCAs. One indication of higher mu is if you see a change in input SWR when the new tubes are in use. The higher the mu, the less cathode to filament RF voltage is needed to drive the tubes to the same cathode current. Thus, the driving Z decreases with higher mu tubes, and that affects input SWR. With a solid-state driver, higher input SWR means less RF out, so output from the amplifier should decrease accordingly. Higher mu also means higher gain, which means more ability to oscillate. RF Parts is reportedly aware that the failure of Penta 572Bs in SB-200s is parasitic-related. Cetron tubes are not a sure cure, either. I have heard of a number of SB-200 owners who had the bandswitch's Wafer A contacts for the 100pF tune-cap. padder, burn up from parasitic arcing when brand new Cetrons were installed. The next time you work on a SB-200 with sudden

tube failure or a burned bandswitch, take a dipmeter and check the VHF dip
at the 1000pF, 5kV DC blocking capacitor. Is the dip sharp or broad?
---
e-mail copy to Carl, N9EFJ

--
--Rich-- ag6k, 805-386-3734

3386. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961129161700.LAA07629@ladder01.news.aol.com>
Source record: 100190

In article <measures-ya023180002811961117130001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

> Nah, you haven't done anything wrong yet--if you are trying to play this
>debate for stalemate instead of checkmate. It is true that if you
continue
>to stonewall embarrassing questions, stall, and smokescreen, I will
>eventually walk.

And while you say that, you avoid answering the question about Q.
Interesting.

>Either you are reluctant to admit that you don't own a dipmeter with
which
>to make the anode-resonance measurement that we need to proceed, or you
>don't have access to an AL-80, or you are trying to misdirect attention
>away from the problem that you proposed---i.e., to find the current ratio
>in the 85nH (Ls) and100 ohm (Rs) parasitic suppressor which you use in
one
>version of the AL-80.

I have network analyzers and other RF impedance measurement devices. And
yes, I even have a grid dip meter.

The point remains what can you possibly do with a grid dip meter Rich? It
won't tell you a thing about the impedance of the system, other than
reactance crosses zero at some frequency near the dip. Big deal.

Why waste time with a useless exercise. You came to circuit analysis
class, put away your drycell and buzzer and get out an instrument.

> Tom: In order to try and get a handle on what's happening, I will give
>you the benefit of the doubt and guesstimate that the anode resonant
>frequency in the AL-80 is 160MHz

You have an uncanny physic ability Rich. You can guess things that
instruments can not measure. I'm sure, when you know the resonant
frequency, you will "guess" the real part of the impedance. And the
imaginary pats distributed in the system as well.

Will this new "guess" be better than your guess about the photons that
cause tube arcs in a tube that has no gas. Or like that guess, and one
that conveniently allows you to change it to a tube WITH some gas.

Is this like your "guess" that Eimac rates the grid of an 8877 at 25
watts, but it is really 500-700 watts?

>although I seem to recall hearing a lower
>number from AL-80 (and SB-1000) owners. Using the formula XL=2*Pi*f*L,
at
>160MHz, 85nH has 6.28*1.6*10^5*85*10^-9=85.4513, or roughly 90 ohms of
>reactance. To find the current distribution, we can apply 1V to the
>paralleled Rs and Ls. The resulting current through Rs is 1v/100 ohms =
>10mA. The current through Ls is 1v/90 ohms = 11.1mA. The total current
is
>10mA plus 11.1mA = 21.1mA. The current through Rs is 10/21.1 = 0.474 of
>the total current. The current through Ls is 11.1/21.1 = 0.526 of the
>total current. If 52% of the VHF current is flowing through Ls, and 48%
of
>the VHF current is flowing through Rs, there is obviously a large hole in
>the opinion Tom Rauch has held since 1990--i.e., that no significant VHF
>current flows through a VHF parasitic-suppressor's L.

You do not even understand the concept of current flow in a circuit with reactance. All you have shown is the Q is just over one.

You made a mistake in the total current. The coil is an energy storing and releasing reactance, not a resistance. The amount of energy storage is given by the Q. Perhaps the lack of understanding of circuit behavior is at the root of your bad science???

The Q is just barely over one. How much lower can nichrome make the Q go? What is the lowest practical or possible Q?

You have claimed, before the whole world, that your suppressors lower VHF and UHF Q. You claim all sorts of system benefits due to VHF and UHF system changes, yet you just demonstrated the Q is near unity in the conventional suppressor. If the Q is near one, we know adding nichrome can't lower it any significant amount. If nichrome can't lower the Q, then all your claims are wrong.

The Q is already so low if we remove the coil entirely and make the suppressor a pure non-inductive and capacitive resistor we can only reach a Q of zero!!

If we include the rest of the system, we would find even less change than that, because the Q could not even reach zero.

> It is PLAINLY EVIDENT that neither Tom Rauch nor QST Editor Mark Wilson
>took the humble minute necessary to perform the calculations to check the
>validity of Tom's statement before it became a sorrowful chapter in QST
>history.

So now it is Mark Wilson also. You list of bad guys is getting pretty long. How many people are in on this conspiracy, a dozen? Two?

Rich, do a list for us. List all the engineers who have actually said they support you (not those who you GUESS would) in one group, and all those that don't in another.

> This easily-preventable blunder would NOT have happened in the days when
>George Grammer, W1DF, stood watch over the technical reputation of QST
>magazine. According to those who knew him, George Grammer placed nothing
>above technical accuracy.

How do you know Grammer would support you? Is it the same way you know
about photons and Q?

Quit blaming everyone else in the world for your mistakes. You should
applaud QST for giving you a moment of glory.

73 Tom

3387. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961129161700.LAA07630@ladder01.news.aol.com>
Source record: 100191

Hi Dave,

In article <01bbdd57$e8537f20$8f6d3bc6@holtkamp.roadrunner.com>, "David B. Holtkamp" <holtkamp@roadrunner.com> writes:

>When I got the TL922 (from a silent key's estate), I noticed that the plate
>capacitor exhibited arcing damage - the position corresponded to a lower
>capacitance setting (little capacitor area active). The arcing had pitted
>and melted part of one of the plates (the fixed position one). I cleaned it
>up as best as I could (filed off, smoothed and straightened the plates,
>etc.)

You can not fully restore a capacitor's voltage breakdown by this method. The voltage gradient at any point is determined by the radius of the plate, and any microscopic burrs and points.

To give you an example, the plates of a capacitor are tumbled in something as mild an abrasive as walnut shells for several hours to polish them. Even the slightest nick or scratch on the surface will lower the voltage breakdown.

>I used it for several more months and then it began arcing more or
>less steadily whenever I tried to tune up. I usually operate SSB with the
>HV setting on the lower (CW) setting in the amp. I don't push the amp
>particularly hard - usually running about 500 w out. Our altitude here is
>about 7000 feet so HV may have a little more trouble with arcing than at
>sea level, but I'm not sure that this is a contributing factor.

Sometimes running less power aggrivates the situation. All exciters suffer from ALC response time lags, and are prone to power overshoot. This is too fast for some conventional PEP meters to read, but it is there.

For example, my IC-706, when set for 10 watts, overshoots to 140 watts on some bands. My 751A, Yeasu 757 and 747, and TS 950 all do the same. The TS 950 overshoots to 300 watts on some bands at leading edges of speach, or the forst character on CW.

If the PA is not loaded correctly for the PEAK drive power (even though it is instantanious) the PA tank voltage will soar. It can rach a peak value much higher than expected, and cause the tuning capacitor or bandswitch to arc. Correct loading means the loading capacitor has to the peoper value for full peak drive power. This is open much further than the amount that

gives you proper sustaned key down output power.

Another cause of this can be arcing elswhere in the system that "unloads" the tank.

>Well, as you may have gathered by now, it has started arcing again. I'm
>very careful to tune it into a nice low SWR load (G5RV + tuner or a 5 el
>log periodic), but I have problems with arcing at full output (~600 w) on
>160m and somethimes the higher bands (15 and 20 in particular).

I think you are tuning the PA wrong. If you tune it for less than full peak drive, you will be open for this problem. It also coud be the relays are not closing in the correct sequence.

SWR has nothing to do with this, as long as the tank adjusts correctly into the load and the SWR does not change during operation.

>I also found earlier that trying to use SSB on the SSB HV position would
>almost invariably cause arcing so I don't even try to use the higher
>voltage settings. I can always tune it up successfully at low power 200
w
>or so, but then why bother with an amp?

If you are tuning up at 200 watts, you are asking for trouble.

So the following questions come to mind:
>1) am I "arcing" or suffering from VHF parasitics? How can I tell the
>difference?

If you have VHF parasitics, they will be there consistantly. You can test for them by unterminating the PA (no input or output connections) and closing the relay. Use the highest HV setting and if you can boost the line voltage 10% or so by all means do it.

Rotate the tuning and loading controls, and bandswitch through their ranges while watching the grid and plate current. If the PA does not oscillate, it will certainly be stable with a load on the input and output.

>2) I haven't suffered (I think) any damage to tubes or resistors or other
>components in the TL922 (yet) - should I be on the lookout for other
>damage? What should I look for?

Nothing else at this point.

>3) Can this problem be aggravated by RF in the shack? I have a modest
>amount of it I'm sure...

Yes, because that will destroy ALC action and cause severe power overshoot from the driver.

>4) Should I pass on the TL922 and buy a more modern design? If so, what
is
>the recommendation?

The TL-922 is fine. Please describe HOW you tune it up. That would help.
What is your exciter?

73 Tom

3388. DDRR & antenna pictures - DX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <329F011A.1D89@cam.org>
Source record: 100192
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.homebrew

They are here at last!

Now you can see what real DDRRs looks like.

You can also read about VE2DLJ tests and QSOs using
these DDRRs in the 75m DX Windows.

If you work DX on the low bands you certainly know the big guns
from VE2. Wonder what they use ? Check the pictures and you will
understand.

Report of the comparative tests between all sorts of Low Band
antennas (beam, rot. dipole, 4 square, wire beam, DDRRs, K5RP, etc)

Also in these pages:

Lots of selected links for hamradio, electronics, manufacturers,
components, propagation, searching for specs, etc...

Download NEC4WIN Antenna simulation for Windows (evaluation)

URL : http://www.CAM.ORG/~mboukri

If you don't find something, or need more info, send me an
email and I will be glad to help you.

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

3389. TL-922 Arcing/Oscillating? Help w/Diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: "David B. Holtkamp" <holtkamp@roadrunner.com>
Message-ID: <01bbde0e$99e12c40$8b6d3bc6@holtkamp.roadrunner.com>
Source record: 100193

I have a several year old TL922A (mod for 10 m) and I've been having some trouble with it arcing (or oscillating - can't tell which). The details are in the next paragraphs, and I'd appreciate any help/suggestions on what to try next.

When I got the TL922 (from a silent key's estate), I noticed that the plate capacitor exhibited arcing damage - the position corresponded to a lower capacitance setting (little capacitor area active). The arcing had pitted and melted part of one of the plates (the fixed position one). I cleaned it up as best as I could (filed off, smoothed and straightened the plates, etc.) I used it for several more months and then it began arcing more or less steadily whenever I tried to tune up. I usually operate SSB with the HV setting on the lower (CW) setting in the amp. I don't push the amp particularly hard - usually running about 500 w out. Our altitude here is about 7000 feet so HV may have a little more trouble with arcing than at sea level, but I'm not sure that this is a contributing factor.

I replaced the tuning cap with a new one from Kenwood (~$120!!) and hoped that my problem was solved . I figured that the arcing was due to surface roughness and pitting that I really couldn't fix and I hoped that the new one would solve my problem.

Well, as you may have gathered by now, it has started arcing again. I'm very careful to tune it into a nice low SWR load (G5RV + tuner or a 5 el log periodic), but I have problems with arcing at full output (~600 w) on 160m and somethimes the higher bands (15 and 20 in particular).

I also found earlier that trying to use SSB on the SSB HV position would almost invariably cause arcing so I don't even try to use the higher voltage settings. I can always tune it up successfully at low power 200 w or so, but then why bother with an amp?

I've seen AG6K's material on his web pages (Thank you!), but I'm not sure that VHF parasitics are the cause of my problems (although they may very well be!). I've looked elsewhere on the web with little luck (so any pointers to other sources would be appreciated).

So the following questions come to mind:
1) am I "arcing" or suffering from VHF parasitics? How can I tell the difference?
2) I haven't suffered (I think) any damage to tubes or resistors or other components in the TL922 (yet) - should I be on the lookout for other damage? What should I look for?
3) Can this problem be aggravated by RF in the shack? I have a modest amount of it I'm sure...
4) Should I pass on the TL922 and buy a more modern design? If so, what is

the recommendation?

Thanks in advance for all your help!!!

Best regards,

David Holtkamp (K5KH)

PS Sorry to repost, but I was afraid that the Subject field was messed up.

email: holtkamp@roadrunner.com

3390. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002911960933390001@news.vcnet.com>
Source record: 100194

In article <01bbdd57$e8537f20$8f6d3bc6@holtkamp.roadrunner.com>, "David B. Holtkamp" <holtkamp@roadrunner.com> wrote:

> I have a several year old TL922A (mod for 10 m) and I've been having some
> trouble with it arcing (or oscillating - can't tell which). The details are
> in the next paragraphs, and I'd appreciate any help/suggestions on what to
> try next.
>
> When I got the TL922 (from a silent key's estate), I noticed that the plate
> capacitor exhibited arcing damage - the position corresponded to a lower
> capacitance setting (little capacitor area active). The arcing had pitted
> and melted part of one of the plates (the fixed position one). I cleaned it
> up as best as I could (filed off, smoothed and straightened the plates,
> etc.) I used it for several more months and then it began arcing more or
> less steadily whenever I tried to tune up. I usually operate SSB with the
> HV setting on the lower (CW) setting in the amp. I don't push the amp
> particularly hard - usually running about 500 w out. Our altitude here is
> about 7000 feet so HV may have a little more trouble with arcing than at
> sea level, but I'm not sure that this is a contributing factor.
>
> I replaced the tuning cap with a new one from Kenwood (~$120!!) and hoped
> that my problem was solved . I figured that the arcing was due to surface
> roughness and pitting that I really couldn't fix and I hoped that the new
> one would solve my problem.
>
> Well, as you may have gathered by now, it has started arcing again. I'm
> very careful to tune it into a nice low SWR load (G5RV + tuner or a 5 el
> log periodic), but I have problems with arcing at full output (~600 w) on
> 160m and somethimes the higher bands (15 and 20 in particular).
>
> I also found earlier that trying to use SSB on the SSB HV position would
> almost invariably cause arcing so I don't even try to use the higher
> voltage settings. I can always tune it up successfully at low power 200 w
> or so, but then why bother with an amp?
>
> I've seen AG6K's material on his web pages (Thank you!), but I'm not sure
> that VHF parasitics are the cause of my problems

Hello, David.....
The breakdown voltage of the 922's tune capacitor is about double the HF peak voltage encountered, so HF breakdown is quite unlikely, even at 10,000 feet altitude. However, if the plate that is arcing is bent out of alignment, HF arcing could certainly occur.
>
> So the following questions come to mind:

> 1) am I "arcing" or suffering from VHF parasitics? How can I tell the
> difference?

If you have a broadband 2-meter field strenth meter, place it near the 922 and see what happens when you see or hear the arc. The 922 typically oscillates around 140MHz, so a 2m field strength meter may detect the parasitic oscillation. If you have a neon lamp, place it near the anode circuit. If the glow is orange during the arc, the arc is probably HF-related. If the glow has a purplish tinge, then the arc is probably VHF-related. // If you are not sure if the 2m field strength meter will respond to the parasitic frequency, unplug the 922 from the mains, wait one minute for the hv filter caps. to discharge, using a dipmeter, measure the VHF resonance at the rear of the round, white DC blocking capacitor t the rear of the tune cap. The dip should be rather sharp and well defined. With the dipmeter oscillating at the freq. of this resonance, couple the dipmeter to the field strength meter to see if it responds.

> 2) I haven't suffered (I think) any damage to tubes or resistors or other
> components in the TL922 (yet) - should I be on the lookout for other
> damage? What should I look for?

The bandswitch contacts for the 80m and 160m tune padder caps, as well as the 10m and 15m tank inductor bandswitch contacts tend to arc and vaporize. (A photo of a crispy-crittered 922 bandswitch appears on page 33 of "Parasitics Revisited" in the October 1990 issue of QST.) To check for burned contacts on the bandswitch, remove the die-cast right side of the 922's cabinet with a 5mm allen wrench. // The zener diode sometimes shorts. // The grid and 'plate'(anode) current meter shunt resistors, as well as the meter movements, can sustain damage. If you don't have back to back 3A diodes across the meter movements, you might consider doing so. // During a VHF parasitic, a large pulse of current typically flows in one or both of the 1mH grid chokes. The current pulse appears to be very short, so no brief that no overheating is evident. Check the chokes with an ohm meter. Occasionally, the sections of the choke implode on each other and they will be bunched together at the center of the choke body. in such cases the choke tests open.

> 3) Can this problem be aggravated by RF in the shack? I have a modest
> amount of it I'm sure...

I don't think so.

> 4) Should I pass on the TL922 and buy a more modern design? If so, what is
> the recommendation?
>
I would not give up on the TL-922, David. It has some easily-fixed problems that you can correct if you can solder and follow a diagram. IMO, the 922's mechanical design is excellent.
A modern design is apparently not a panacea. New amplifiers are not quite as trouble free as their manufacturers would like for us believe. One such amplifier is touted as being like a Cadillac. Have you spoken with owners of recent vintage Cadillacs? I have, and most of the owners reported

problems with the electrical system. About one third of the owners of such amplifiers that I have spoken with have had problems that were apparently not their fault.

If you would like to read a general discussion on amplifier design, see the January 1994 issue of QST magazine. The article is titled "The Nearly Perfect Amplifier."

BTW, there is a discussion about VHF parasitics taking place on the 'Good source of amplifier tips' thread on this newsgroup. A proposal: I send you a low VHF Q parasitic suppressor retrofit kit for a 922 at no cost to you. After installing the retrofit kit, you can report whether or not the arcing at your 922's tune capacitor abated or continued, as the case may be. // IMO, it is risky to operate an amplifier that exhibits intermittent tune capacitor arcing. .

NOTE---- David: the above offer is immediately null and void IF you are one of Tom Rauch's brothers-in-law.
---
e-mail copy to Mr. Holtkamp

--
--Rich-- ag6k, 805-386-3734

3391. Re: TH-79A(D) 800Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: wolters.pad@sni.de
Message-ID: <57mvr8$53h@horus.mch.sni.de>
Source record: 100195
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <01bbdb45$e43e86f0$2f3960cf@general>, midnight@us.net says...
>
>So your saying TH-79E recieves 800Mhz?
>
HI
Yes, it does!(from 800-999 MHz)
BTW with excellent sensitivity.
73 de Gerd DJ6YB
owner of TH79-E

3392. Re: Yaesu mic. pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: "Richard F. Gillette" <r.f.gillette@ieee.org>
Message-ID: <329ECA39.5FE1@ieee.org>
Source record: 100196

tim wrote:
>
> Hello,
> I need the pinout of an Yaesu mic. mod# MD-1 c8 to adapt it to an Icom radio
> thanks in advance Tim Phillips KF4FCO-EM-70
>
> Tim KF4FCO-EM70 Spamless Ham REPLY WITH CARE
> I'AM PC HANDICAPED AND I TYPE WITH TWO FINGERS
> AND I SUFFER FROM LAP TOP FEVER!!!!!!!!!!!!!
> :***]
See FT767GX op manual page 9.

a side

6 red to ppt sw ppt spst
7 black gnd
8 white audio

radio side

1 orange up up/down/fast spst
2 yellow green up & down return
3 blue down
4 brown fast
5 ? fast return
6 red ppt lock & pin 6 a side ppt lock spst
7 black gnd & ppt return & pin 7 a side
8 ? common of 600/50k sw

600 ohm side of sw to tone select sw common & transformer low z
output (return to ground) & via cap. (value not listed) to pin 8 a side

50k ohm side of sw to xformer high Z input (return to ground)

tone sw pos 1 shorts cap
tone sw pos 2 inductor to gnd & cap unshorted (inductor value not
listed)
tone sw pos 3 taps inductor (same as 2 but less l)

I do not have one, but it looks like so, 3 connectors

1 2 3

radio side >8 of 8 pines used-----------------> >3 of 8 pins used
Z/tone/up/down/fast sws/circuit mic/ppt sw
--
Richard F. Gillette P.E., Board Member, Harper C.C. \\////

RF gillette inc. PO Box 1605, Palatine, IL 60078-1605 (OO)
r.f.gillette@ieee.org, v)847-526-2626, f)847-526-2944 oo00=={}==00oo=

3393. Icom IC-230 accessory connector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Bigdad <Bigdad@Rworld.com>
Message-ID: <57n9cj$oo4@kirin.wwa.com>
Source record: 100197

Hi all....im in need of the pinout of the accessory connector on the side of the ICOM IC-230 2m radio...hope someone can help me out...thanks!

3394. 2SC2312 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Dave <ka1wgn@tiac.net>
Message-ID: <01bbde2c$308d1420$2ded77ce@ka1wgn>
Source record: 100198

Hi all,

I need some information on the 2SC2312.
I have a project in the works and I need
the data sheet on this transistor.
If you can help please E-MAIL me.
or post

Thank You

Dave,n1iqo

ka1wgn@tiac.net

3395. Front Panel Graphics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Rocci <rocci@worldnet.att.net>
Message-ID: <329F4FE3.1B94@worldnet.att.net>
Source record: 100199

Here's a really easy way to produce exceptionally professional looking front panel graphics for your next homebrew project.
Use your favorite computer presentation or paint program to design the front panel on your computer (I like Microsoft's Powerpoint, but there are many others that do a fine job). Use fonts, shading, and color to get just the right look. Use your inkjet color printer to print the newly designed graphic onto ordinary paper. Laminate the paper printout using clear adhesive backed vinyl laminating material which is available at any office supply store. Cut out the graphic to fit the panel. Apply a light coat of aerosol adhesive (also available at your office supply store) to the surface which will receive the graphic, then apply the laminated graphic and gently rub the entire surface using a soft cloth to ensure a good bond. Trim off any excess material using an exacto knife.

This method produces very high quality, durable front panel overlays without the mess and frustration of paints, decals, or rub-ons.

Joe
WA3CMQ

3396. Re: ARRL lawyer to sue member (another twist...)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: A Redshirt <occupant@psyber.com>
Message-ID: <01bbde38$321b37c0$56c087cf@occupant.psyber.com>
Source record: 100200
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Lifted from the local paper without permission, and forwarded
without comment...

"The parents of 4-year-old Sarah Engstrand filed a US $1.2
million
lawsuit in New York City against the girls' grandparents because
the elder couple's Akita dog, Becky Bear, bit and deeply scarred

Sarah's nose and cheek during the girl's birthday party in 1994.
The grandparents are heartsick at being sued by their own son,
who not surprisingly is a lawyer, as is his wife."

A Redshirt in Rocklin

"HILLARY SHOT VINCE!!" - A Local Bumper Sticker
--

3397. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002911961541170001@news.vcnet.com>
Source record: 100201

In article <measures-ya023180002711961719560001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) wrote:

> In article <18172@s55tcp.ampr.org>, S56A@s55tcp.ampr.org wrote:
>
>
> > AG6K math in calculating R/L current percentages on straight sum is WRONG!
>
> Please show us the CORRECT solution, Mario.
>
Mario's solution never made it my news server, but Mario IS mathematically
correct according to what I read in the Will's archive---provided that the
currents are 90 degrees out of phase.. I was wrong for not considering
that the currents are out of phase. Comgrats, Mario. I am surprised that
one of the "recognized amplifier experts" didn't catch my error. (see 9/94
QST, page 71 column 3)

However, in actual practice, the currents are somewhat less than 90
degrees apart due to the intrinsic L in the suppressor resistor, Rs, and
due to the intrinsic VHF R in the suppressor inductor, Ls. For Rs, the
resistor we use in our retrofit kits has around 18nH and 30 ohms of R. At
100 MHz 18nH has 12 ohms of reactance. Thus, the I phase angle in Rs is
arctan 12/30= minus 21.8 degrees at 100MHz. The I phase angle in the
inductor is anybody's guess, but minus 80 degrees is probably close.

Since we don't know the phase angle between the currents, perhaps the best
solution is to state the ratio of the currents. Thus, the ratio of the
currents through Rs and Ls is fairly close to unity. .... Any comments
Mr. Rauch?

Sorry for the error. Thanks, Mario
Rich, ag6k

--
--Rich-- ag6k, 805-386-3734

3398. Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <849292884@infoway.com>
Source record: 100202

Ek> My XYL bought a pair of touch lamps last week, and they generate an S8
Ek> noise level, even when they are turned off. They turn off and on when
Ek> I transmit.

Ek> Has anyone had any luck eliminating these problems.

David,
Divorce is the normal method.
Other than that, you could give her a special present of
a dozen roses, a night out on the town, much flattery
and a pair of twist knob lamps with 3-way light bulbs.
Dimmers, XR-10 controllers, florescent lights, and
especially touch lamps, should be carefully eliminated
from a ham's QTH.

Don, N6MCE

... Don.Phelps@Infoway.com 1:125/104 POBox 9739 San Rafael,CA 94912
___ Blue Wave/386 v2.30 [NR]

3399. NorCal Cascade - Where to Buy?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Les Blades <lblades@sover.net>
Message-ID: <329FBDA8.35B6@sover.net>
Source record: 100203

Can anyone tell me where one can buy the NorCal Cascade
QRP kit - and for how much? I can't seem to find a listing
anywhere.

Tnx,
Les

3400. RF Pwr MOSFETS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: bobb <bobb@mhv.net>
Message-ID: <329F889F.56DD@mhv.net>
Source record: 100204

Wanted a low cost source of RF Power MOSFETS. N-Chan, Drain to Source voltage of 100v, and power rating of 40W. These will be used for Amateur Radio experimenting.Some of the commerical houses have them, like "RF Parts", but the price is too high.The Radio Shack IRF510, and IRF511 are only good up to 10MHZ. I would like a device that would operate at 30MHZ. Bob Bartel W2AWS

3401. Re: Inexpensive but reliable frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <57o1dv$s3h@cocoa.brown.edu>
Source record: 100205

In article <1996Nov26.195159.11361@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) said:

>IMHO, a counter is a lot less useful than it may at first appear.
>Counters only give reliable readings when fed pure sinewaves.
>They will often lock to a harmonic or subharmonic of a typical
>complex signal. *AND YOU WON'T KNOW THAT.* I'd much rather have
>a scope, even a relatively cheap import scope, than to have a
>counter. Of course having both is better.

Having just added a Monsanto 1500A to my collection
(I'm looking for the schematic so I can learn how
it works) I've seen the count vary with trigger level
and be way off on complex waveforms with not that
much energy in the harmonics.

I don;'t understand why it's so easily fooled.
Care to elaborate a little of why clean sinusoidals
are required ?

Thanks,
John

3402. Re: Loop antenna theory?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <329F98AA.5555@cam.org>
Source record: 100206

Robert Nase Johnson wrote:
>
> Hello -- I'm designing a VLF loop antenna and have read that the
> sensitvity of such an antenna is affected both by number of turns and
> area of the loop. My question is, if you can't have both, which is the
> most important?

For a receiving loop, the voltage
induced by an E field is:

V = 2.Pi.A.n.E.Cos(Angle)/lambda

A Area
n Number of turns
E field in V/m
Angle angle between plane of loop and signal

If tuned (capacitor) multiply the above by Q
loaded Q of tuned circuit formed by antenna
and capacitor.

Depends of what you want to use it for, space
avalaible etc... as you can see from the formula
you can play on Area or Number but the more turns
the more difficult to tune at low frequencies and
find a suitable capacitor.

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

3403. Re: Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961129113549.13539E-100000@primeline.net>
Source record: 100207

On Fri, 29 Nov 1996, David Robbins wrote:

#My XYL bought a pair of touch lamps last week, and they generate an S8
#noise level, even when they are turned off. They turn off and on when
#I transmit.
#
#Has anyone had any luck eliminating these problems.
#
#Thanks for any help.
#
#David, KA4IKH
#

Get rid of the touch modules.

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

3404. Re: Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Bob Miller <bmiller@calweb.com>
Message-ID: <329FBD87.4FC4@calweb.com>
Source record: 100208

David Robbins wrote:
>
> My XYL bought a pair of touch lamps last week, and they generate an S8
> noise level, even when they are turned off. They turn off and on when
> I transmit.
>
> Has anyone had any luck eliminating these problems.
>
> Thanks for any help.
>
> David, KA4IKH
HI Dave,
Had same experience. Best to dig large hole and bury with quick lime.
Tell XYL that house was robbed and then buy her nice conventional lamps.
No hope with those nasty things without massive filters. But then hope
springs eternal.

Good luck.

Bob, KE6F

3405. Re: Amplifier Plan Books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <329F9046.648E@cam.org>
Source record: 100209

pfurbert@ibl.bm wrote:
>
> I would like to learn more about building RF transistor amplifiers. I
> cannot find any good literature around here. Can anyone recommend an
> information source for transistor amplifier building? I am particularly
> interested in building an amplifier using the 2SC2879. Any feedback would
> be appreciated.

One of the best book for Ham radio I know is

Solid State design for the Radio Amateur
by Wes Hayward W7ZOI and Doug DeMaw W1FB

It covers a lot of basics Transmitter design,
Power amps, VFOs, Mixers, Linears, CW, SSB...
Theory and "practice". Very good to learn,
not good if you want a step by step guide
to build a kit.

There is also Radio Frequency Design by Wes Hayward
which is also vy good (from what I hear) and more recent.

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

3406. Re: Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <849305070snz@lfheller.demon.co.uk>
Source record: 100210

In article <57mro4$trr@camel4.mindspring.com>
ekugrad@mindspring.com "David Robbins" writes:

> My XYL bought a pair of touch lamps last week, and they generate an S8
> noise level, even when they are turned off. They turn off and on when
> I transmit.
>
> Has anyone had any luck eliminating these problems.

I think there was something about this type of lamp in the EMC pages of
Radcom a few months ago. I don't think they came up with a solution; the
supplier accepted them as being faulty, and made a refund.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)118 9471424 | many years ago in Oxford.

3407. BUSINESSEEK.COM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: webmaster@businesseek.COM
Message-ID: <19961129133240872.AAA248@bob.businesseek.com>
Source record: 100211

Hi.
Excuse me for this unsolicited e-mail. I felt this was the
best way to inform you of our new service.

Here at PERSONALSEEK, www.personalseek.com, we've decided to build
another free international search engine,but this one is only for
commercial organizations. It is called BUSINESSEEK and it's absolutely
free. Try it for yourself at http://www.businesseek.com/

The goal of Businesseek is to allow the user to find a company, brand or
product quickly and easily. We will provide your company with a password
so you can update your data instantly and at any time that is convenient
for you.

We suggest you first use your native language .You can then submit the
same information in other languages depending on the markets that you
would like to serve. There are no limits regarding the number of
submissions. The information intake form will be available in english
spanish,italian, french and german.

We also have a COMPANY NEWS OF BUSINESSEEK section, where you will be
able to put up to 1000 text characters text giving news about your
company.You can describe new products or brands, new researches, etc.,
using the password we'll give you after you add your data.

To add your data, go to add in
http://www.businesseek.com/
After you have your password, you can acces our news service at
http://www.businesseek.com/business/news

Yours sincerely.

Bob Ant
Webmaster of BusinesSeek
Webmaster of PersonalSeek

--
"Never has something so little gone so fast..."

3408. 4CX-10,000-J's WANTED, NEW or USED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Arthur Garabedian <westernmobiletel@worldnet.att.net>
Message-ID: <329F8864.4AC2@worldnet.att.net>
Source record: 100212

I have been looking for some 4CX-10,000's. I would like used or
new. ARTHUR, ANAHEIM, CA. . . .

3409. Kenwood TS-690S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: zeus@ppp4.niag.localnet.com
Message-ID: <57lego$f3h@prometheus.localnet.com>
Source record: 100322

I would like any information on the Kenwood TS-690S that anyone may have.
In particular, the fix for transmitting between 30 and 49MHz and increasing
the TX power that has gone down due to another mod I did to gain extra transmit
coverage (removal of the D21 diode), I need this info mainly for a
transverter I plan on building.
I would also appreciate any advise that anyone familiar with this model
could give me.

73's Nathan (zeus@ppp4.niag.localnet.com)

3410. TX CW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: juan@barrancas.com
Message-ID: <857327843001@barrancas.com>
Source record: 100323

DESEO ARMAR UN TRANSMISOR DE TELEGRAFIA PARA LA BANDA DE 80 METROS DE
BAJA POTENCIA A TRANSISTORES.
SI ALGUIEN POSEE UN CIRCUITO PRACTICO DE UN TRANSMISOR DE CW, LE
AGRADECERIA ME LO ENVIEN POR ESTE MEDIO O A MI DIRECCION PARTICULAR,
DESDE YA MUCHAS GRACIAS.

LU 3 EGX
JUAN F. MAZZARELLA
ARAOZ 847 (2942) BARADERO
BUENOS AIRES
ARGENTINA.

3411. wd: D2Mac coder!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: peter smit <peter_smit@hoogovens.e-mail.com>
Message-ID: <329E2A26.441E@hoogovens.e-mail.com>
Source record: 100324
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

I would like to buy a used D2Mac Coder (no decoder)

Peter Smit

3412. Antenna Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: 'Net Crusier <cajuncru@sprynet.com>
Message-ID: <01bbdc30$3b1b33c0$a7c2aec7@compuserve.com>
Source record: 100325

I have an idea. Why not connect a quarterwave antenna to the input of a 1w (homebrew) amplifier and then connect the output of that to a regular 35w amplifier and connect the output of that to a really good antenna. That way, I could be walking around with my Handie Talkie and have the benefit of the really good antenna .

Would this work?

How about making a pipe to fit around the HT's antenna so I don't have to disconnect it?

EMAIL your responses to me.
THANKS! 73!

3413. Tuning and SWR meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: 'Net Crusier <cajuncru@sprynet.com>
Message-ID: <01bbdc35$01d786e0$a7c2aec7@compuserve.com>
Source record: 100326

Can I determine if a antenna is tuned and has the lowest SWR by listening to the static on an unused frequency?

3414. Re: Linling radios together

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: 'Net Crusier <cajuncru@sprynet.com>
Message-ID: <01bbdc35$f034f340$a7c2aec7@compuserve.com>
Source record: 100327

Charles <cpierce@usit.net> wrote in article
<cpierce-1911962204240001@col-max85.dynamic.usit.net>...
> Does anyone have a diagram to connect two vhf radios together using the
> mic connections only to make a temperary repeater for emergency use?????
>
> Any sugestions would be appreciated.
>
>
> Thanks
>
> Charles KD4HHX
>

Couldn't you attach a VOX device from one transceiver's earphone outlet to
the other's PTT & mic and vice versa?

3415. How to get QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: ubas@rzstud3.rz.uni-karlsruhe.de
Message-ID: <57m51r$ph0@nz12.rz.uni-karlsruhe.de>
Source record: 100328

Hello.

How can I get the QST magazine?

73, Ralf, DF1IAZ

--
Ralf Haueisen *** eMail ubas@rz.uni-karlsruhe.de

3416. Re: Tuning and SWR meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov29.105345.24536@ke4zv.atl.ga.us>
Source record: 100329

In article <01bbdc35$01d786e0$a7c2aec7@compuserve.com> "'Net Crusier" <cajuncru@sprynet.com> writes:
>Can I determine if a antenna is tuned and has the lowest SWR by listening >to the static on an unused frequency?

Probably not. The SWR is determined solely by cable impedance and the impedance presented *at the load end of the cable*. During receive, the *receiver* is the load presented to the cable. If the receiver presents a load grossly different from the cable impedance, SWR will be high, but this tells you nothing about how the antenna might behave as a load. And since HF receivers are typically voltage driven and not power driven, a mismatch here may give a stronger received signal rather than a weaker one. (This fact is often exploited in test equipment, where a very high impedance probe is used to get maximum signal readings. If the probe were of matched impedance, the signal would drop by 6 db. It would be said to "load down" the circuit.)

You can generally infer that the antenna is resonant when maximum band noise is received. Generically that says nothing about SWR, but can be useful information nonetheless. An antenna can be considered a parallel resonant circuit, so the voltage across it peaks at resonance. That won't necessarily mean it is well matched when presented to the cable as a load, however.

For example, if the antenna is a dipole, you know that it will have a feedpoint impedance near 50-70 ohms when resonated, so it may present a good load to 50 ohm cable. However, suppose the antenna is an end fed longwire. At resonance, it may present an impedance of several hundred ohms. That's obviously a poor match to 50 ohm cable, yet band noise on receive will still be at a maximum when the antenna is resonant.

Source impedance has no bearing on SWR, and during receive, the antenna is the source. During transmission, however, the antenna is acting as a load and does control SWR. During transmission, the impedance of the driving source, IE the transmitter, has no effect on SWR either. Only the load and the cable characteristic impedance determine SWR. This appears to be much misunderstood in the amateur community.

You *can* use a receiver to measure antenna impedance match, however, if you use it as the detector in a noise bridge. The noise bridge drives the antenna as a load, and the receiver then is used to indicate bridge balance, and hence allows you to determine the impedance of the load. But sky noise isn't a noise bridge, so it isn't useful for this purpose.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3417. Re: Linling radios together

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov29.114719.24896@ke4zv.atl.ga.us>
Source record: 100330

In article <01bbdc35$f034f340$a7c2aec7@compuserve.com> "'Net Crusier"
<cajuncru@sprynet.com> writes:
>Charles <cpierce@usit.net> wrote in article
><cpierce-1911962204240001@col-max85.dynamic.usit.net>...
>> Does anyone have a diagram to connect two vhf radios together using the
>> mic connections only to make a temperary repeater for emergency use?????
>>
>> Any sugestions would be appreciated.
>
>Couldn't you attach a VOX device from one transceiver's earphone outlet to
>the other's PTT & mic and vice versa?

Yeah, you sure can, and you don't need the vice versa, one radio acts as
the repeater receiver, the other as the transmitter. You only need cross
coupling for a crossband repeater where each side has to alternately
transmit. For ordinary in-band repeating, one VOX will do it. (It's
better to attach internally to pick up squelch break, IE a COR signal,
but the VOX will suffice for expedient use if you set VOX delay to a
long value, IE a long tail time for the repeater. Otherwise the repeater
may chatter in and out of transmit as the operators pause to draw a
breath.)

Just make sure the radios are well separated from each other, and their
antennas are even better separated from each other to avoid desense. A
few hundred feet horizontally, or 10-20 feet vertically, will suffice at
HT power levels. For mobile rig power levels, you'll need much more
separation, like a couple of miles horizontally or several hundred feet
vertically, or you can use some good cavity filters, IE like those in a
repeater duplexer. (You can just *use* a repeater duplexer, and that'll
let you use a single antenna too.) Remember, however, that the cavities
have to be precisely tuned to the pair of frequencies you're using.
You can't QSY without retuning the cavities.

Be sure to ID the repeater. Ideally, you'll have an IDer in the
interface, but you can also just make sure to transmit through the
repeater at least once every 10 minutes and ID yourself and the
repeater. Unless you want to include a remote control link (on
222 MHz or above), you'll want to operate the repeater under local
control. You may want to parallel in a local microphone so you
can use the repeater as your station too.

You can buy a commercial interface to do this (advertised in the
ham magazines), or you can easily build it yourself. It's a nice
little project to have in your emergency kit. Make up a bunch of
different cables to fit various brands of radios, and you'll be

able to quickly cobble up an expedient repeater from any pair of
radios which are at hand.

A final note here. While such an expedient repeater is pretty
simple to rig up, there are some caveats. Of course you have
to pick a pair of frequencies in the repeater subband to use
it, and you really need to be aware of other repeaters using
that pair (and adjacent pairs) in the area. Otherwise you may
set up an untenable interference situation. Using a rig which
offers crossband repeating is often a more viable approach
since separation issues become moot, as do interfacing issues.
But again, you have to be aware of other repeaters, this time
on *both* bands, to avoid causing (or receiving) harmful interference.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3418. Re: How to get QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov29.115215.24979@ke4zv.atl.ga.us>
Source record: 100331

In article <57m51r$ph0@nz12.rz.uni-karlsruhe.de> ubas@rzstud3.rz.uni-karlsruhe.de (Ralf Haueisen) writes:
>
>How can I get the QST magazine?
>
>73, Ralf, DF1IAZ

Join the ARRL. See their web page, www.arrl.org, for membership details. If you want overseas first class delivery rather than bulk mail, that costs extra. QST is now also available on newsstands, so you might check with magazine distributors in your area to see if you can get it that way (it costs more that way though).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3419. Re: Antenna Idea!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov29.110926.24648@ke4zv.atl.ga.us>
Source record: 100332

In article <01bbdc30$3b1b33c0$a7c2aec7@compuserve.com> "'Net Crusier"
<cajuncru@sprynet.com> writes:
>I have an idea. Why not connect a quarterwave antenna to the input of a 1w
>(homebrew) amplifier and then connect the output of that to a regular 35w
>amplifier and connect the output of that to a really good antenna. That
>way, I could be walking around with my Handie Talkie and have the benefit
>of the really good antenna .
>
>Would this work?

Yeah, it'll make a dandy oscillator out of the amplifier. :-)

What is the strongest signal your quarterwave on the amplifier
input is going to pick up? The 35 watts output by the amplifier
of course. So you get a nasty feedback condition.

>How about making a pipe to fit around the HT's antenna so I don't have to
>disconnect it?

Now this *may* work, if you get a good connection to the shield side
of the antenna connector. I doubt the impedance presented to the radio
would be anything near normal, however, and that might cause damage in
a radio that is not well protected against abnormal loads. Most HTs
are well protected against abnormal loads, however, because a rubber
dummy load often *is* an abnormal load.

If the pipe acts as a shield, IE is tightly bonded to the radio
"ground" connection and tightly bonded to the coax shield, and
the antenna couples capacitively to the inner conductor of the
coax, this may couple enough signal to drive the amplifier while
not picking up enough of the amplifier's radiated signal to cause
a feedback loop. This is pretty Rube Goldberg, however, and it
seems simpler just to connect the coax in the ordinary way.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3420. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180002911960425060001@news.vcnet.com>
Source record: 100333

In article <1996Nov28.211626.21736@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> In article <measures-ya023180002411960917350001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
> >In article <575aig$8de@villa.fc.net>, filipg@paranoia.com (Filip M
> >Gieszczykiewicz) wrote:
> >> Greetings. I would just like to interject here that as someone who
> >> grew up after tubes "died" but is still MOST interested in these
> >> discussions... I'm now totally confused and lost.
> >>------------
> >I understand the confusion, Filip. There has been plenty of smoke and
> >mirrors in this debate, and I suspect there will be more. Briefly---The
> >roots of the debate date from 1926, when Mr. F. E. Handy said on page 72 in
> >the *Radio Amateur's Handbook*:
> >
> > "The combination of both resistance and inductance is very effective in
> >limiting parasitic oscillations to a negligible value of current."
> >
> > In other words, Mr. Handy found that VHF parasitic-oscillation
> >suppressors performed measurably better when the suppressor's inductor (L)
> >was made from resistance wire instead of copper wire.
>
> That does not appear to be what Mr. Handy was saying at all. The quote
> indicates that a combination of an inductor and a resistor is very effective
> as a parasitic suppressor.

Mr. Handy was talking about the suppressor inductor itself. I was talking about the suppressor inductor itself For a grid parasitic-suppressor, F. E. Handy recommends a100 ohm resistor and 10 ohms per foot resistance wire to wind the suppressor inductor. Quoting "The grid chokes in the photograph are most effective of all as a coil of resistance wire is used."

> That advice is, of course, correct, and is the
> way *every* parasitic suppressor is made today. Even yours. The resistance
> needs to be in *parallel* with the reactance, however, not in series with
> it, for best results.
>
This is the position of Mr. Rauch, who insists that insignificant VHF current flows through the suppressor L. Gary: Do you believe that insignificant VHF current flows through the suppressor L?

> Indeed, which is why there is a *paralleled* resistor across the inductor,
> to lower the suppressor's *VHF Q*, or more to the point, to increase the
> suppressor's *dissipation* at VHF. At *HF*, however, we want high Q so that

> we don't have attenuation of the *desired* HF energy.

I agree that we don't want HF attenuation. However, the additional loss created by a low VHF Q suppressor inductor is on the order of 1% at 29MHz and 0.2% at 14MHz. I found this acceptable because lower VHF Q suppressors eliminated occasional parasitic arcing in my SB-220 on 40m. If you feel that a 1% loss is unacceptable at 29MHz, then you should probably not be using lossy suppressor inductors. // Low VHF Q suppressors also eliminated the pecuilar double-peak in 40m output during tune-up. Other SB-220 owners have reported similar results in both of these areas.

Of late, I have seen plenty of seemingly-questionable VHF Q theories proffered hereabouts. If you have access to a dipmeter, Gary, you may (or may not) be interested in comparing the dip between a VHF suppressor L made from copper wire, and a VHF suppressor L made from nichrome resistance wire. If you are curious, but you need a low VHF Q suppressor to make the comparison, let me know for which amplifier. I will build a low VHF Q suppressor and mail it to you--free. The 55-cent stamp is on me. This offer is good whether or not you report your findings on this newsgroup.
---
e-mail copy to Mr. Coffman, Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3421. RCI2950:SOLD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Dave <ka1wgn@tiac.net>
Message-ID: <01bbdd8d$bbfd7da0$3bed77ce@ka1wgn>
Source record: 100334

THANKS
Dave,n1iqo

3422. ShortWave transmitter wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: Tony <kiss@iol.ie>
Message-ID: <57mq7m$1nr@nuacht.iol.ie>
Source record: 100335

If anybody knows where abouts I can obtain a Secondhand
broadcast transmitter?

100-200watt approx.

Mail Tony G.

kiss@iol.ie

3423. Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: ekugrad@mindspring.com
Message-ID: <57mro4$trr@camel4.mindspring.com>
Source record: 100336

My XYL bought a pair of touch lamps last week, and they generate an S8 noise level, even when they are turned off. They turn off and on when I transmit.

Has anyone had any luck eliminating these problems.

Thanks for any help.

David, KA4IKH

3424. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-29 00:00:00 UTC
From: "Richard F. Gillette" <r.f.gillette@ieee.org>
Message-ID: <329ED116.4560@ieee.org>
Source record: 100337

Brian Kline wrote:
>
> Dave Morrow wrote:
> >
> > I'm trying to build a 13.8v 20amp power supply and I'm having difficulty
> > locating a transformer. This project may be more difficult than I
> > thought. I'm looking for a 120v primary and 20v - 25v 10amp secondary or
> > something close. Of the places I've called they don't carry it or they
> > want $200.00 for it.
> >
> > Any words of advise? Any ideas as to where to find a transformer at a
> > cut rate price?
> >
> > Help!!
> > Thanks, Dave
>
If you can find 5v. 20a. power supplies cheep (most ham fests
have them) look at using 3 in seties with their outpur adjusted
to 4.5/6 v. (3 times 4.57 = 13.71v). Keep all floating from
chassis except the return of the first one.

110 >> 4.57 + 13.7v >
-
| jumper
110 >> 4.57 +
-
| jumper
110 >> 4.57 +
- gnd >

I have used same for club station and has worked without problems
for the last 3 years. I used 3 @ 5v 35a and it feeds 2mtr/440 35w
100W hf and tnc. 73 W9PE
--
Richard F. Gillette P.E., Board Member, Harper C.C. \\////
RF gillette inc. PO Box 1605, Palatine, IL 60078-1605 (OO)
r.f.gillette@ieee.org, v)847-526-2626, f)847-526-2944 oo00=={}==00oo=

3425. NASA, Shuttles, and Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961130.001135.4775.1.d.nordquest@juno.com>
Source record: 100138

Gary's posting on Shuttle problems was excellent.

A couple of points, though. The later quotes that he seemed to attribute to me were actually Tom's. Also, the discussions where the Thiokol engineers were "browbeaten" were, perhaps, not quite so one-sided as Gary implies. The engineers did not do as good a job making the case against a launch as they might have. One example: in presenting evidence meant to show a correlation between low temperatures and o-ring erosion, they presented only those cases in which there was erosion. However, the temperatures in those cases varied from about 53 degrees to 75 degrees. There was one incident of erosion in each of those seven missions, except for those missions launched at both the lowest and at the highest temperatures! (There were 3 and 2 incidents, respectively, in those cases.)

Had the engineers presented a chart including all missions, those with and those without o-ring erosion, the correlation between temperature and o-ring damage would have been much clearer. None of the flights NOT showing o-ring damage was launched below 65 degrees. However, of flights showing the erosion (i. e., the only ones used as evidence by the engineers in the pre-launch meetings), four were launched below that temperature and three above. The correlation they presented between temperature and erosion was hardly as convincing as it could have been, then.

Feynman thinks that various pressures led NASA managers to bend standards as they got away with anomalies. However, I don't think they realized the actual technical risks they were taking. No doubt Mr. Mulloy made it too hard for engineers to block the launch. However, one might wonder if part of his frustration was not due to the lack of a really convincing case against launch by the engineers in question.

By the way, in the "He Fixes Radios By Thinking" chapter I mentioned before, Feynman is a young kid who gets a reputation for being able to fix stuff. It's during the depression, as I recall, so a guy who has a terrible oscillation in the audio comes and picks Feynman up and drives him to his house. Feynman turns the radio on and hears the ungodly noises. So, he starts pacing back and forth until the owner says to him something like this: "What are you doing anyway? I thought I brought you here to fix the radio." Feynman responds: "I'm thinking!" Then he goes to the radio, switches two tubes and the oscillation is gone! The guy is suitably impressed and tells everybody "he fixes radios by thinking!" Feynman's explanation is in "Surely Your Joking, Mr. Feynman!" (which was the Princeton Dean's wife's response when he later asked for both lemon and cream in his tea.)

Dave

3426. Transistor equivelents

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: pmooney@onyx.octacon.co.uk
Message-ID: <57q0hm$88d@runswick.octacon.co.uk>
Source record: 100139

Hi everyone,

I'm looking for a source of transistor equivelents on the Net.
I've tried all the search machines I know but got no joy.

Is there anyone out there who could point me in the right direction,
please?

73s de Paul G7SPV

3427. GUILTY

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Dave <ka1wgn@tiac.net>
Message-ID: <01bbdef6$7d9bbc60$25ed77ce@ka1wgn>
Source record: 100140

Sorry !!

I posted a pic of an amplifier for a reply
I know now that it's a no no.

Dave,n1iqo

ka1wgn@tiac.net

oh,
The pic was of a 3-400Z from ARRL handbook
1967 Red cover.
If you need it
E-mail me and i will send it to you via E-mail

3428. ICOM IC-230 Accessory plug

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Bigdad <Bigdad@Rworld.com>
Message-ID: <57q3m4$9fu@kirin.wwa.com>
Source record: 100141

Not sure if this made it thru last time so please bear withe me...Im in need of the pinout of the accessory plug on the Icom IC-230 2m radio, sure hope someone can help me here...thanks!!

3429. Re: TIPS: C.W. 2.4 GHz 10 KWh Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32a09a1a.52034729@news.santafe.edu>
Source record: 100142

bohigas@aol.com wrote:

>Dear Forum Members:
>
>I am looking for some quick ideas to build a C.W. 10 KWh, 2.4 GHz
>MW dummy load, perhaps you have some suggestions.
>
>Any quick fix or hint would be much appreciated. I was considering
>building an oil cooled dummy load, using a tradiitonal UHF design as
>used in most amateur radio shacks, but I would like to hear your
>comments first, before I take the house down.
>
>
>Thank you for your help.
>
>
>Alberto.

I have made a dummy load for 425 MHz using a technique that you may be able to apply at 2.4 GHz. Basically you make a tapered water load. Take a section of waveguide several guide wavelengths long (or make a rectangular pipe the same size as whatever waveguide you are using -WR-340?) and mount it at a shallow angle, wide side horizontal. Fill it with odinary tap water to a level that fills the guide at the low end and doesn't overflow at the high end. If you are feeding the load with waveguide, you will need a bend to mate with the load section. You will also need some sort of moisture barrier the keep water vapor from condensing in the remainder of the waveguide. And, in order to remove 10 kW of power from the load you will need to circulate the water to a heat exchanger or run tap water and flow it into the drain. It wll take only a few gpm to keep the temperature rise reasonable. If you make the load too short you may not have a good VSWR. Also, the heating will be concentrated in the shallow end and you may not be able to remove it fast enough to prevent boiling.

Oh,yes. Put a vent pipe on the top side to prevent pressure build up. A 5 or 6" long piece of 1/4" ID pipe ought to do the job.

On the one I built, I was driving with coax at 425 MHz and coupled to the load with a stub antenna - just the center conductor extending into the wave guide a ways. I varied the length of the stub and its distance from the near end wall to get the best VSWR at the operating frequency.

Yuo can also use this load as a calorimeter to measure the power if you know the flow rate and the temperature rise, assuming you have

enclosed the load in styrofoam or something to prevent excessive heat loss to the air.

I also once made a load from a met garbage can filled with water, but it was not so broadband and was a bit harder to tune.

Jim Potter

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3430. Re: Inexpensive but reliable frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Nov30.205716.2973@ke4zv.atl.ga.us>
Source record: 100143

In article <57o1dv$s3h@cocoa.brown.edu> CC015012@brownvm.brown.edu (John 015) writes:
>In article <1996Nov26.195159.11361@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary
>Coffman) said:
>
>>IMHO, a counter is a lot less useful than it may at first appear.
>>Counters only give reliable readings when fed pure sinewaves.
>>They will often lock to a harmonic or subharmonic of a typical
>>complex signal. *AND YOU WON'T KNOW THAT.* I'd much rather have
>>a scope, even a relatively cheap import scope, than to have a
>>counter. Of course having both is better.
>
>Having just added a Monsanto 1500A to my collection
>(I'm looking for the schematic so I can learn how
>it works) I've seen the count vary with trigger level
>and be way off on complex waveforms with not that
>much energy in the harmonics.
>
>I don;'t understand why it's so easily fooled.
>Care to elaborate a little of why clean sinusoidals
>are required ?

Sure, a clean sinewave is a single frequency, *any* other waveform
can be shown by Fourier analysis to be a combination of sinewaves at
a number of frequencies (which may be harmonic or non-harmonic). For
example, a squarewave is made up of a sinewave at the fundamental
frequency *and* all of the odd harmonics of that frequency. An AM
modulated signal is made up of carrier, fundamental modulation
frequencies, and their products, the sidebands, none of which are
harmonically related.

With any waveform other than a sinewave, the counter can lock to
any of the sinewave components making up the signal, depending on
a number of variables which aren't always under your control.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3431. Satellite Receiver ******FOR SALE******

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: newsat@ix.netcom.com
Message-ID: <57qcu1$rvd@dfw-ixnews5.ix.netcom.com>
Source record: 100144
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,

Used

Toshiba TRX 80 with VC2+ $275
Panasonic 4500 with VC2+ $275
VC2+ decoder $150

A complete system with receiver, VC2+, new 25 degree LNB, new feedhorn, new 24" actuator, new 7.5' mesh dish for ONLY $625 plus shipping.

E-mail reply please
Thanks, Maura

3432. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180003011961434390001@news.vcnet.com>
Source record: 100145

In article <19961129161700.LAA07629@ladder01.news.aol.com>, w8jitom@aol.com
wrote:

> In article <measures-ya023180002811961117130001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
snip...
> And while you say that, you avoid answering the question about Q.
> Interesting.
>
First things first, Tom. The Q business is coming.

> I have network analyzers and other RF impedance measurement devices. And
> yes, I even have a grid dip meter.
>
> The point remains what can you possibly do with a grid dip meter Rich?

I'm trying, I'm trying, but the guy with the AL-80 keeps stalling and
stalling, and nothing happens. The nice thing about a dipmeter is that it
does not require a physical connection to the circuit under test--as is the
case with other types of test equipment.

> It won't tell you a thing about the impedance of the system, other than
> reactance crosses zero at some frequency near the dip. Big deal.

If it's not a big deal, why not use your dipper to find the anode's
resonance point in the AL-80? If I sink, score one point for Mr. Rauch.

> Why waste time with a useless exercise.

Try me. I will be as brief as possible.

> > Tom: In order to try and get a handle on what's happening, I will give
> >you the benefit of the doubt and guesstimate that the anode resonant
> >frequency in the AL-80 is 160MHz
>
> You have an uncanny physic ability Rich.
snip

Thanks, Tom. BTW, what is a "physic ability".
The reason I had to guess at the 160 figure is because somebody is
withholding the actual anode resonant frequency.

> > Using the formula XL=2*Pi*f*L,
> >at 160MHz, 85nH has 6.28*1.6*10^5*85*10^-9=85.4513, or roughly 90 ohms of
> >reactance. To find the current distribution, we can apply 1V to the
> >paralleled Rs and Ls. The resulting current through Rs is 1v/100 ohms =

> >10mA. The current through Ls is 1v/90 ohms = 11.1mA.

> >The total current is 10mA plus 11.1mA = 21.1mA.

OOPS. Big mistake Rich.

I am surprised that Tom didn't catch that one. The currents DO NOT total 21.1 mA because they are not in phase---as Mario, S53A, pointed out. Thanks, Mario.
However, the currents in Rs and Ls are not 90 degrees apart either. The L in the Rs I use is around 18nH. Thus, the current in Rs lags the voltage by roughly 20 degrees. Also, the intrinsic VHF R in Ls is not known. Thus, the VHF current in Ls is slightly less than 90 degrees behind the voltage. Another problem is that the intrinsic R in Ls, and the intrinsic L in Rs causes slightly less current to flow in each element than my current calculations indicated. All things considered, however, it seems logical that similar amounts of VHF current flow in Ls and Rs.....so there is still a hole in the opinion Tom Rauch has held since 1990--i.e., that no significant VHF current flows through a VHF parasitic-suppressor's inductor.
>
> You do not even understand the concept of current flow in a circuit with
> reactance. All you have shown is the Q is just over one. ...snip...
> The Q is just barely over one. How much lower can nichrome make the Q go?
> What is the lowest practical or possible Q?
==========
OK, Tom, let's do Q.

A pure inductance with a reactance of 2 ohms is in series with a pure resistance of 10 ohms. What is the Q? // If the same inductance and resistance are connected in parallel, what is the Q?
==========
> You have claimed, before the whole world,...

Give us a break, Tom. The whole world? With all of the stalling that's going on, there might only be a few people tuned in. We still don't know the name of Mr. XXX or whether or not your AL-1500 amplifier design incorporates a VHF parasitic-oscillation suppressor. OTOH, the mysterious Mr. Miklos, who has never spoken with me, yet who reportedly refuses to speak with me on the telephone, perks up the plot a bit---even though it does sound like something out of a daytime television soap-opera. Are we supposed to pretend that Mr. Miklos can not hang up the telephone as need be if he speaks to me?

snip
> So now it is Mark Wilson also.....

Alas, even though Mark Wilson installed a low VHF Q parasitic suppressor retrofit kit is his once-squirrelly Alpha 77 amplifier, for some indeterminate reason, on page 74 in the September, 1994 issue of QST, he allowed Tom Rauch to say:

"The coil's reactance increases with frequency and at VHF most of the signal path is through the resistor. It is plainly evident that the dominant component at VHF is the resistor, not the coil."

I suspect that Mark's primary mistake was taking Paul Pagel out of the loop for the Sept. 1994 Technical Correspondence column. If Mark had given Paul the opportunity look this over, it seems pretty likely that Paul would have spotted the problem BEFORE it went to the printer. Another problem that might have been spotted was Fred Telewski's unenlightened statement about choke power supply filters being okay for use in linear amplifiers. Telewski's statement raised the eyebrows of all of the amplifier builders I know.

The pronouncement that, at VHF, no significant current flows in "coils" (inductors) is indeed specious. Your continued belief in this pronouncement is an enigma to me, Tom.
---
e-mail copy to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3433. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbdf0e$7b3dbb40$826d3bc6@internet.roadrunner.com>
Source record: 100146

Rich,

Sorry to be so late in replying, but I had a massive disk
crash/corruption and I'm still trying to recover.

Thank you for your thoughts and suggestions on this matter and I will
happily try one of the parasitic reduction kits you are providing.

As we discussed, I will be sure to post the results of the installation
of this kit and be sure to let all who are interested know about the
progress!

Again, thank you very, very much for your help! And experience!

Best regards,

David (K5KH)

R. L. Measures <measures@mail.vcnet.com> wrote in article
<measures-ya023180002911960933390001@news.vcnet.com>...
> In article <01bbdd57$e8537f20$8f6d3bc6@holtkamp.roadrunner.com>, "David
B.
> Holtkamp" <holtkamp@roadrunner.com> wrote:
>

3434. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbdf11$127339c0$826d3bc6@internet.roadrunner.com>
Source record: 100147

Hi Tom!

Thanks for your reply, and here's some more detail that might be helpful
>
> You can not fully restore a capacitor's voltage breakdown by this method.
> The voltage gradient at any point is determined by the radius of the
> plate, and any microscopic burrs and points.
>
> To give you an example, the plates of a capacitor are tumbled in
something
> as mild an abrasive as walnut shells for several hours to polish them.
> Even the slightest nick or scratch on the surface will lower the voltage
> breakdown.

Yes, indeed. I was initially thinking that it was my imperfect tuning cap
repair job that caused
it to start arcing again. But after I installed the brand new tuning cap,
I noticed that it would arc
on 160 m just as it had before (low HV setting - CW setting, near 600 w out
in CW, would
arc instantly if I set it to SSB HV setting and keyed the mike, even if it
didn't arc at
lower power/lower HV in CW).

I wonder if the new cap had the same flaws? Seems unlikely...especially
considering I ordered
it directly from Kenwood and paid top $$ (ouch!).

> Sometimes running less power aggrivates the situation. All exciters
suffer
> from ALC response time lags, and are prone to power overshoot. This is
too
> fast for some conventional PEP meters to read, but it is there.
>

Possible. I'm running a TS940S into it with ALC properly adjusted, etc.
Might it still
be overshooting?

>
> I think you are tuning the PA wrong. If you tune it for less than full
> peak drive, you will be open for this problem. It also coud be the relays
> are not closing in the correct sequence.

I am trying to follow the kenwood published directions ("Tuning up a
LInear

Amplifier" Kenwood newsletter Vol 2, issue no. 1). In it they recommend initial
tuning at an exciter of 50 w or less (I typically use 10 or so to get it close) then run up to 50
and retweek. A final quick tune up at something close to 100 w drive (ALC kicks in at about
70-80 w or so usually) often drives it into arcing.

>
> SWR has nothing to do with this, as long as the tank adjusts correctly
> into the load and the SWR does not change during operation.
>

Nope. SWR doesn't change - load/tune settings change slightly as I increase
the drive/output power but not by much.

> If you are tuning up at 200 watts, you are asking for trouble.

Why? I described above how that is the initial tune which is tweeked at nearer max power out. Is there something else here that I don't know about?

> If you have VHF parasitics, they will be there consistantly. You can test
> for them by unterminating the PA (no input or output connections) and
> closing the relay. Use the highest HV setting and if you can boost the
> line voltage 10% or so by all means do it.
>
> Rotate the tuning and loading controls, and bandswitch through their
> ranges while watching the grid and plate current. If the PA does not
> oscillate, it will certainly be stable with a load on the input and
> output.
>

I will try that and report what I see. Hope I don't hurt anything...<g>

> >3) Can this problem be aggravated by RF in the shack? I have a modest
> >amount of it I'm sure...
>
> Yes, because that will destroy ALC action and cause severe power overshoot
> from the driver.
>

How can I diagnose the RF overshoot better?If it is genuine RF power overshoot
from the Transceiver, then wouldn't it be there when I run it into an antenna directly?
Or would it only be there when going into an amp?

> The TL-922 is fine. Please describe HOW you tune it up. That would help.
> What is your exciter?

Hope I've answered these issues above. But let me detail my tuning procedure.

1) set antenna tuner close to good match conditions (from logs of previous good matches)
2) key TS940 alone at 5 w or so and tweek up the antenna tuner for 1:1 or darn close.
3) turn on amp with exciter at 10 w or so and tune quickly for max out with both tuning and load
caps in the 922.
4) recheck good SWR (minimize reflected power) with antenna tuner
5) turn up exciter to 50 w or so and quickly retweek the PA for max out
6) assuming I'm not arcing, edge up the exciter to 70-80 watts - at this point I generally
never have to readjust the PA or perhaps at most just a little. This is done quickly for obvious
reasons.
7) arcing sometimes occurs in step 6. Always CW setting on HV minimizes arcing. If I try the
SSB setting on HV I will always arc when I key the mike and utter a little audio.

Hope that is enough detail <whew> Thanks again for your help and suggestions!!!

David (K5KH)

3435. Drake MN 2700

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Noel KF6CAD <desira@qnet.com>
Message-ID: <32A0CC20.6EA1@qnet.com>
Source record: 100148

Looking for a copy of the user manual for the Drake Antenna Tuner and
Schmatics. ALso any info on year it was built would be thankfull.
The model number is MN 2700 Matching Network.
73's de Noel
kf6cad@juno.com

3436. Re: TIPS: C.W. 2.4 GHz 10 KWh Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: bohigas@aol.com
Message-ID: <19961130234900.SAA04498@ladder01.news.aol.com>
Source record: 100149

Jim:

Thanks that was a very interesting suggestion, I will give it
further reflection once I get off line.

Alberto

3437. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: bs02@engr.uark.edu
Message-ID: <32a1b458.7226315@news.uark.edu>
Source record: 100150
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

There are only 3 laywer jokes...

all the rest are true stories!

On Tue, 26 Nov 1996 00:09:28 GMT, dnorris@k7no.com (CDN) wrote:

>kd1nr@anomaly.ideamation.com (Anthony S. Pelliccio) wrote:
>
>
>>For some absolutely hysterical lawyer jokes surf on over to
>>http://cartalk.com and look for the picture of a shark with a tie on. Click
>>on it and be launched into a sampling of NOLO Press' favorite lawyer jokes.
>>
>>Tony
>
>
>Why is it that when you tell a 'joke' about an Irishman it is called
>tasteless; when you tell a joke about a black it is called racist, and
>when you tell a joke about a lawyer it is called funny?
>
>hmmmm
>
>cdn
>
>

3438. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Bill@halcyon.com
Message-ID: <NEWTNews.849404703.26069.bill@bill.halcyon.com>
Source record: 100151
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,alt.radio.digital,alt.ham-radio.vhf-uhf,alt.ham-radio.uwave,alt.ham-radio.ssb,alt.ham-radio.spread,alt.ham-radio.slowscan,alt.ham-radio.rtty,alt.ham-radio.packet,alt.ham-radio.nocode,alt.ham-radio.morse,alt.ham-radio.hf,alt.ham-radio.fm,alt.ham-radio.fax,alt.ham-radio.exotic-modes,alt.ham-radio.eme,alt.ham-radio.dxing,alt.ham-radio.digital-voice,alt.ham-radio.binaries,alt.ham-radio.amtor,alt.ham-radio.am

> Clifford Buttschardt wrote:
> >
> > I've had the very same difficulty for weeks! Cliff K7RR
> >
> > On Wed, 27 Nov 1996, Jay wrote:

snip

>
> I just got it using Netware 3.01 with no problems whatever. Try again!
>
> -- N6AXB in Cave Junction, Orygon.
> ---
> Lee, of the Independent Republic of Jefferson: (leeschen@cdsnet.net)
> We laugh at honor and are shocked to find traitors in our midst.
> -C. S. Lewis
> ---

Hey Guys,

Why is this thread propigated to 29 different news groups? That is a horrible waste of spectrum.

Please Please dump all of the news groups from your replies except one. alt.ham-radio.digital-voice seems like the right place to me.

Please let this message be the last one to all 29 news groups.

Bill

3439. Re: MAR-1,2,3,4,4,6, where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <849376197snz@lfheller.demon.co.uk>
Source record: 100152

In article <57ounp$2fm@castor.utu.fi>
PAYRAS@sara.cc.utu.fi "�yr�s Pertti" writes:

> I have plans to build a rf amplifier using those MAR-X (dont recall
> the number) devices. But I cannot find them in Finland. Does
> anybody know where I could purchase them? Please e-mail me if you
> have information.

The Mini-Circuits distributor for Finland is:

Integrated Electronics OY AB,
SF-00701 Helsinki.
Tel: 358 0 351 3133

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)118 9471424 | many years ago in Oxford.

3440. Home brew back up power.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Bryan Nelson <bjnelson@TheEpicenter.com>
Message-ID: <32A0F551.5107@TheEpicenter.com>
Source record: 100153

This weeks Emergency Preparedness "Tip Oï¿½da Week" is on building your own generator (AC and DC) using a gas edger motor, car alternator, and a power inverter (if AC is required).

Home Brew power (on the cheap)! A T.O.W. visitor submission, with additions by the crew at TheEpicenter.com.

http://TheEpicenter.com/tipoweek.html

While there, check out the past episodes on generators called "Everything you ever (or never) wanted to know about emergency power, lights and generators!"

Part one can be found at http://TheEpicenter.com/tow01076.html
Part two is located at http://TheEpicenter.com/ tow1230.html

Bryan

--
Bryan Nelson, TheEpicenter.com
The Emergency Preparedness Information Center (Epicenter)
6523 California Ave. SW #161 Seattle, WA 98136
Web site.... http://TheEpicenter.com
Email..... bjnelson@TheEpicenter.com

3441. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: kd1nr@anomaly.ideamation.com
Message-ID: <57qr02$qm@anomaly.ideamation.com>
Source record: 100154
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <32a1b458.7226315@news.uark.edu>, <bs02@engr.uark.edu> wrote:
>There are only 3 laywer jokes...
>
>all the rest are true stories!

I can pretty much believe that. After reading those it makes me wish
I had a daughter so I could forbid her to marry a lawyer. :)

>>Why is it that when you tell a 'joke' about an Irishman it is called
>>tasteless; when you tell a joke about a black it is called racist, and
>>when you tell a joke about a lawyer it is called funny?

Even though you didn't post this, I missed the original response so here
goes:

The reason it's funny is because by and large most lawyers are lower
than slime.

Tony

3442. Need part X-reference..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <32A12130.4D62@wco.com>
Source record: 100155

I have the Kenwood TS-9000 allmode 2M rig with a blown output IC.

The number on the IC is M57713.

It's the 5 lead type RF chip and appears to have the Mitsubishi logo on it..

Any help in cross referencing or locating an OEM would be greatly appreciated.

Thanks in advance.. Jim, KB6ZOP

3443. Re: ** RF Transmitter Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Randy Jones <rjones@plix.com>
Message-ID: <32A12E89.3C24@plix.com>
Source record: 100156

mwilsher@randomhouse.com wrote:
>
> I'd like to learn how to design RF tx/rx devices. I have built some "single
> chip" trans/recv pairs and I have a Digital Eng. Degree. And have done some
> analog work, but I know little of RF Design. And would like to know of books
> (ISBN# if you have them) or WWW sites or whatever info that anyone could
> pass on. Right now it'd like to build a phone mode FM crystal transmitter
> and receiver since they seem to the most simple. And mabye later try doing
> adding a VCO. I just want to start out simple so I can grasp the calculations
> and design technique crystal based seem to be a good place to start. Also
> I have seen the ARRL Radio Designer 1.5 does anyone know anything about it?
> Can it teach me RF design or doest it assume you know RF and act more as
> a tool? And any other notes/opinions good or bad about the ARRL Radio
> Designer?
>
> Thanks,
> Mike W - KC5B0D
> mwilsher@randomhouse.com

Any Ham, worth his salt, ought to have (at least) one copy of the ARRL
Handbook (formerly the Radio Amateur's Handbook).
This book has a treasure of electronics (RF and other) design theory and
projects. Regardless of many peoples feelings about the ARRL, as a whole,
they DO have some pretty handy books.
There is, also, a book out called RF Design that has quite a bit of
information, on a more "engineering type" scale that you might be
interested in. I'm flipping through my Electronics Book Club info, right
now, but can't find the book so I can't get the publisher or ISBN.
Why don't you locate the McGraw-Hill or TAB web pages and see what you
can find. I'd give you the URLs but NetScape crashed and lost all my
bookmarks and I haven't relocated those sites yet.
Hope this helps.
Randy.

3444. Re: Amplifiers & NASA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Randy Jones <rjones@plix.com>
Message-ID: <32A12F41.42E8@plix.com>
Source record: 100157

d.NOrdquest@juno.COM wrote:
>
> Rich is surely correct that Challenger shouldn't have been launched. My
> point, though, was that NASA did not have pictures of 10 previous
> launches in which fire could be seen -- and was seen -- shooting out the
> booster rocket's side. That suggests real recklessness. The truth is
> less melodramatic.
>
> Anyway, Richard Feynman's account can be found in his book "What Do You
> Care What Other People Think?" A sociologist recently published a book
> under the title "The Challenger Launch Decision." It handles questions
> such as Rich raised, but comes to different conclusions.
>
> In another collection of Feynman's writings, "Surely You're Joking, Mr.
> Feynman," there's a great chapter called "He Fixes Radios By Thinking,"
> which deals with, as I recall, amplifier tubes. I think anyone on this
> list would love it. Anyway, fixing radios by thinking is what you guys
> do, while I watch, so have at it.
>
> Dave

Huh?

3445. Re: How to get QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Randy Jones <rjones@plix.com>
Message-ID: <32A131F3.6207@plix.com>
Source record: 100158

Ralf Haueisen wrote:
>
> Hello.
>
> How can I get the QST magazine?
>
> 73, Ralf, DF1IAZ
>
> --
> Ralf Haueisen *** eMail ubas@rz.uni-karlsruhe.de

Try joining the ARRL.
Their URL is "http://www.arrl.org/".
If joining is out of the question, they can probably respond to an
inquiry with a magazine outlet (somewhere) near you.
Currently, our local pharmacy carries QST in the magazine stand.
Good luck.
Randy/N7CKJ.

3446. Re: Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Randy Jones <rjones@plix.com>
Message-ID: <32A13447.4BA1@plix.com>
Source record: 100159

Don Phelps wrote:
>
> Ek> My XYL bought a pair of touch lamps last week, and they generate an S8
> Ek> noise level, even when they are turned off. They turn off and on when
> Ek> I transmit.
>
> Ek> Has anyone had any luck eliminating these problems.
>
> David,
> Divorce is the normal method.
> Other than that, you could give her a special present of
> a dozen roses, a night out on the town, much flattery
> and a pair of twist knob lamps with 3-way light bulbs.
> Dimmers, XR-10 controllers, florescent lights, and
> especially touch lamps, should be carefully eliminated
> from a ham's QTH.
>
> Don, N6MCE
>
> ... Don.Phelps@Infoway.com 1:125/104 POBox 9739 San Rafael,CA 94912
> ___ Blue Wave/386 v2.30 [NR]

I'm beginning to think that we should start a wild rumor about how the oscillators (in touch lamps modules) could cause brain tumors with long term exposure. This sure put a scare into cell phone users!

Randy.

3447. Re: Transistor equivelents

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: stevem@best.com
Message-ID: <57rckm$h1u@shellx.best.com>
Source record: 100160

In article <57q0hm$88d@runswick.octacon.co.uk>,
Paul Mooney <pmooney@onyx.octacon.co.uk> wrote:
>Hi everyone,
>
>I'm looking for a source of transistor equivelents on the Net.
>I've tried all the search machines I know but got no joy.
>
>Is there anyone out there who could point me in the right direction,
>please?
>
>73s de Paul G7SPV
>

If by these you mean spice models or S parameters for RF transistors
I have not seen any on the usual corporate websites yet. I know
you can get them on disk from Motorola, NEC and HP for the asking.
I would try your local rep. Hopefully, they will appear on the web
eventually.

Steve M. WF6R

3448. OM322 module - possible a V/UHF amp ? any details please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: andrew@phicom.dungeon.com
Message-ID: <329f17be.0@news.flexnet.net>
Source record: 100213

I have in my possesion a number of 5 terminal modules labelled 'OM322'
- there is also some sort of date/revison number 'B649'.

I guess they were made by Mullard/Phillips or similar, two terminals
on one side, and 3 on the other. The devices are a small encapsulation
bonded to a mounting tab.

If anyone could point the way to some data (if they are of any use for
TXers etc.) I would be most pleased.

Thanks,

Andrew
G6ALB

3449. Re: Peter Dahl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Bill@pa.net
Message-ID: <329fa680.58954462@news.pa.net>
Source record: 100214

On Tue, 26 Nov 1996 11:32:24 GMT, sam2316@america.com (Sam Fant Jr.)
wrote:

>Dan Bryden <bryden@deltanet.com> wrote:
>
>>I've seen Peter Dahl's name listed several times in reference to
>>supplying transformers for power amplifiers. Does anyone know where I
>>can contact him for more info. Dan
>
> PETER W. DAHL CO. AMATEUR RADIO TRANSFORMER LISTING AS OF 02/19/96.
>TELE: (915) 751-2300 5869 WAYCROSS AVENUE EL PASO, TX 79924 FAX: (915)
>751-0768. MODEL.
I've delt with these people on a few occasions and I must say that
they were real pro's and very patitent-Good People!

3450. WTB: Electronic mags from 1974-1975

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: tamgree@aol.com
Message-ID: <19961130012400.UAA15976@ladder01.news.aol.com>
Source record: 100215

Please e-mail with more information, thanks, David.

3451. 3-500Z amp schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: nv0y@horizon.hit.net
Message-ID: <57o4eh$dd4@opal.southwind.net>
Source record: 100216

I am in need of a diagram of an amp using a single 3-500Z, GG, no tuned input. I built one several years ago and have since lost the ARRL Handbook (1960's vintage, red soft cover). I'm having some problems and need it for the specs for the output circuit. Any schematic meeting these criteria would be helpful. Thanks, Mike, NV0Y.

3452. Re: OM322 module - possible a V/UHF amp ? any details please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: bspeed@swbell.net
Message-ID: <57o5rh$prh@news1.rcsntx.swbell.net>
Source record: 100217

andrew@phicom.dungeon.com (Andrew Burge) wrote:

>I have in my possesion a number of 5 terminal modules labelled 'OM322'
>- there is also some sort of date/revison number 'B649'.

>I guess they were made by Mullard/Phillips or similar, two terminals
Philips/Amperex.

>If anyone could point the way to some data (if they are of any use for
>TXers etc.) I would be most pleased.
Some of these were suitable as CATV amps....

OM322: Bandwidth: 40-860Mhz, 24V supply. Supply Current 60mA, 2
Stage, 15dB Gain, 7.0dB Noise Figure, 3tone output level for -60dB IM
= 103dBuV
Looks like it was inteded for CATV service by the inclusion of the
-60dB IM spec.
I only have the short form data on this device.
Try Philips databook, IC-16 , wideband amplifier modules.

73, KA5TOY

3453. Free Boonton 250 (broken)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: wa8mcq@u1.abs.net
Message-ID: <57o6qi$ff6@news.abs.net>
Source record: 100218

I picked up a Boonton 250 RX meter at a bargain price, "as-is" at a hamfest a few months ago. It was a good learning experience for $10, since it is fatally broken--one of the main tuning capacitors, the one attached to the terminals on top, had the ceramic frame cracked by a heavy object falling on it somewhere in the past. It is entirely beyond repair.

If anone wants the unit, they can have it free. The only catch is that you have to pick it up--these things weigh a ton! I don't know if it works otherwise--I was too lazy to check it out--but it at least appears to be physically complete and thus a good source of parts. There was no other apparent damage beyond the cracked capacitor body.

I'm located about halfway between the Washington DC and Baltimore beltways.

--
--WA8MCQ@abs.net

3454. F.S. - Lots of tubes and related items

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: rog42@aol.com
Message-ID: <19961130032100.WAA17884@ladder01.news.aol.com>
Source record: 100219

FOR SALE: Tubes, test equipment, radios including Hallicrafters, Hammarlund, and Philco. Other older tube type radios and radio related publications. Schematics for many radios just $1. Tube Manuals, Tube Substitution books, Service Manuals, QST magazines, much more from the 30's, 40's, 50's, 60's. Now over 1500 different tube types in stock - E-mail Rog42@aol.com and ask for my latest RADIO list - #1123-T.

3455. power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Martin Bowers <mbowers@public.compusult.nf.ca>
Message-ID: <57o6pe$38c@hobbes.compusult.nf.ca>
Source record: 100220

need some help

i came accross some 12,28,48 lambda supplies. i know i can bring
these down to 12 with 3 terminal regulators. but i want mega current
the 12's are 3 amp can i gang these together to up the amps. what
alternitive do i have bringing the 48 to 12v 20amp. any help would
be appreciated. tks

3456. good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbde75$03094660$23229bcf@kn6dv.qnet.com>
Source record: 100221

For those who are interested in the ongoing discussion of "good source for amplifier tips" I have uploaded part 7.
I also added some interesting links(amplifier related) and you also will find the letter from EIMAC (to AG6K) here:
http://www.av.qnet.com/~kn6dv
Thanks 73 Will, KN6DV

REFORM
Unless the reformer can invent something which substisutes attractive virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3457. Re: 3-500Z amp schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Dave <ka1wgn@tiac.net>
Message-ID: <01bbde77$e58fc660$25ed77ce@ka1wgn>
Source record: 100222
Body handling: Inline uuencoded payload not displayed: 3-400z.jpg

Mike,
I hope this will help I attached a jpg
It is a 3-400z but it came from 1967 ARRL book
red cover

Dave,N1IQO

ka1wgn@tiac.net

Mike Foley <nv0y@horizon.hit.net> wrote in article
<57o4eh$dd4@opal.southwind.net>...
> I am in need of a diagram of an amp using a single 3-500Z, GG, no tuned
> input. I built one several years ago and have since lost the ARRL
Handbook (1960's
> vintage, red soft cover). I'm having some problems and need it for the
specs for the
> output circuit. Any schematic meeting these criteria would be helpful.
Thanks,
> Mike, NV0Y.
>

[Inline uuencoded payload not displayed: 3-400z.jpg]

3458. Electronic Kits, PLL&DDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: bspeed@swbell.net
Message-ID: <57oian$lff@news1.rcsntx.swbell.net>
Source record: 100223

Greetings, electronics fans....

If you are interested in building some "kits" from artwork, schematics
and etc., then take a look at the (two) "kits" I have placed for
download on a web page.

At this time, the kits are:

A Direct Digital Synthesizer, which operates up to 20Mhz, and is
controlled by LPT1 on your PC.

A Phase Locked Loop circuit, using the MC145106
and MC1648 PLL IC's. It can operate to 225 Mhz.

A shareware program for printing HPG files to a laser printer.

The web page is: www.cyberramp.net/~bspeed/

.....Bryan

3459. Re schematic drawing program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: wa8mcq@u1.abs.net
Message-ID: <57of27$kt9@news.abs.net>
Source record: 100224

Someone recently endorsed the KeyCAD Complete program. I've been using it for a couple of years to draw the schematics in my column in the QRP Quarterly and it's a good-enough program, especially at the price. However, the electronic symbols library that came with it was, at least back then, quite horrible and minimal and virtually useless. I don't know if they have an improved library now or not, but the one in 1994 was nothing to write home about.

I made up my own library, which is quite easy to do once you get the hang of it, and it's better drawn and much more complete. For instance, as I recall, the original library had ONE transistor, a PNP, I think. My library has PNP, NPN, JFET, two types of enhancement FETs. It has a number of symbols that were simply not provided in the original.

If anyone wants to take a look at my KeyCAD electronics symbols library, do an anonymous to ftp.lehigh.edu, pub, listserv, qrp-l (that's a lower case letter L at the end, not number 1), and then I think it's under tools, where it should be fairly obvious which file it is. Ignore the very sort Keycad.txt file; it really should be erased and is meaningless. The drawing file is around 60K. Load it into KeyCAD, ignore the drawing that will appear on the screen, and open up and browse thru the library. Most, though not all, of my additions, are prefaced with MY, such as MYCAP, MYPOT, MYFET, etc.

Important note: all of my comments, and all of my files, apply ONLY to the DOS version of KeyCAD. They do NOT apply to Windows versions; I know for a fact that the two are completely incompatible with each other, since I tried swapping files with some folks who had the Windows version, and it simply does NOT work--totally different structures. (Neat programming concept, huh?)

I paid around $20 for the DOS version 2 1/2 years ago; the Windows was around $30. I don't know if either is still marketed, but there is a CD ROM floating around which contains the DOS version, at about $13, minus manual. You have to send them money if you want it; it did come with the old DOS version I bought, and all I can say for it is that, yes, it IS a manual :-) It IS more informative than the on-screen help, but still rather minimal and fairly unhelpful. I don't know if it's been improved since then.

In all, KeyCAD is a good, inexpensive program (though there are probably others out there in the same price ranges which are better). BTW, KeyCAD has been sighted over the years in places like Office Depot, Best Buy, Wal-Mart, Egghead, etc--widely available. [Usual disclaimers--no interest in the company, etc.]

--
73 DE WA8MCQ wa8mcq@abs.net

3460. Re: Good source for amplifier tips (A break in the action)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: rstevens@voicenet.com
Message-ID: <57olje$pre@news1.voicenet.com>
Source record: 100225

A little trivia here--my mother was George Grammer's secretary during WWII (or was it just prior to), during which time she met my father, Arthur J. Stevens, Jr., who, fresh out of M.I.T., was doing research at Remington-Rand on early radar designs. She subsequently became the current Mrs. Stevens sometime in 1945. Prior to that event, she was Jane Guglielmetti, of Durham, CT.

She has always had the highest regard for Mr. Grammer, by the way, as an employer, and as an individual. But the, those New Englanders tend to stick together.

Always wanted to share this with someone.

Now, back to the action.

73, Roger WA3FLE
Norristown, PA

In article <measures-ya023180002811961117130001@news.vcnet.com>, measures@mail.vcnet.com says...
>
>In article <19961128022700.VAA10290@ladder01.news.aol.com>, w8jitom@aol.com >wrote:
>
>> Hi Rich,
>>
>> You must be having E-mail trouble. Could you look this over an comment. It
>> seems to indicate you do not understand Q. Could you tell me if I did
>> something wrong?
>>
>Hello, Tom---
>
> Nah, you haven't done anything wrong yet--if you are trying to play this >debate for stalemate instead of checkmate. It is true that if you continue >to stonewall embarrassing questions, stall, and smokescreen, I will >eventually walk.
>
>Either you are reluctant to admit that you don't own a dipmeter with which >to make the anode-resonance measurement that we need to proceed, or you >don't have access to an AL-80, or you are trying to misdirect attention >away from the problem that you proposed---i.e., to find the current ratio >in the 85nH (Ls) and100 ohm (Rs) parasitic suppressor which you use in one >version of the AL-80. I am starting to lean toward the latter possibility.
>
> Tom: In order to try and get a handle on what's happening, I will give >you the benefit of the doubt and guesstimate that the anode resonant >frequency in the AL-80 is 160MHz, although I seem to recall hearing a lower

>number from AL-80 (and SB-1000) owners. Using the formula XL=2*Pi*f*L, at
>160MHz, 85nH has 6.28*1.6*10^5*85*10^-9=85.4513, or roughly 90 ohms of
>reactance. To find the current distribution, we can apply 1V to the
>paralleled Rs and Ls. The resulting current through Rs is 1v/100 ohms =
>10mA. The current through Ls is 1v/90 ohms = 11.1mA. The total current is
>10mA plus 11.1mA = 21.1mA. The current through Rs is 10/21.1 = 0.474 of
>the total current. The current through Ls is 11.1/21.1 = 0.526 of the
>total current. If 52% of the VHF current is flowing through Ls, and 48% of
>the VHF current is flowing through Rs, there is obviously a large hole in
>the opinion Tom Rauch has held since 1990--i.e., that no significant VHF
>current flows through a VHF parasitic-suppressor's L. The bottom-line is
>that in the typical VHF parasitic-oscillation suppressor, significant
>current flows in Rs and significant current flows in Ls.
> However, in actual practice, the anode-resonance in the typical single
>3-500Z amplifier is closer to 130MHz,, so the reactance of Ls would be
>lower and Ls would carry a slightly greater share of the current---and the
>hole in Tom Rauch's opinion seems to grow larger.. OTOH, it can be argued
>that the intrinsic VHF-R in nichrome would slightly decrease the current in
>Ls. ....All things considered, significant current flows in Rs and
>significant current flows in Ls.
>
>On page 74 in the September, 1994 issue of QST, Tom Rauch states:
>
>"The coil's reactance increases with frequency and at VHF most of the
>signal path is through the resistor. It is plainly evident that the
>dominant component at VHF is the resistor, not the coil."
> (note: Mr. Rauch appears to use the word "coil" in place of the word
inductor)
>
> It is PLAINLY EVIDENT that neither Tom Rauch nor QST Editor Mark Wilson
>took the humble minute necessary to perform the calculations to check the
>validity of Tom's statement before it became a sorrowful chapter in QST
>history.
> This easily-preventable blunder would NOT have happened in the days when
>George Grammer, W1DF, stood watch over the technical reputation of QST
>magazine. According to those who knew him, George Grammer placed nothing
>above technical accuracy.
>-------------------------------------
>e-mail copies to Mr. Rauch et al.
>
>--
>--Rich-- ag6k, 805-386-3734

--
Roger W. Stevens (rstevens@voicenet.com)
amprnet: wa3fle@wa3fle.ampr.org [44.80.12.33]
ax25: WA3FLE@WB3JOE.#EPA.PA.USA.NA
"Be a Hero--Be a Donor!"--Mickey Mantle
Visit my homepage at http://www.voicenet.com/~rstevens

3461. Re: ARRL lawyer to sue member (another twist...)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: stevec@rain.org
Message-ID: <57os2q$7sm@news3.snfc21.pacbell.net>
Source record: 100226
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <01bbde38$321b37c0$56c087cf@occupant.psyber.com>, "A Redshirt"
<occupant@psyber.com> wrote:
>
>Lifted from the local paper without permission, and forwarded
>without comment...
>
>"The parents of 4-year-old Sarah Engstrand filed a US $1.2
>million
>lawsuit in New York City against the girls' grandparents because
>the elder couple's Akita dog, Becky Bear, bit and deeply scarred
>
>Sarah's nose and cheek during the girl's birthday party in 1994.
>The grandparents are heartsick at being sued by their own son,
>who not surprisingly is a lawyer, as is his wife."

I wonder if the family isn't in cahoots on this - Grandparents file
bankruptcy, Homeowner's insurance pays, Everyone profits.
Get a few crapola TV show appearances & a book.
Grandparents now live high on the hog in retirement.
Children inherit estate.

So they say, well, let's at least get something positive out of
the bad situation, eh?

Probably how a lawyer's mind works.

stevech@pacbell.net

Stevech@pacbell.net If Computers Are The Answer...
WB6CSZ What Was The Question?

3462. Re: ARRL lawyer to sue member (another twist...)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: rogerjb@ibm.net
Message-ID: <57otcs$tm0$4@news-s01.ca.us.ibm.net>
Source record: 100227
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In <01bbde38$321b37c0$56c087cf@occupant.psyber.com>, "A Redshirt" <occupant@psyber.com> writes:
>
>Lifted from the local paper without permission, and forwarded
>without comment...
>
>"The parents of 4-year-old Sarah Engstrand filed a US $1.2
>million
>lawsuit in New York City against the girls' grandparents because
>the elder couple's Akita dog, Becky Bear, bit and deeply scarred
>
>Sarah's nose and cheek during the girl's birthday party in 1994.
>The grandparents are heartsick at being sued by their own son,
>who not surprisingly is a lawyer, as is his wife."
>
If I had to guess, based on no other information, I would guess that this is a scheme to get around the inheritance tax, which will tax a bequest from the grandparents to the kids or grandkids, at a confiscatory rate of 45% if they have a sizeable estate.

On the other hand, tort damages for physical injury are generally excluded from taxes. Therefore, the unfortunate injury to the daughter may be a vehicle for all concerned to avoid the inheritance tax. (Or it may not be; I'm only guessing).

Sounds like a clever scheme, by a clever lawyer. The kind of lawyer people pay good money for.

Roger J. Buffington
W6VZV
rogerjb@ibm.net

USC Law School, Class of '97

"I want to die peacefully, in my sleep, like my Grandfather."
"Not screaming, and in terror, like his passengers."

3463. Re: Front Panel Graphics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: griffin@jgfl1.allcon.com
Message-ID: <E1oCDB.43u@jgfl1.allcon.com>
Source record: 100228

Rocci (rocci@worldnet.att.net) wrote:
> Here's a really easy way to produce exceptionally professional looking
> front panel graphics for your next homebrew project.
> Use your favorite computer presentation or paint program to design the
> front panel on your computer (I like Microsoft's Powerpoint, but there
> are many others that do a fine job). Use fonts, shading, and color to
> get just the right look. Use your inkjet color printer to print the
[...]

There are other methods. If you want a front panel with scratch-proof
lettering in black and transparent, print to a PostScript file and
take that to a local print shop. They will put in on imagesetter
film (up to 2400 or even 3600 dpi). You can then spray-glue this
film on the front panel.

These films are also extremely useful when producing PCBs.

Just my $.02,
73, Jens, DB9LL
--
at work: jg@combtx.com, bofh@combtx.com (http://barbara.combtx.com/~jg)
at home: griffin@jgfl1.allcon.com
at play: jg@beach, griffin@rpg, db9ll@g-qrp/darc
Here in Germany, commercial use of personal data without permission

3464. MAR-1,2,3,4,4,6, where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: PAYRAS@sara.cc.utu.fi
Message-ID: <57ounp$2fm@castor.utu.fi>
Source record: 100229

Hello there

I have plans to build a rf amplifier using those MAR-X (dont recall the number) devices. But I cannot find them in Finland. Does anybody know where I could purchase them? Please e-mail me if you have information.

73

Pertti

3465. EASY: YOU CAN build a tube transmitter!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <57pbtb$ffr@news1.mnsinc.com>
Source record: 100230
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have sent a couple more articles for posting at the web site.
6AQ5A_1.GIF and SCROUNGR.GIF
The latter is an article sent to me by WB6TNL describing his homebrew
6L6 TX that he has been having fun with.
Some of you fellers might enjoy building these "oldies but goodies!"

They are simple one tube "junkbox transmitters" that you can put
together from scratch in one day once you have collected the parts.

The articles can be found at:

http://www.barepower.net/~carreiro/

or take the LINK there from -

http://www.mnsinc.com/bry/hamfiles.htm

Enjoy! 73 de AF4K, Bry

73 from Amateur Radio AF4K / G3XLQ
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, pirate links etc. etc.

3466. Re: power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961130104800.23343G-100000@primeline.net>
Source record: 100231

On 30 Nov 1996, Martin Bowers wrote:

#need some help
#
#i came accross some 12,28,48 lambda supplies. i know i can bring
#these down to 12 with 3 terminal regulators. but i want mega current
#the 12's are 3 amp can i gang these together to up the amps. what
#alternitive do i have bringing the 48 to 12v 20amp. any help would
#be appreciated. tks
#

I'd use a 723, going through a bank of well heatsinked pass transistors.

At that current level, I might even use a switch mode regulator
(convert that voltage to current instead of heat).

Gary Tait , VE3VBF
- Please do not quote US prices, they are no good to me ,here in Canada -

3467. TIPS: C.W. 2.4 GHz 10 KWh Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: bohigas@aol.com
Message-ID: <19961130175900.MAA28285@ladder01.news.aol.com>
Source record: 100232

Dear Forum Members:

I am looking for some quick ideas to build a C.W. 10 KWh, 2.4 GHz MW dummy load, perhaps you have some suggestions.

Any quick fix or hint would be much appreciated. I was considering building an oil cooled dummy load, using a tradiitonal UHF design as used in most amateur radio shacks, but I would like to hear your comments first, before I take the house down.

Thank you for your help.

Alberto.

3468. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961130181600.NAA28526@ladder01.news.aol.com>
Source record: 100233

> Keep all floating from
>chassis except the return of the first one.
>
>

You end up with a very large system this way.
But it worked fine for me also. I
had 3 5 volt 45 amps supplies going.

Best of all it cost me nothing.

Carl

3469. FS: Sunair HF PA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <32A07F5C.7E09@calweb.com>
Source record: 100234
Cross-posted to:
rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.boatanchors,rec.ham-radio.swap

For Sale:

Sunair GSL-1900A Kilowatt Linear Power Amplifier. Consists of the
LPA-1900A RF
PA and the PS-1900A power supply unit. This set easlily delivers full
rated
power on all bands. Asking price: $2000.00. I prefer pickup from my QTH
in
Sacramento, CA. If I have to ship it, you pay shipping from zip 95826.
The rf
deck will be about 90 lbs packed for shipping and the power supply will
be
about 150 lbs packed for shipping. (since UPS has a max weight of 150
lbs,
I may have to remove the choke from the power supply and ship
separately)

For those not already familiar with this unit, some specs from the
manual are
listed below.

Covers 1.6 to 30Mhz (continuous) in 8 bands.
Conservatively rated at 1Kw PEP for SSB,
1 Kw for CW, and 1Kw average for AM.
(the book says 300 to 400 for AM carrier only, then
limit the total power with modulation to 1Kw).
Requires 40 watts PEP input to drive to full output.
Automatic tuning (plate and load). Tuning time 3 seconds, nominal.
Uses 4CX1500B, Pi-L output network, and 50 ohm passive input
(no tuning needed for input).
Very low distortion.
Intermodulation distortion: better than -30 db
Harmonic distortion: better than -55db
Power supply strappable for 120 or 240v operation 50-60 hz.
and power consumption is approx 3Kw. (240v operation is
highly recommended and is current strapped for it).

A copy of the Operation and Maintenance Manual will be included. The
interconnect cables between the rf deck and power supply were not
available at a reasonable cost (Sunair wanted $1200 for just the cable
with connectors) so I made an easily restorable modification. The units
are in good condition cosmetically and fully operational.
Also, I have contructed an interface unit that works with my Yaesu
FT-747 for

operating the amplifier. It provides the remote power control, band selection,
and tune functions that would normally be provided a Sunair exciter. This is
included with the purchase of the amplifier. The interface unit can be easily
adapted to work with almost any tranceiver.

Please respond via E-mail to the below address.

--
73 David KD6QFZ
dsipe@calweb.com

3470. FS: 4CX1500B and socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <32A081A6.5142@calweb.com>
Source record: 100235
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.ham-radio.swap

For Sale:

4CX1500B/8660 and air system socket, $300 plus shipping
from zip 95826.

I have three of these sets.

They are pulls and have been tested in an operational
Sunair 1 Kw amplifier. Full power out, 160m thru 10m
into dummy load.

The sockets do not have any markings on them, but
after comparing them to the Eimac catalog, they appear
to be SK-800B sockets with 1500pf screen bypass capacitor.

Please respond via E-mail at the below address.

Thanks.
--
73 David KD6QFZ
dsipe@calweb.com

3471. FS: Sunair HF PA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <32A08316.292C@calweb.com>
Source record: 100236
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.boatanchors

For Sale:

Sunair GSL-1900A Kilowatt Linear Power Amplifier Consists
of the LPA-1900A RF PA and the PS-1900A power supply unit.
This set easlily delivers full rated power on all bands.
Asking price: $2000.00. I prefer pickup from my QTH in
Sacramento, CA. If I have to ship it, you pay shipping
from zip 95826. The rf deck will be about 90 lbs packed
for shipping and the power supply will be about 150 lbs
packed for shipping. (since UPS has a max weight of 150 lbs,
I may have to remove the choke from the power supply and ship
separately)

For those not already familiar with this unit, some specs from
the manual are listed below.

Covers 1.6 to 30Mhz (continuous) in 8 bands.
Conservatively rated at 1Kw PEP for SSB,
1 Kw for CW, and 1Kw average for AM.
(the book says 300 to 400 for AM carrier only, then
limit the total power with modulation to 1Kw).
Requires 40 watts PEP input to drive to full output.
Automatic tuning (plate and load). Tuning time 3 seconds, nominal.
Uses 4CX1500B, Pi-L output network, and 50 ohm passive input
(no tuning needed for input).
Very low distortion.
Intermodulation distortion: better than -30 db
Harmonic distortion: better than -55db
Power supply strappable for 120 or 240v operation 50-60 hz.
and power consumption is approx 3Kw. (240v operation is
highly recommended and is current strapped for it).

A copy of the Operation and Maintenance Manual will be included.
The interconnect cables between the rf deck and power supply were
not available at a reasonable cost (Sunair wanted $1200 for just
the cable with connectors) so I made an easily restorable modification.
The units are in good condition cosmetically and fully operational.
Also, I have contructed an interface unit that works with my Yaesu
FT-747 for operating the amplifier. It provides the remote power
control, band selection, and tune functions that would normally be
provided a Sunair exciter. This is included with the purchase of
the amplifier.

Please respond via E-mail to the below address.

--
73 David KD6QFZ
dsipe@calweb.com

3472. Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-11-30 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <21170@s55tcp.ampr.org>
Source record: 100237

Rich, AG6K asked me to show the right mathematical formulas for calculating VHF suppressor values and I did my homework! To the best of my knowledge, this was not done before in the ham literature. I understand N7WS showed proper current distribution in parallel R/L circuit ahead of my KISS example.

#1.
Decide the frequency of potential VHF oscillations from known history of the particular tube or measurement data in real QRO circuit. Avoid the multiples of the highest operating frequency (in case of 30MHz NEVER tune suppressor at 90, 120 or 150 MHz). Let us take F=130 MHz.

#2.
Calculate the inductance value needed to resonate tube output capacitance in series with minimal variable tuning capacitor value at highest operating frequency. Let us suppose Cout=20pF and Cmin=20pF which gives C=10pF.

L=25330/C x F**2 (uH, pF, MHz) = 25330/10*(130*130) = 0.15 uH.

#3.
Calculate the reactance of L at the highest operating frequency.
Let us assume f=29 MHz and X=2*Pi*f*L = 27.3 Ohms.

#4.
Take a dumping resistor with a value at least three times higher than X.
Let us take 100 Ohms, but what is a power rating?

#5.
Assume we use two tubes for a legal 1.5kW RF output with HV >= 3kV.
Total RF current is Irf=P/U/sqrt2=1500/3000/1.41=0.7A.
This should be equally split to I = 350mA per tube.
We know that voltage R*Ir equals X*Ix and currents Ir**2+Ix**2=I**2.
Therefore Ir=I/sqrt(1+(R/X)**2)=350/sqrt(1+3.66**2)=350/3.79=92mA.
P=R*Ir**2=100x(0.092x0.092)=0.8 W

We should play it safe and take 2W resistor and IF it overheats, we are either tuned to harmonic frequency or have a serious VHF oscillations!

73 de Mario, S56A, N1YU.

P.S. Do NOT use high resistance wire for L as one is wasting ONLY RF energy without any effect on VHF! Dumping resistor does that job smoothly.

W8JITom, how is your cold?

3473. Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: Trish Cowgar <trishc@prgone.com>
Message-ID: <01bbdfad$a66e3fc0$f812a2ce@jeremy.prgone.com>
Source record: 100088
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Does anyone have any input on the Ten-Tec 2 meter FM Transceiver that you assemble from a kit?

Also, I am wanting to get into packet, and I notice that this rig has a 1200 baud packet-ready din on the rear. Being in computers, I am use to 28.8, 56k, etc. Is 1200 baud useable, does packet go any faster?

3474. Re: Microwave Modules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: 71477.3626@CompuServe.COM
Message-ID: <961201173700_71477.3626_FHV95-1@CompuServe.COM>
Source record: 100089

Microwave Modules UK
I am in need of the circuit diagram for the 10meter to 2 meter version of this converter so that I can repair and then modify to use the oscillator output for a transmit converter.
Any able to help?

Thanks Malcolm KO6SY

3475. Re: IC-27H Tone Encoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: Allan Dobler <doblera@cadvision.com>
Message-ID: <32A1CF44.189E@cadvision.com>
Source record: 100090

Robert Mitchell wrote:
>
> Does anyone have any information on how to modify a ICOM
> IC-27H to enable the subaudible tone encoder to tramsmit on simplex as
> well as on duplex.
>
> Any assistance would be greatly appreciated.
>
> Bob - VE3KYA
> robmitch@vaxxine.com

My IC47A does not encode on simplex either.

--
73

Allan

VE6AQK@VE6YYC.#SAB.AB.CA

doblera@cadvision.com

3476. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000112960953180001@news.vcnet.com>
Source record: 100091

In article <n7ws.207.00192750@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) wrote:

> In article <57rtte$e6s@dallas1.connect.net> philk5pc@connect.net (Phil Clements) writes:
> >From: philk5pc@connect.net (Phil Clements)
> >Subject: Re: Good source for amplifier tips
> >Date: 1 Dec 1996 12:32:46 GMT
>
> >In article <32A0F185.2392@tri.net>, stoskopf@tri.NET (Lawrence Stoskopf) says:
> >>
>
>
>
> > One of the most inovative suppressors I have ever seen is a current
> > model made by Henry Radio for the 3CX3000A7. It is a 1 inch wide,
> > 5.5 inch long hard-drawn copper strap bent into a 1 turn coil, 1 inch
> > in diameter. The strap is then coated with chrome plating (like car
> > bumpers used to be) until the resistance of the chrome reaches the
> > necessary R to meet the design specs. for its application. This
> > eliminates the need for big parallel resistors accross the coil,
> > nichrome wire, (or strap, in this case) and will certainly handle any
> > power on H.F. that the tube is capable of! My meager test equipment
> > (Autec RF-1 and R.S. DVM) show that the L is about .34 uh @ 28 mhz
> > and the R of the chrome is 25-35 ohms. I have one of these hanging on
> > my wall to remind me to strive for simplicity and inovation in my
> > design work. Nice going, Henry!! (((73))) Phil, K5PC
>
>
> Hmmm. Sounds like a Henry 8K. It's been a while since I saw the inside of
> one of these, but I doubt that the suppressor is chrome plated. I
> think it's polished silver.

If the R measures (no pun intended) more than a few ohms at VHF, does it seem likely that the conductive material is silver, Wes?

> Also, your measured inductance seems awfully high. That's probably
> about 15-20% of the tank inductance.

0.34uH/340nH does seem a bit on the high side.

> BTW, I was trying to help my friend re-engineer this thing to stop the corona
> and arcing problems with the homemade relay contacts used to switch the fixed
> tank capacitors. Some good old corona reduction techniques like smoothing
> corners and increasing spacing did the trick. No nichrome was required.

>
If there is no substanive amount of VHF energy present, VHF-lossy
nickle-chromium alloys serve no purpose. Was your friend trying to switch
the fixed C padders for the tune capacitor while he was transmitting, Wes?

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e-mail copies to Mr. Stewart, et al.
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--Rich-- ag6k, 805-386-3734

3477. F.S.- 15,000 + tubes antique to modern

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: murray.p@ix.netcom.com
Message-ID: <57sh3m$rov@sjx-ixn3.ix.netcom.com>
Source record: 100092
Cross-posted to: rec.antiques.radio+phono,rec.radio.swap,rec.radio.amateur.homebrew

For Sale: Tubes, 1920's to 1970's, NOS & USED, 40 year accumulation of more then 15,000 tubes.

E-mail your snail mail address to: m.pasternack@juno.com for a list of types available & prices

3478. Re: Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32A1C8E0.35F9@ipass.net>
Source record: 100093
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Trish Cowgar wrote:
>
> Does anyone have any input on the Ten-Tec 2 meter FM Transceiver that you
> assemble from a kit?
>
> Also, I am wanting to get into packet, and I notice that this rig has a
> 1200 baud packet-ready din on the rear. Being in computers, I am use to
> 28.8, 56k, etc. Is 1200 baud useable, does packet go any faster?

1200 baud is the standard for VHF packet. There is the rare 2400 baud,
but used mostly for dedicated links between 2 stations. 9600 has a wide
usage on 440, and I've even seen some 19200, but these require radios
either factory capable for 9600+, or modifications you perform to make
them 9600 capable. There is a 56K packet modem available now, but
without the local PBBS being on the same modem, you'll only be able to
use 1200 anyway.

Later,
Dave

--
==
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==

3479. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <57so1t$e9u@bogus.cts.com>
Source record: 100094

Zack Clobes (zclobes@southwind.net) wrote:
: I was reading an article in the latest copy of QST covering the
: theory/construction of a temp compensated VFO. The schematic reminded me of a
: PLL with a feedback loop tied to a crystal oscilator. In his article, he made
: the statment that his VFO wouldn't have the extra phase noise that a
: traditional PLL has because of the loop. Can anyone explain this? I didn't
: think that the VCO wouldn't be effected by the locking loop.

A variactor tuned oscillator will have more phase noise on the output than
a well designed LC oscillator. Take, for an example, a synthesizer for
a 0-30 MHz receiver, covering the range with 3 different VCO's,
per the recommendations of Rodhe. Each VCO would cover 10 MHz of
freq with a voltage swing on the varicaps of perhaps 10 Volts, so
it would be 1 MHz/1 Volt, or 1 microvolt of noise would move the
freq one hertz. It takes a very good op amp, fed by very clean power
supplies, not to have microvolts of noise on it's output. Low freq
noise within the loop bandwidth will be mostly canceled by the PLL
(it can't cancel it all - it doesn't start to react untill it detects
a change has already occured), but higher freq noise components
above the loop time constants will not be canceled.

John Kolb KK6IL

3480. Circuitmaker 3.01

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: Raymond Ciaccio <rciaccio@pop.mhv.net>
Message-ID: <32A1EBD6.28D7@pop.mhv.net>
Source record: 100095

Looking for any information on device/component librairies for
Circuitmaker. Is there a web site to download other components so as to
update my current device library? Any info would be appreciated.
Thank you,
Ray

3481. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961201220400.RAA26054@ladder01.news.aol.com>
Source record: 100096

In article <measures-ya023180003011961434390001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Thanks, Tom. BTW, what is a "physic ability".
> The reason I had to guess at the 160 figure is because somebody is
>withholding the actual anode resonant frequency.
>
>

Woops, no speel chek. I meant psychic ability, not the ability to give a
medicine that purges.

Please explain what we would know (with a grid dip meter measurement)
other than the reactance crosses zero at that point.

73 Tom

3482. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961201220400.RAA26053@ladder01.news.aol.com>
Source record: 100097

Hi Mario,

I'm trying to keep this in one thread.

You can test for resonances by adding a large self bias resistance between the cathode and chassis. That allows the tube to AGC itself without hard limiting.

The reason I've avoided the math analysis is because, as you discovered, many things go on at once. The equivalent series resistance needs to be large enough to dampen the series reactance of the anode lead over the range where the tube is capable of oscillating.

The goal is to make the anodes series impedance through the blocking capacitor and plate tuning capacitor as low as possible, while making the ESR as high as necessary to minimize Q in the frequency range of instability.

Make the resistance either too low or too high, and stability is compromised.

This topic is best covered in an article with drawings, rather than verbally. My point is this, the last thing in the world we want to do is make the anode leads more reactive, other than the single point where suppression device is located. A much larger reduction in Q is afforded when this goal is met.

It's a big series circuit path, and adding resistance in series with the primary HF path (ie the suppression "coil") does little to nothing to VHF or UHF Q. The total anode path inductance is comprised of much more than that little coil of wire in the suppressor.

73, Tom

3483. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961201225800.RAA27291@ladder01.news.aol.com>
Source record: 100098

Hi Rich,

You see, you and I do agree on some things.

In article <measures-ya023180000112960749010001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Amen to that Tom. When I said that ALC-systems in transceivers had a
>problem with attack-overshoot in "The Nearly Perfect Ampilifier" (QST,
>1/94), I was criticized for it by Fred Telewski, WA7TZY, in the 9/94 QST.

>Telewski said "Measures' comments about ALC being generically flawed are
>inappropiate." // Any comments, Mr. Telewski?

No, Fred was incorrect. He has little experience with HF transceivers, or
he would have known better than to make a comment like that. Virtually
every HF transceiver I have owned or looked at has this problem, and the
Kenwood are among the worse of the lot.

ALC and a modern exciter's power control are only, in my view, last ditch
methods of reducing power. My IC-706 spikes up to 150 watts on 40 meters
when the output is set for ten watts. My TS-950 over 250 watts!

> However, I have not measured the amount of overshoot you claim. The
>highest overshoot I have measured from a Kenwood radio with my Hewlett
>Packard oscilloscope was 45% in terms of power, or 20% in terms of RF
>peak-voltage. However, a JRD transceiver exhibited a 26% RF peak-voltage
>overshoot. Even if a transceiver was capable of delivering an overshoot
of
>300w, the two 3-500Zs would saturate at about 150w drive and the extra
>drive would not significantly change the peak voltage across the 922's
>tune-capacitor.

The 3--500Z's do not saturate until they reach a peak anode current of
perhaps 10 amperes per tube. That means the tubes give the tank a big hard
"yank" and allow it to overshoot.

Rich, I've heard you say that before. The dact is a 3-500Z can output 5-10
kW before saturating.

You have no problem blaming VHF parasitics for high power levels, yet you
claim saturation with 150 watts of drive. That sounds very inconsistent to
me.

>Prior to 1986, I used to wonder too, David. Eimac's Mr. Foote seemingly
>sent me off in the right direction. Hmmmm. I am still wondering why
>Eimac's Reid Brandon, W6MTF, told QST's Paul Pagel that Mr. Foote was NOT
>AUTHORIZED to release such information to Mr. Measures?

Foot was only a guy assigned to answer customers letters about tubes, he was not a design engineer any more than Orr was.

>My triggered-sweep oscilloscope works fine---providing one sets the trigger
>level high enough to begin the sweep only at abnormally high RF peak output
>voltages. With a storage scope, you would have to use the same trigger
>setup procedure---however, with a storage 'scope the image lasts all day
>instead of a second or two.

You can still miss the crest Rich. It is better to trigger the scope from the signal source driving the microphone, and freeze the first several dozen cycles of RF.

I use a sample and hold meter with a ten microsecond storage sample time. It has a decay time > ten minutes.

Anyone thinking because they set the rig to "X" power it only outputs that much, or that ALC and power control reduction is a good way to eliminate splatter, is mistaken. The WORSE thing to do is reduce the power via those means. that virtually guarantees splatter, power overshoot and PA arcing.

73 Tom

3484. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961201220300.RAA26052@ladder01.news.aol.com>
Source record: 100099

Here we finally get past the Quackery and Voo Doo, and to the heart of the matter.

In article <57rsj0$e6s@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) writes:

>Doesn't the high resistance wire act to limit the terrible ALC overshoot
> found in modern-day exciters, protecting the tank capacitor and
> bandswitch et al in the same manner as a series R in the H.V. lead
> protects tubes/components in case of flashover?

It does limit the voltage excursion by reducing Q at the operating frequency Phil, but it also lowers desirable performance even more. "De-Q'ing" from the addition of a lossy conductor in the primary HF path results in a non-linear with frequency Q reduction. The loss of Q peaks in the upper HF region, and is insignificant below perhaps 10 MHz and above 100 MHz.

A more correct cure, in my view, is to properly load the PA, install a spark gap across the tank cap, and eliminate the transcient in the exciter. Learning to operate the PA properly means more than anything. By properly I mean the PA should be loaded heavy enough, and if the exciter is too powerful an unbypassed series resistance should be used at the cathode of the tube.

This resistance increases negative feedback as well as attenuates excessive drive power. This allows the exciter to be operated close to its' rated power, and reduces IMD and ALC overshoot.

>I am not even qualified to shine the shoes of the participants in
> "good source for amplifier tips"...(flunked H.S. math) but I am
> certainally learning plenty via that thread!

I wear tennis shoes, even with a suit. If we can cut the persoanl attacks and frivilous questions down, this thread would be more useful. No one that I have met in life knows everything about everything, or even about a single subject. Nor is there ALWAYS just one simple solution to any or all problems.

Think about that.

73 Tom

3485. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: Jim Hutchings <jim.hutchings@sk.sympatico.ca>
Message-ID: <32A25874.1582@sk.sympatico.ca>
Source record: 100100
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Anthony S. Pelliccio wrote:
>
> In article <32a1b458.7226315@news.uark.edu>, <bs02@engr.uark.edu> wrote:
> >There are only 3 laywer jokes...
> >
> >all the rest are true stories!
>
> I can pretty much believe that. After reading those it makes me wish
> I had a daughter so I could forbid her to marry a lawyer. :)
>
> >>Why is it that when you tell a 'joke' about an Irishman it is called
> >>tasteless; when you tell a joke about a black it is called racist, and
> >>when you tell a joke about a lawyer it is called funny?
>
> Even though you didn't post this, I missed the original response so here
> goes:
>
> The reason it's funny is because by and large most lawyers are lower
> than slime.
>
> Tony

first of all, I doubt that this is a reasonable place to be posting this
stuff.
second, I have been in the unfortunate position where a qualified capable
lawyer was required. To my great relief, we won our case and I vowed to
never again tell another lawyer joke...I no longer get the humor
Jim Hutchings VE5HM

3486. Re: Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: Larry or David Gibbs <larrygibbs@ibm.net>
Message-ID: <32A27001.29BA@ibm.net>
Source record: 100101
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Trish Cowgar wrote:
>
> Does anyone have any input on the Ten-Tec 2 meter FM Transceiver that you
> assemble from a kit?

Trish,

Read the review in June 1996 QST, page 61. They liked it.

There have been many positive comments on this newsgroup. I'm
thinking of building one myself as an extra rig.

73, Larry W3UIO

3487. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <32A22C2F.17E4@wco.com>
Source record: 100102
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

Phil Heaton wrote:
>
> I need an S meter for my homebrew rig. Does anyone
> have one they'd like to sell?
>
> Phil
> --
>
> Phil Heaton, KE4KRT, ke4krt@radio.org

Not saying that you want to 'Slum it' there is always the option of pulling one out of a used CB..

That's what I've done.. some are kind of attractive..

Jim..

3488. IC-27H Tone Encoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: robmitch@vaxxine.com
Message-ID: <32a0caae.1499933@news.vaxxine.com>
Source record: 100161

Does anyone have any information on how to modify a ICOM
IC-27H to enable the subaudible tone encoder to tramsmit on simplex as
well as on duplex.

Any assistance would be greatly appreciated.

Bob - VE3KYA
robmitch@vaxxine.com

3489. 6m Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: ernie@netvision.net.il
Message-ID: <32a0d049.17174489@news.netvision.net.il>
Source record: 100162

Hi
I'm looking for a tested design of a 7-10 w in ,70-100 w out, 54 Mhz
solid-state PA.
Thanks - Isaac, 4Z4TL

3490. Re: NE602AN Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <57qqvi$ag8@opal.southwind.net>
Source record: 100163

In article <32975AF1.15B7@aeneas.net>, w5hvv@aeneas.net says...
>
>Does anyone have any circuit diagrams for the
>NE602AN? Could you please tell me a source for
>good circuits using this device? Thank you. Rod, W5HVV

The 1995 ARRL Handbook has about a page of info on the chip. It included
sample schems, circuit impedances, matching networks etc..

73s de Zack, W0ZC
zclobes@southwind.net
http://www2.southwind.net/~zclobes/zackc.html

3491. Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <32A0F185.2392@tri.net>
Source record: 100164

Just discussed this supressor bit with an experienced Collins TX engineer. Found it amusing. They had a 10 KW HF rig that had an inch wide by three inch aluminum strap from the tube to the tuning capacitor. Mounted on the strap were two noninductive resistors side by side (parallel) mounted along the strap. Everyone looking at the amp wondered why they shorted the resistors.

Apparently you build the amplifier, then figure out where the parasitics are and do what it takes to get rid of them. Seems a bit empiric for todays models, but doubtlessly effective. This is the limit of my information on this.

N0UU

3492. PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <57qrpb$ag8@opal.southwind.net>
Source record: 100165

I was reading an article in the latest copy of QST covering the theory/construction of a temp compensated VFO. The schematic reminded me of a PLL with a feedback loop tied to a crystal oscilator. In his article, he made the statment that his VFO wouldn't have the extra phase noise that a traditional PLL has because of the loop. Can anyone explain this? I didn't think that the VCO wouldn't be effected by the locking loop.
Thanks
73s de Zack, W0ZC
zclobes@southwind.net
http://www2.southwind.net/~zclobes/zackc.html

3493. PL Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: gnbc@alpha.wcoil.com
Message-ID: <57qtfc$lui@tofu.alt.net>
Source record: 100166

Hello gang,

I tried to post this on my other server, and it apparently did not make it out for some reason, so let me start again.

I'm looking for a PL dectector unit, (prefer commercial assembly) for installation in a repeater system. I have tried the Hamtronics, which I was disappointed in the quality, and the Selectone ST-139 which I had some problems with, so I would like to see what else is available.

Needs are... must fit into a 2" x 2" x 1.2" space, and powered by +12vdc. 1). Needs to pick up quickly, and needs to drop when the tone goes away. 2). Must give either a +5 volt logic level to the controller or have a common collector output which I can use with a 12vdc reed relay to provide the signal back to the controller. (Reed relay takes about 34 mills at 12 volts). 3). The PL at the discrim point is 2/10ths of a volt p/p

I would prefer something built as I don't have the time right now to experiment with this and that, and especially trouble-shoot. I need to get the repeaters on the air.

If anyone knows any manufacturers that build a kit that will sence 100 hz PL, please E-mail me at w8hdu@wlio.com or gnbc@alpha.wcoil.com

3494. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961201035100.WAA09400@ladder01.news.aol.com>
Source record: 100167

Hi Dave,
In article <01bbdf11$127339c0$826d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:

>Possible. I'm running a TS940S into it with ALC properly adjusted, etc.
>Might it still
>be overshooting?

It absolutely is, the Kenwood I have overshoots into the 250-300 watt range on some bands. Unless you load the TL-922 to accept that amount of drive power, the tank voltage will soar during leading edges of speech or initial key closure.

Remember the power control is via the ALC system. The contol voltage is derived from an RF output detector that feeds a voltage comparison system. When the output power detected by the detector if the detector voltage exceeds a reference voltage, ALC is developed.

When the rig is at rest, or on receive, the ALC voltage is at zero. The TX system is at full gain. It takes several RF cycles before the ALC voltage can climb and limit drive.

>> I think you are tuning the PA wrong. If you tune it for less than full
>> peak drive, you will be open for this problem. It also coud be the
relays
>> are not closing in the correct sequence.
>
> I am trying to follow the kenwood published directions ("Tuning up a
>LInear
>Amplifier" Kenwood newsletter Vol 2, issue no. 1). In it they recommend
>initial
>tuning at an exciter of 50 w or less (I typically use 10 or so to get it
>close) then run up to 50
>and retweek. A final quick tune up at something close to 100 w drive
(ALC
>kicks in at about
>70-80 w or so usually) often drives it into arcing.

I'm not surprised by this. Does Kenwood warn you to overcouple the PA slightly before advancing drive? If not, they should. This problem is compounded by the fact the 940 certainly has power "overshoot". The load control should always be operated beyond the setting where maximum output occurs, and you should never depend ALC to keep the power reduced. The ALC/ power control system is just too slow.

Ameritron has problems with 940's knocking out the gate junctions of FETs in a FET amp for this same reason. The cure is to add an external adjustable bias supply to the ALC control input, and set that voltage so the power is limited to 80 or 90 watts peak. Then the normal power control is used to reduce it further. That limits the overshoot.

>> If you are tuning up at 200 watts, you are asking for trouble.
>
> Why? I described above how that is the initial tune which is tweeked at
>nearer max power out. Is there something else here that I don't know
about?

The way a PA tank functions requires a lot of time to explain in detail, but let me try a brief explaination.

The tube is a variable resistance that "pulls" on the tank to get the voltage swinging. But it is important to remember the tube is a variable resistance in series with a "diode", the anode cathode path form the diode.

Energy is stored in the tank and related components (like the plate choke), and that energy is like a pendulum.

If the tank is not transferring all the energy (caused by the pull of tube) the energy builds up in the tank, and voltage soars. Unless something dissipates this energy, it will reach levels that cause components to break down.

When you load the tank "lightly" (too much loading capacitance for the amount of "pull" provided by the tube) the Q (energy storage ability) is increased. The eccessive drive power pulse comes along and makes the tube give the tank a real hard yank, and the voltage overshoots. The sudden surge can exceed the rating of the switch or capacitor, and cause an arc. Once the arc is established, the ionized path continues to arc even after the leading edge pulse is gone.

You are using the 922 at the worst possible condition for arc prevention when you run low power at high anode voltage.

>> >3) Can this problem be aggravated by RF in the shack? I have a modest
>> >amount of it I'm sure...
>>
>> Yes, because that will destroy ALC action and cause severe power
>overshoot
>> from the driver.
>>
>
> How can I diagnose the RF overshoot better?If it is genuine RF power
>overshoot
>from the Transceiver, then wouldn't it be there when I run it into an
>antenna directly?

Yes, but you need a storage scope or a very good very fast peak reading meter. Even a Bird 43P is on the slow side for this. There is no doubt you

have the problem, because I've yet to see a modern rig that doesn't.

Do you have a fast peak reading meter, or a storage scope? If you don't have a fast peak reading meter, how do you know you are driving the 922 correctly at the power you loaded it up at?

>Or would it only be there when going into an amp?

Nope, it's there all the time. The power on your rig will climb up nearly to the value it outputs when the ALC is disconnected (internally). That is a few hundred watts. It will do that regardless of the power setting of the rig. Let's say that level is 200 watts.

Tune the PA with 50 watts, and you are spiking the PA with four times the loaded power once in a while on leading edges. Tune the PA up at 120 watts drive, and the sipe is still 200 watss but now the PA is loaded with a much lower Q and less tank voltage overshoot.

> Hope I've answered these issues above. But let me detail my tuning
>procedure.
>
>1) set antenna tuner close to good match conditions (from logs of
previous
>good matches)
>2) key TS940 alone at 5 w or so and tweek up the antenna tuner for 1:1 or
>darn close.
>3) turn on amp with exciter at 10 w or so and tune quickly for max out
with
>both tuning and load
>caps in the 922.

Never do that. It''s a wasted step, and asking for trouble. Record the load setting at higher drive levels and always preset the load control to those settings. It will be very repeatable. With ten watts of drive, the load control will be very close to closed if not closed. That means maximum Q and voltage in the tank, and a chance of damage.

>5) turn up exciter to 50 w or so and quickly retweek the PA for max out

Ouch. Now the PA is set for 10 watts and you drive it with 50 while you retune!

>6) assuming I'm not arcing, edge up the exciter to 70-80 watts - at this
>point I generally
>never have to readjust the PA or perhaps at most just a little. This is
>done quickly for obvious
>reasons.

>7) arcing sometimes occurs in step 6. Always CW setting on HV minimizes
>arcing. If I try the
>SSB setting on HV I will always arc when I key the mike and utter a
little
>audio.

I'll bet it would, the radio is jamming the amp with a few hundred watts on leading edges, and the amp is loaded to accept 50 watts or so! It's better to run the load control too heavy, and then back up to near full output.

Now if you put anything in the tank that dissipate energy, it will lower the voltage. Nichrome will have this effect to a limited extent, because it lowers the HF Q and reduces energy storage in the tank.

You could also add a spark gap across the plate tuning capacitor, so it arcs before the tuning cap. Say something made from a very hard metal like stainless steel.

Aside from that, I'd buy a good peak reading meter (if you don't have one) and OVERLOAD (the loading capacitor set slightly beyond maximum output) the PA when tuning before ever appling full power or voltage.

The worse thjing I can think of for both splatter and arcing is to set the loading cap too light, and to throttle back the 940 without using external bias on the ALC.

Doe this make sense, or do I need to explain some areas better?

73 Tom

3495. Hammarlund HQ-100c info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: marchini@i-2000.com
Message-ID: <32a10366.1584007@news.i-2000.com>
Source record: 100168

Looking for schmatic, parts sources and anything else I might need to restore a Hammarlund HQ-100C rcvr. Any help would be greatly appreciated.

Thanks
Scott KE2MX

3496. Missing Digests

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961201.010644.4775.0.d.nordquest@juno.com>
Source record: 100169

Is there a way to replace missing or mutilated ham-homebrew digests
(e.g., #539)?
Thanks!
Dave

3497. Effects of hurricanes on communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: horizons@comm.net
Message-ID: <horizons.48.00C35635@comm.net>
Source record: 100170

Greetings all;

I am currently writing an article for a ARES Internet News Letter on the effects of tidal surge, high winds, tornados and over usage of these systems in the event of a catagory 4 or 5 hurricane striking the US. As I live in New Orleans, I have not experanced a major hurricane sense Camile in 69 and Betsy in 63. Neither of these storms had a direct impact on the city. Even if they had, the types of communications that both civilians and goverment where only a dream or thought in someones mind.

I am looking for any information from those that have been in HAM radio or involved with local or state goverment communications in an area hit by a major storm in the last 10 years or so. I could really use thyeir input in order to make sure what I write is as close to the truth as possible. What I need to know is:

1. How badly where the systems jammed before the storm hit?

2. What was communications like during the storm?

3. How many different types of systems where down after thye storm pasted. ie; Commerical, Goverment and Amateur?

4. How long did it that to get these systems back operational?

5. What form of communications where use after the storm, and before normal communications where restored?

6. What lessons where learned by both those that use VHF, UHF, 800 & 900 trucking and Celluar?

The answers I reveive could help other areas prepare for the possibility of such a storm. As for New Orleans, we really need a wake up call as many of those living here have never been in a severe hurricane ands think fror whatever reason God will protect our city. So, if any of you could help enlighten me as to what occured in your area, I would be most grateful.

Please send all answers to: horizons@comm.net

73's DE Karen E. Johansen - KC5FCU
EC East Jefferson Parish, LA.
Amateur Radio Emergency Service
http:www.accesscom.net/~gmccraw

3498. UHF Converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: vk7cs@vision.NET.AU
Message-ID: <199612010842.TAA24069@saturn.vision.net.au>
Source record: 100171

Hi All!

I am designing a converter for the 432 to 438 MHz Band.As I am not very
experienced at uhf,I would appreciate any comment regarding my design.For
the local oscillator of the converter I would like to use a computer Crystal
oscillator at 25,175KHz as the base,than multiply it 2x-3x-3x to 453MHz.
The incomming signal is to mix in the mixer (NE602 or diode ballanced mixer)
with the local oscillator(453MHz).The output will be connected to an ICOM735
receiver tuned between 18 and 21 MHz.Needless to say the input will first be
amplified in a BF981.
Will it work ? NE602 or Ballanced SBL-1 will work better?any other sugestion?

73'Alex VK7CS

3499. Re: IC-27H Tone Encoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: cpierce@usit.net
Message-ID: <cpierce-0112960339320001@col-max94.dynamic.usit.net>
Source record: 100172

In article <32a0caae.1499933@news.vaxxine.com>, robmitch@vaxxine.com
(Robert Mitchell) wrote:

> Does anyone have any information on how to modify a ICOM
> IC-27H to enable the subaudible tone encoder to tramsmit on simplex as
> well as on duplex.
>
> Any assistance would be greatly appreciated.
>
> Bob - VE3KYA
> robmitch@vaxxine.com

My IC27H tone encode works on both as it is from the factory.

Charles KD4HHX

3500. S5 3/6/9 A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <21880@s55tcp.ampr.org>
Source record: 100173

Tom, W8JI had my callsign as S59A and now Rich, AG6K comes back with S53A while I am caught in the middle as Hollywood related S56A :-) How can I expect any answer to my herioc attempt to do suppressor mathematical calculation when the top USA experts can't even get a single number right :-)
N0UU note on commonsense Collins approach regarding potential VHF oscilations on 10kW TX confirms my feeling that suppressors are actually pain in the back! W8JI stated that dumped VHF oscilations happen when we switch bias plate current to the tube but that might be the case ONLY if switching time is in tens of nanoseconds range in order to excite >100MHz oscilations. Every other steadystate phenomena can be related to the RF driving timing and harmonics involved with B class tube operation.
Once I did my math and realized that resonant frequency of suppressors changes about 50% with the value of tuning capacitor in series with tube output capa-citance, I begun to doubt the value of VHF protection against accidental harmonic resonances.
However, I don't like to repeat my destructive test of SB-220 by replacing both suppressors with thick wires as they survived for 20 years including RTTY torture. I am only having problems with poor heather pin soldering on my new Chinese 3-500ZG from RF Parts but I am so far away from Hollywood that I do not consider returning them in waranty :-)
73 de Mario, S56A, N1YU.
P.S. My favored Internet quote from cq-contest reflector: Are we having fun?

3501. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <57rsj0$e6s@dallas1.connect.net>
Source record: 100174

In article <21170@s55tcp.ampr.org>, s56a@s55tcp.ampr.ORG (Marijan Miletic) says:
>
.
>
>#4.
>Take a dumping resistor with a value at least three times higher than X.
>Let us take 100 Ohms, but what is a power rating?
>
I have never heard the term "dumping resistor" used..did you mean
"dampening"?

Do NOT use high resistance wire for L as one is wasting ONLY RF energy
>without any effect on VHF! Dumping resistor does that job smoothly.
>
>Doesn't the high resistance wire act to limit the terrible ALC overshoot
found in modern-day exciters, protecting the tank capacitor and
bandswitch et al in the same manner as a series R in the H.V. lead
protects tubes/components in case of flashover?

I am not even qualified to shine the shoes of the participants in
"good source for amplifier tips"...(flunked H.S. math) but I am
certainally learning plenty via that thread! I also learned years ago
there is no such thing as a stupid question!! Thanks, Mario, and all,
for the great education. (((73))) Phil, K5PC

3502. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <57rtte$e6s@dallas1.connect.net>
Source record: 100175

In article <32A0F185.2392@tri.net>, stoskopf@tri.NET (Lawrence Stoskopf) says:
>
>Just discussed this supressor bit with an experienced Collins TX
>engineer. Found it amusing. They had a 10 KW HF rig that had an inch
>wide by three inch aluminum strap from the tube to the tuning capacitor.
>Mounted on the strap were two noninductive resistors side by side
>(parallel) mounted along the strap. Everyone looking at the amp
>wondered why they shorted the resistors.
>
>Apparently you build the amplifier, then figure out where the
>parasitics are and do what it takes to get rid of them. Seems a bit
>empiric for todays models, but doubtlessly effective. This is the limit
>of my information on this.
>
>N0UU

One of the most inovative suppressors I have ever seen is a current
model made by Henry Radio for the 3CX3000A7. It is a 1 inch wide,
5.5 inch long hard-drawn copper strap bent into a 1 turn coil, 1 inch
in diameter. The strap is then coated with chrome plating (like car
bumpers used to be) until the resistance of the chrome reaches the
necessary R to meet the design specs. for its application. This
eliminates the need for big parallel resistors accross the coil,
nichrome wire, (or strap, in this case) and will certainly handle any
power on H.F. that the tube is capable of! My meager test equipment
(Autec RF-1 and R.S. DVM) show that the L is about .34 uh @ 28 mhz
and the R of the chrome is 25-35 ohms. I have one of these hanging on
my wall to remind me to strive for simplicity and inovation in my
design work. Nice going, Henry!! (((73))) Phil, K5PC

(or strap, in this case)

3503. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000112960448050001@news.vcnet.com>
Source record: 100176

In article <1996Nov28.162231.20735@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
(Gary Coffman) wrote:

> In article <19961125020000.VAA03737@ladder01.news.aol.com>
w8jitom@aol.com writes:
snip...

> >Perhaps Rich is preparing us for the revelation that the O ring failure
> >was due to a parasitic oscillation, or perhaps photons from a solar flare
> >caused the failure.
>
> Actually, parasitic oscillations (mechanical resonances) were one of the
> potential causes examined during the Challenger investigation. It isn't a
> silly idea, and it turns out the joints do suffer hoop flex during operation.

I heard that at the time of launch of Mission 25, there were some layers of
rapidly moving air at high altitude due to the weather front that had just
passed through and delayed the launch. Anybody who has done much flying
knows what passing through these layers is like. Since Mission 25 passed
through such layers, extra vibrational stress was placed on the SRB joints.

> I expect he is trying to say that large organizations (or small ones
> either) don't always owm up to their design failures.
snip......

Congrats, Gary. You guessed correctly. I can still remember the tobacco
company executives testifying before Congress, who, to a man, in sworn
testimony, said that nicotine was not addicitive.

A friend of mine was addicted to heroin. He smoked cigarettes.
Eventually, he was able to kick the heroin habit. However, he was never
able to kick the nicotine habit. .

BTW, I used to occasionally catch a ride to work in a Ford Pinto.
I enjoyed your comments about politics and the Utah vote in Congress.
Term limits might help.
---
e-mail copy to Mr. Coffman

--
--Rich-- ag6k, 805-386-3734

3504. WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: Phil Heaton <ke4krt@radio.org>
Message-ID: <32A18C19.764F@radio.org>
Source record: 100177
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I need an S meter for my homebrew rig. Does anyone
have one they'd like to sell?

Phil
--

Phil Heaton, KE4KRT, ke4krt@radio.org

3505. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.207.00192750@azstarnet.com>
Source record: 100178

In article <57rtte$e6s@dallas1.connect.net> philk5pc@connect.net (Phil Clements) writes:
>From: philk5pc@connect.net (Phil Clements)
>Subject: Re: Good source for amplifier tips
>Date: 1 Dec 1996 12:32:46 GMT

>In article <32A0F185.2392@tri.net>, stoskopf@tri.NET (Lawrence Stoskopf) says:
>>

> One of the most inovative suppressors I have ever seen is a current
> model made by Henry Radio for the 3CX3000A7. It is a 1 inch wide,
> 5.5 inch long hard-drawn copper strap bent into a 1 turn coil, 1 inch
> in diameter. The strap is then coated with chrome plating (like car
> bumpers used to be) until the resistance of the chrome reaches the
> necessary R to meet the design specs. for its application. This
> eliminates the need for big parallel resistors accross the coil,
> nichrome wire, (or strap, in this case) and will certainly handle any
> power on H.F. that the tube is capable of! My meager test equipment
> (Autec RF-1 and R.S. DVM) show that the L is about .34 uh @ 28 mhz
> and the R of the chrome is 25-35 ohms. I have one of these hanging on
> my wall to remind me to strive for simplicity and inovation in my
> design work. Nice going, Henry!! (((73))) Phil, K5PC

Hmmm. Sounds like a Henry 8K. It's been a while since I saw the inside of
one of these, but I doubt that the suppressor is chrome plated. I
think it's polished silver.

Also, your measured inductance seems awfully high. That's probably
about 15-20% of the tank inductance.

BTW, I was trying to help my friend re-engineer this thing to stop the corona
and arcing problems with the homemade relay contacts used to switch the fixed
tank capacitors. Some good old corona reduction techniques like smoothing
corners and increasing spacing did the trick. No nichrome was required.

N7WS

3506. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbdf8b$5227aa40$836d3bc6@internet.roadrunner.com>
Source record: 100179

Thanks for the reply, Tom. Here are some comments and further questions:

> Remember the power control is via the ALC system. The contol voltage is
> derived from an RF output detector that feeds a voltage comparison
system.
> When the output power detected by the detector if the detector voltage
> exceeds a reference voltage, ALC is developed.
>
> When the rig is at rest, or on receive, the ALC voltage is at zero. The
TX
> system is at full gain. It takes several RF cycles before the ALC voltage
> can climb and limit drive.
>

Hmmm... Is this true even when not driving the linear? When I adjust the
power output
of the transceiver via the front panel control, am I adjusting the ALC
somehow? I didn't
think this was the case.

> I'm not surprised by this. Does Kenwood warn you to overcouple the PA
> slightly before advancing drive? If not, they should. This problem is
> compounded by the fact the 940 certainly has power "overshoot". The load
> control should always be operated beyond the setting where maximum output
> occurs, and you should never depend ALC to keep the power reduced. The
> ALC/ power control system is just too slow.

Appears that Kenwood does not recommend overcoupling the PA before
advancing
the drive. The only recommendation for the load setting when initially
tuning is
to put the load control at 12:00 and start there.

> You are using the 922 at the worst possible condition for arc prevention
> when you run low power at high anode voltage.

Hmmm...but an arc never (or at least never that I can recall) under these
conditions on
my rig at least. Wonder what is going on here...

>
> Yes, but you need a storage scope or a very good very fast peak reading
> meter. Even a Bird 43P is on the slow side for this. There is no doubt
you
> have the problem, because I've yet to see a modern rig that doesn't.
>

> Do you have a fast peak reading meter, or a storage scope? If you don't
> have a fast peak reading meter, how do you know you are driving the 922
> correctly at the power you loaded it up at?

I have an LED peak display on my Tucker antenna tuner, but I don't have
a quantitative idea how fast it is - no storage scope and the Bird I have
is
a slow one. Tried looking with the LED display with fast LC (it is
adjustable to track
slower if desired) - no evidence of peaking, but I'm not confident that it
would see a real fast one.

>
> >Or would it only be there when going into an amp?
>
> Nope, it's there all the time. The power on your rig will climb up nearly
> to the value it outputs when the ALC is disconnected (internally). That
is
> a few hundred watts. It will do that regardless of the power setting of
> the rig. Let's say that level is 200 watts.
>
> Tune the PA with 50 watts, and you are spiking the PA with four times the
> loaded power once in a while on leading edges. Tune the PA up at 120
watts
> drive, and the sipe is still 200 watss but now the PA is loaded with a
> much lower Q and less tank voltage overshoot.

Boy this sounds like a serious design flaw to me, if it is really
happening. Also,
sounds like a lot more final transistors would blow if this were as
widespread as you
seem to believe it is. I wonder why there aren't more dead finals around?

> Aside from that, I'd buy a good peak reading meter (if you don't have
one)
> and OVERLOAD (the loading capacitor set slightly beyond maximum output)
> the PA when tuning before ever appling full power or voltage.
>
> The worse thjing I can think of for both splatter and arcing is to set
the
> loading cap too light, and to throttle back the 940 without using
external
> bias on the ALC.

Ok, just so I'm absolutely clear on what you are recommending, by setting
the loading cap "too light" I understand that to be at large capacitance
values (smaller
numbers on the front) - heavy load settings are lower cap values (bigger
numbers).
Am I interpreting this right?

> Doe this make sense, or do I need to explain some areas better?

I think you are doing well, considering my lack of understanding of some
of these
issues. Thanks for the time and explanations!

David (K5KH)

3507. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000112960601090001@news.vcnet.com>
Source record: 100180

In article <01bbdf0e$7b3dbb40$826d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> wrote:

> Rich,
>
> Sorry to be so late in replying, but I had a massive disk
> crash/corruption and I'm still trying to recover.

Late in replying? I have been trying to find out whether or not the AL-1500 amp. uses a VHF parasitic-oscillation suppressor for what seems like at least a week.
A friend of mine also had a massive disc crash. He was using Windows-95. Are you using Windows-95, David?

> Thank you for your thoughts and suggestions on this matter and I will
> happily try one of the parasitic reduction kits you are providing.
>
> As we discussed, I will be sure to post the results of the installation
> of this kit and be sure to let all who are interested know about the
> progress!
>
> Again, thank you very, very much for your help! And experience!
>
Ur welcome, David. Your retrofit kit will go out in the next mail pickup.
Oh yes, and Aunt Minnie told me to say to say hi. ..... Hi-hi.

Please do not smooth up the arc-marks on the plates of the 922's tune-capacitor when you install the retrofit kit.. However, before you remove the 922s factory-stock silver-plated strap, parasitic suppressors please use a dipmeter to check the VHF anode resonance. The best place to make this measurement is at the rear of the HV DC blocking capacitor on the #12 gauge copper buswire that connects the blocking capacitor to the top of the HV-RFC. There are two areas of interest: What is the resonant frequency?, and would you describe the VHF dip as sharp or broad?
These measurements should be repeated after the retrofit kit is installed.

It might be better to switch this discussion to the "Good source of amplifier tips" thread, David. Will, KN6DV, is keeping an archive, so it could be easier for him if the proceedings are in one area.
---
e-mail copies to Mr. Holtcamp, Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3508. Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: "Bob Scott bscott"@pla-net.net
Message-ID: <57s37j$s1a@thor.pla-net.net>
Source record: 100181

I am hoping to enlist the knowledge of a few of the amplifier gurus out here with a little problem I have
with an Ameritron AL80 (NOT "A" or "B"). Whenever I attempt to load up on 75 or 160 meters, the
bandswitch begins to arc over. The antennas are resonant (Less than 1.5:1 SWR), I have checked
for cold solder joints, etc., and the amp does perform properly on 10-40 meters. I am not an electronics
genius, so have to ask for a little help every now and then....Thanks in advance for any help offered....
73 de Bob

****
Address: bscott@pla-net.net
Name: Bob Scott
Amateur radio call: KF9YH
Member: Society of Midwest Contesters
Member: National Registry of Emergency Medical Technicians (Paramedic)
The opinions expressed herein are solely those of the author.
****

3509. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <57s4kr$jig@dallas1.connect.net>
Source record: 100182

In article <n7ws.207.00192750@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) says:
>
>In article <57rtte$e6s@dallas1.connect.net> philk5pc@connect.net (Phil Clements) writes:
>>From: philk5pc@connect.net (Phil Clements)
>>Subject: Re: Good source for amplifier tips
>>Date: 1 Dec 1996 12:32:46 GMT
>
>>In article <32A0F185.2392@tri.net>, stoskopf@tri.NET (Lawrence Stoskopf) says:
>>>
>
>
>
>>Hmmm. Sounds like a Henry 8K. It's been a while since I saw the inside of
>one of these, but I doubt that the suppressor is chrome plated. I
>think it's polished silver.
>
>Also, your measured inductance seems awfully high. That's probably
>about 15-20% of the tank inductance.
>
>BTW, I was trying to help my friend re-engineer this thing to stop the corona
>and arcing problems with the homemade relay contacts used to switch the fixed
>tank capacitors. Some good old corona reduction techniques like smoothing
>corners and increasing spacing did the trick. No nichrome was required.
>
>N7WS
I am sure you are correct...a $90 L-meter has its limitations! Trust me-
the plating is chrome..I have been in the plant and seen the process.
BTW Henry has completely changed the solenoids on the 8K...too many were
having the same problem as you experienced. Talk to Paul Johnson for
details. Also, the high L in the suppressor may counteract the high
output C of the tube..the 8K uses no C1 in the pi-l on 10m because of
this.

Phil, K5PC

3510. Dampening...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <21946@s55tcp.ampr.org>
Source record: 100183

Phil, K5PC (what a nice suffix) rightly pointed to my mistake in using a word "dumping" for an ordinary resistor instead of discussing price reductions :-) I even spell-checked that posting but I needed more sophisticated semantics test. On the other hand, English is NOT my mother tongue and I begun lerning it late at the age of 20...
ALC overshoots are real shame with modern radios equiped with a lot of micro-processors. They should be cured at the source and NOT late in the chain... However, tubes can survive them, poor MOSFET's don't...
73 de Mario, S56A, N1YU.

3511. 3SK76 or 3SK92

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: G&#65533;sta Bengtsson <gosta.bengtsson@sverige.net>
Message-ID: <32A213D4.4FBD@sverige.net>
Source record: 100184

Hi,
I am looking for a transistor to a Kenwood TS770e 3sk76 or 3sk92 but
havn't found anyone here in Sweden who has it. Could anyone help me,
perhaps with a European version?
Would be grateful for an E-mail.
73's and thanks.
http://www.sverige.net/usr/gosta.bengtsson/

3512. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000112960749010001@news.vcnet.com>
Source record: 100185

In article <01bbdf8b$5227aa40$836d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> wrote:

> Thanks for the reply, Tom. Here are some comments and further questions:
>
> > Remember the power control is via the ALC system. The contol voltage is
> > derived from an RF output detector that feeds a voltage comparison
> system.
> > When the output power detected by the detector if the detector voltage
> > exceeds a reference voltage, ALC is developed.
> >
> > When the rig is at rest, or on receive, the ALC voltage is at zero. The
> TX
> > system is at full gain. It takes several RF cycles before the ALC voltage
> > can climb and limit drive.
> >
>
> Hmmm... Is this true even when not driving the linear? When I adjust the
> power output
> of the transceiver via the front panel control, am I adjusting the ALC
> somehow? I didn't
> think this was the case.
>
It seems not to be the case in the TS-940 or in any other transceiver I am familiar with, David. ALC overshoot lasts only about one or two milliseconds, and fully recovers between spoken words. Thus, overshoot spikes continue to occur at the beginning of each new word that is spoken into the microphone. I have seen no evidence of climbing----except in Federal and State taxes.
>
> > I'm not surprised by this. Does Kenwood warn you to overcouple the PA
> > slightly before advancing drive? If not, they should. This problem is
> > compounded by the fact the 940 certainly has power "overshoot". The load
> > control should always be operated beyond the setting where maximum output
> > occurs, and you should never depend ALC to keep the power reduced. The
> > ALC/ power control system is just too slow.

Amen to that Tom. When I said that ALC-systems in transceivers had a problem with attack-overshoot in "The Nearly Perfect Ampilifier" (QST, 1/94), I was criticized for it by Fred Telewski, WA7TZY, in the 9/94 QST. Telewski said "Measures' comments about ALC being generically flawed are inappropiate." // Any comments, Mr. Telewski?
However, I have not measured the amount of overshoot you claim. The highest overshoot I have measured from a Kenwood radio with my Hewlett Packard oscilloscope was 45% in terms of power, or 20% in terms of RF

peak-voltage. However, a JRD transceiver exhibited a 26% RF peak-voltage overshoot. Even if a transceiver was capable of delivering an overshoot of 300w, the two 3-500Zs would saturate at about 150w drive and the extra drive would not significantly change the peak voltage across the 922's tune-capacitor.

> Appears that Kenwood does not recommend overcoupling the PA before
> advancing
> the drive. ......snip........

Good advice, Tom.

> > You are using the 922 at the worst possible condition for arc prevention
> > when you run low power at high anode voltage.
>
> Hmmm...but an arc never (or at least never that I can recall) under these
> conditions on
> my rig at least. Wonder what is going on here...
>
Prior to 1986, I used to wonder too, David. Eimac's Mr. Foote seemingly sent me off in the right direction. Hmmmm. I am still wondering why Eimac's Reid Brandon, W6MTF, told QST's Paul Pagel that Mr. Foote was NOT AUTHORIZED to release such information to Mr. Measures? // Any comments, Reid?
> >
> > Yes, but you need a storage scope or a very good very fast peak reading
> > meter. Even a Bird 43P is on the slow side for this. There is no doubt
> you
> > have the problem, because I've yet to see a modern rig that doesn't.
> >
> > Do you have a fast peak reading meter, or a storage scope? If you don't
> > have a fast peak reading meter, how do you know you are driving the 922
> > correctly at the power you loaded it up at?
>
My triggered-sweep oscilloscope works fine---providing one sets the trigger level high enough to begin the sweep only at abnormally high RF peak output voltages. With a storage scope, you would have to use the same trigger setup procedure---however, with a storage 'scope the image lasts all day instead of a second or two.

QST, QST, QST, de AG6K.....is there anyone out there who knows whether or not Tom Rauch's AL-1500 amplifier design usea a VHF parasitic oscillation suppressor?
---
e-mail copies to Mr. Holtcamp, Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3513. Need Heath power xfrmer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: philj@ecc-uky.campus.mci.net
Message-ID: <57sbtn$rf7@news.campus.mci.net>
Source record: 100186

HELP! I need a power transformer for an old Heathkit GR-2000 television (yeah, I know, it ain't a ham radio, but nobody knows parts scroungin' better than us hams).

The one I need is part # 54-835 and it is the larger of the two power transformers in the set. Buy a replacement off the shelf, you say? The secondary windings are: 59 VAC center tapped, 200 VAC with a tap at 75 volts and 1.3 VAC!!!!! Did Heath have a brother-in-law in the transformer business or what?

Thanks for any help (email me direct--doubt whether this has any universal interest to the ham comunity).

73,

Phil Jockell - N4GWV - philj@ecc-uky.campus.mci.net

3514. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-01 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000112960924280001@news.vcnet.com>
Source record: 100187

In article <57rtte$e6s@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) wrote:

> In article <32A0F185.2392@tri.net>, stoskopf@tri.NET (Lawrence Stoskopf) says:
> >
> >Just discussed this supressor bit with an experienced Collins TX
> >engineer. Found it amusing. They had a 10 KW HF rig that had an inch
> >wide by three inch aluminum strap from the tube to the tuning capacitor.
> >Mounted on the strap were two noninductive resistors side by side
> >(parallel) mounted along the strap. Everyone looking at the amp
> >wondered why they shorted the resistors.

If the amplifier in question was a Collins 208-U10, at the 8171/4CX10,000D's anode resonance of around 60MHz, the "short" probably exhibits at least 40 ohms of reactance.

> >Apparently you build the amplifier, then figure out where the
> >parasitics are and do what it takes to get rid of them. Seems a bit
> >empiric for todays models, but doubtlessly effective. This is the limit
> >of my information on this.
> >
> >N0UU
>
> One of the most inovative suppressors I have ever seen is a current
> model made by Henry Radio for the 3CX3000A7. It is a 1 inch wide,
> 5.5 inch long hard-drawn copper strap bent into a 1 turn coil, 1 inch
> in diameter. The strap is then coated with chrome plating (like car
> bumpers used to be) until the resistance of the chrome reaches the
> necessary R to meet the design specs. for its application. This
> eliminates the need for big parallel resistors accross the coil,
> nichrome wire, (or strap, in this case) and will certainly handle any
> power on H.F. that the tube is capable of! My meager test equipment
> (Autec RF-1 and R.S. DVM) show that the L is about .34 uh @ 28 mhz
> and the R of the chrome is 25-35 ohms. I have one of these hanging on
> my wall to remind me to strive for simplicity and inovation in my
> design work. Nice going, Henry!! (((73))) Phil, K5PC

Nice going, Henry, but not fast going by any means, Phil. For years after the article about intermittent VHF parasitic oscillations was published in the October 1988 issue of QST, Henry used silver-plating on its VHF parasitic suppressors. I have been using a resistorless VHF parasitic oscillation suppressor in my Class AB1 4CX3000A amplifier for 7 years. No resistor is used---just two UNequal lengths of nickle-chromium-iron alloy (a.k.a. stainless-steel) shim-stock which are NOT inductively coupled to each other. At VHF, nickle-chromium alloys have enough intrinsic R to get

the job done. According to my dipmeter, the original silver-plated strap exhibited a sharp dip at 68MHz. However the nickle-chromium replacement exhibits a broader and shallower dip at 68MHz. In my mind, better dampening means a duller dip. Apparently, some people think it does not matter. // Any comments, Tom? Any comments Reid?

IMO, Henry's newer suppressors would provide even better VHF-dampening if Henry provided a second VHF current path in the suppressor device with a different amount of L. Two UNequal L, VHF current current paths creates a stagger-tuning broadbanding effect like that in IF transformers when the secondary and primary windings are tuned to different frequencies. Such a suppressor can be made from entirely from strips of stainless steel shimstock. However, to minimize VHF-Q, the width of the stainless-steel strips should be no wider than is necessary to carry the RF circulating current from the tank at 29MHz. IMO, a VHF parasitic suppressor that does not get hot at 29MHz is not going to be dampening/absorbing very much energy above 30MHz.

I still get phone calls from owners of older Henry amplifiers, that use silver-plated "suppressors" who experience what appears to be VHF parasitic arcing at the bandswitch. Jim Day, W6DF, who works on Henry amplifiers, told me that he repeately explained the apparent, intermittent VHF parasitic arcing problem, and its cure, to the powers that be at Henry Radio. It took Henry at least 5 years to figure out that Jim Day knew what he was talking about. ..... . Nice going, Mr. Day. Nice going, Mr. Handy.

---

e-mail copies to Mr. Clements, Mr. Stoskopf, Mr. Rauch, et al.

--

--Rich-- ag6k, 805-386-3734

3515. jvfax & baycom modem ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: aziz@turnet.NET.TR
Message-ID: <32A276AC.6B5E@turnet.net.tr>
Source record: 100103

hi dear om`s , xyl`s , yl`s
I want to use jvfax software with my baycom modem (am7910 chip)
is this possible ? if possible what is changes on the config of jvfax
software . all the best 73`s de sua
packet radio : TA2AD@TA2AD.#ZON.TUR.AS
email : aziz@turnet.net.tr

3516. do you know any pactor software useing with baycom modem ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: aziz@turnet.NET.TR
Message-ID: <32A2912E.1A0F@turnet.net.tr>
Source record: 100104

hi dear om`s
do you know any pactor software useing with baycom (with AM7910 chip)
modem ? thanks (((73))) de sua
packet radio TA2AD@TA2AD.#ZON.TUR.AS
email aziz@turnet.net.tr

3517. Re: Radial Wire Type and Source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: wf3h@enter.net
Message-ID: <57t5to$h2m@news.enter.net>
Source record: 100105
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

dnorris@k7no.com (CDN) wrote:

>Why is it that when you tell a 'joke' about an Irishman it is called
>tasteless; when you tell a joke about a black it is called racist, and
>when you tell a joke about a lawyer it is called funny?

>

how about the real life situation in california where lawyers tried to
gut silicon valley by making it possible to sue a company every time
its stock dropped in price....thats the kind of thing that gets
lawyers a bad name...

whats the difference between a lawyer and a catfish?

one's a bottom feeding scum sucker and the other's a fish.

3518. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961202025800.VAA02596@ladder01.news.aol.com>
Source record: 100106

In article <measures-ya023180003011961434390001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>> The point remains what can you possibly do with a grid dip meter Rich?
>
>I'm trying, I'm trying, but the guy with the AL-80 keeps stalling and
>stalling, and nothing happens. The nice thing about a dipmeter is that
it
>does not require a physical connection to the circuit under test--as is
the
>case with other types of test equipment.

I guess you are not familiar with modern test equipment Rich.

The anode circuit of the AL-80B I just measured has two resonances (other
than the ones normally due to HF tank components). One is adjustable over
a range of 63.34 to 22.63 MHz as the plate tuning cap is adjusted. It
moves down in frequency as the capacitor is meshed.

The second resonance is at 152.10 - 161.36 MHz. It moves UP in frequency
as the capacitor is meshed.

With the suppressor removed this resonance moves up to 192.16 MHz.

What can you develop from this data? I'm especially interested in what you
will tell us about Q or impedance, since I also measured those values. I
want to see how close your ESP is to a HP Impedance Analyzer. Also, what
frequency does the PA oscillate on when the suppressor is removed?

Do you want me to E-mail someone the complete data before you reply, so we
can see how close you come without rectangular impedance coordinates for
your calculations?? I can do this, since I already have the Q, impedance,
frequency of oscillation, and so on.

I'm still wondering what you can predict with a GD meter.

73 Tom

3519. WANTED:, D2MAC CODER !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: peter smit <peter_smit@hoogovens.e-mail.com>
Message-ID: <32A2182E.3BA2@hoogovens.e-mail.com>
Source record: 100107

I would like to buy a used d2mac coder (no decoder) for ATV
Please if you have any information contact me.

Peter Smit
PE1CQS

3520. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: FUman <kg7fu@rio.com>
Message-ID: <01bbe021$c538d7c0$988260ce@surf.rio.com>
Source record: 100108
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Jim Hutchings <jim.hutchings@sk.sympatico.ca> wrote in article =
<32A25874.1582@sk.sympatico.ca>...

> second, I have been in the unfortunate position where a qualified =
capable=20
> lawyer was required. To my great relief, we won our case and I vowed =
to=20
> never again tell another lawyer joke...I no longer get the humor
> Jim Hutchings VE5HM

Gee, good for you Jim! How much did he charge you?

Don't you ever wonder about the screwball laws being written everyday
to restrict and regulate our laws? Do you think they're written by
Joe Concerned Citizen?

How about the financial impact lawyers have on our everyday lives?
Every time they win some humongous settlement in some pea brained
case it ends up costing the taxpayers and consumers.

Ever look up justice in the dictionary? How about all those crooks and
murders that get off every year due to some "technicality"? Ever hear
of the case of the divorce where the mom was suicidal and mentally
unable to cope without anti-psychotic medication and the father was
"normal"...mom got custody.

The responses you see here are direct reflections of our own experiences
and disdain for lawyers. When one threatedned to sue me, I posted it
so the world could see what they are really like.

Sorry you don't agree that the world would be a safer and cheaper place
without them.

de kg7fu

3521. Re: Transformer For Power Supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: Multi-Volti@softhouse.com
Message-ID: <57tstc$9rs@news.cs.hope.edu>
Source record: 100109

"Richard F. Gillette" <r.f.gillette@ieee.org> wrote:
==========
If you want a 20 A DC load capability, you don't want a 10 A
transformer, you want a transformer that will deliver the 20 A!
Watch out for AC rating s and DC load ratings on transformers, because
they are not the same, due to the difference in current waveform.
(Please, no arguments about DC in transformers...it should be obvious
I'm referring to the load current after rectification. The current
seen by the diodes and transformer looks a great deal different than
the load current, in terms of duty cycle and waveshape. This is why
transformers can be rated differently.)

RF Gillette's idea of stacking power supplies is cool method of
recycling cheap supplies. I'd recommend using linear ones and not
switchers, for one. Two, you may not have the same regulation, as you
are tripling (possibly more due to wiring) the output impedance
compared to a single supply, and lastly, use plenty of RF bypassing so
you don't have your output voltage go out of regulation due to RF
getting back into the regulator(s).

==========
>Brian Kline wrote:
>>
>> Dave Morrow wrote:
>> >
>> > I'm trying to build a 13.8v 20amp power supply and I'm having difficulty
>> > locating a transformer. This project may be more difficult than I
>> > thought. I'm looking for a 120v primary and 20v - 25v 10amp secondary or
>> > something close. Of the places I've called they don't carry it or they
>> > want $200.00 for it.
>> >
>> > Any words of advise? Any ideas as to where to find a transformer at a
>> > cut rate price?
>> >
>> > Help!!
>> > Thanks, Dave
>>
>If you can find 5v. 20a. power supplies cheep (most ham fests
>have them) look at using 3 in seties with their outpur adjusted
>to 4.5/6 v. (3 times 4.57 = 13.71v). Keep all floating from
>chassis except the return of the first one.

>
>110 >> 4.57 + 13.7v >
> -

> | jumper
>110 >> 4.57 +
> -
> | jumper
>110 >> 4.57 +
> - gnd >

>I have used same for club station and has worked without problems
>for the last 3 years. I used 3 @ 5v 35a and it feeds 2mtr/440 35w
>100W hf and tnc. 73 W9PE
>--
>Richard F. Gillette P.E., Board Member, Harper C.C. \\////
>RF gillette inc. PO Box 1605, Palatine, IL 60078-1605 (OO)
>r.f.gillette@ieee.org, v)847-526-2626, f)847-526-2944 oo00=={}==00oo=

Multi-Volti@softhouse.com
http://www.softhouse.com/users/uptown/multi-volti/mvd.htm

3522. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000212960313390001@news.vcnet.com>
Source record: 100110

In article <19961202025800.VAA02596@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180003011961434390001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >> The point remains what can you possibly do with a grid dip meter Rich?
> > >
> > >I'm trying, I'm trying, but the guy with the AL-80 keeps stalling and
> > >stalling, and nothing happens. The nice thing about a dipmeter is that
> > it
> > >does not require a physical connection to the circuit under test--as is
> > the
> > >case with other types of test equipment.
> >
> > I guess you are not familiar with modern test equipment Rich.

I guess not. I was under the impression that they had to be connected to the circuit under test.

> The anode circuit of the AL-80B I just measured has two resonances (other
> than the ones normally due to HF tank components). One is adjustable over
> a range of 63.34 to 22.63 MHz as the plate tuning cap is adjusted. It
> moves down in frequency as the capacitor is meshed.
>
> The second resonance is at 152.10 - 161.36 MHz. It moves UP in frequency
> as the capacitor is meshed.

No help. The frequency sounds in the ballpark, however, this resonance moves DOWN slightly as the tune capacitor is meshed, not UP.

> With the suppressor removed this resonance moves up to 192.16 MHz.
>
> What can you develop from this data? ....snip...

What I am attempting to calculate is how the VHF current distributes in the suppressor example YOU gave me (85nH/100 ohms). If you (Ameritron) are really one of the "recognized amplifier experts", you should have nothing to fear.

Tom: I never saw an answer to the question Jesse asked you:

"Tom, are you absolutely sure it's impossible for a unstable amplifier to start into oscillation intermittently from switching transcients?
73, Jesse, W6KKT"
---
e-mail copies to Tom Rauch, Jesse et al.

--
--Rich-- ag6k, 805-386-3734

3523. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000212960523540001@news.vcnet.com>
Source record: 100111

In article <19961201225800.RAA27291@ladder01.news.aol.com>, w8jitom@aol.com wrote:

snip...
> The 3--500Z's do not saturate until they reach a peak anode current of
> perhaps 10 amperes per tube. That means the tubes give the tank a big hard
> "yank" and allow it to overshoot.

According to Eimac Chart #4264 for the constant current characteristics for a 3-500Z in grounded-grid configuration, the highest anode current shown is 1.8 amperes. Currents above 1.2 amperes are in saturationville. The smallest tube I am aware of that is capable of 10 peak amperes of anode current in linear amplifier service is the 4CX10,000D/8171. You seem to be transplanting the capabilities.

> Rich, I've heard you say that before. The dact is a 3-500Z can output 5-10
> kW before saturating.

I do not recall saying this, Tom.
From personal experience, I know that a healthy 3-500Z begins to saturate when it driven very much above 400mA (approx. equal to 1.2 peak amps) of average anode current. Eimac rates the max. avg. anode current at 400mA. 4000v at 420mA is not likely to produce 5kW to 10kW before saturation occurs. IMO, a 3-500Z can produce about 1100W of clean RF with a 4000v anode supply.

> You have no problem blaming VHF parasitics for high power levels, yet you
> claim saturation with 150 watts of drive. That sounds very inconsistent to
> me.
>
> >Prior to 1986, I used to wonder too, David. Eimac's Mr. Foote seemingly
> >sent me off in the right direction. Hmmmm. I am still wondering why
> >Eimac's Reid Brandon, W6MTF, told QST's Paul Pagel that Mr. Foote was NOT
> >AUTHORIZED to release such information to Mr. Measures?
>
> Foot was only a guy assigned to answer customers letters about tubes, he
> was not a design engineer any more than Orr was.

It's too late to demote Mr. Foote, Tom. He retired. Mr. Foote was the Chief Specifications Engineer for Varian-Eimac's Power Grid Division. // Why was Foote NOT AUTHORIZED to release such information in Feb. of 1986?. Any comments, Reid?
The phenomenon that Mr. Foote described was subsequently proven to my satisfaction, and proven to QST's satisfaction. In order to see the phenomenon Mr. Foote described, all it takes is a kaput gold-sputtered tube, a fine toothed saw, a vice, and a microscope. // Lon Cottingham,

K5JV, said he is sending me a box of kaput ceramic tubes. If I find one that is gold-sputtered, I could cut it open and ship it to you for your inspection, Tom. However, you will need a 30x to 50x microscope. Interested?

snip..... With a storage scope, you would have to use the same trigger
> >setup procedure---however, with a storage 'scope the image lasts all day
> >instead of a second or two.
>
> You can still miss the crest Rich.

Nah, I don't miss any part of a waveform, Tom. My HP scope has a delay line, so the horizontal sweep triggers BEFORE the vertical signal arrives at the CRT.

Tom: I don't see your answers to the two Q problems I proposed we solve. Are you still working on the calculations? The first question was easy, but the second question is not, right?.

BTW, I was surprized that one of our "recognized amplifier experts" did not pick up on the big mistake I made when I solved for the current ratio in the L-R parallel circuit. Oh well, Mario, S56A, N1YU, found my mistake. Thanks again, Mario. Please check the answers for the two Q problems, if you have time.
---
e-mail copies to Mr. Rauch et al.

--
--Rich-- ag6k, 805-386-3734

3524. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961202144900.JAA13291@ladder01.news.aol.com>
Source record: 100112

Hi Rich,

Im think we should finish one thing before starting something else.

In article <measures-ya023180000212960313390001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>No help. The frequency sounds in the ballpark, however, this resonance
>moves DOWN slightly as the tune capacitor is meshed, not UP.

No, the VHF resonance moves UP slightly as the capacitor is meshed. If you
know all the answers, why do you bother asking questions?

> What I am attempting to calculate is how the VHF current distributes in
>the suppressor example YOU gave me (85nH/100 ohms). If you (Ameritron)
are
>really one of the "recognized amplifier experts", you should have nothing
>to fear.

Fear? What has that got to do with parasitics? Does the tube get so afraid
it shakes?

73 Tom

3525. Re: MAR-1,2,3,4,4,6, where to obtain?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961202155700.KAA14724@ladder01.news.aol.com>
Source record: 100113

Hi Pertti. You can buy them Stateside from Mini-Circuits Laboratories. In stock and immediate delivery
P.O. Box 350166 Brooklyn, NY 11235-0003

In Europe,

44-252-835094
FAX 44-252-837010

GL
W4ZCB

3526. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: bspeed@cyberramp.net
Message-ID: <57uumn$s5m@news1.rcsntx.swbell.net>
Source record: 100114

zclobes@southwind.net (Zack Clobes) wrote:

>I was reading an article in the latest copy of QST covering the
>theory/construction of a temp compensated VFO. The schematic reminded me of a
>PLL with a feedback loop tied to a crystal oscilator. In his article, he made
>the statment that his VFO wouldn't have the extra phase noise that a
>traditional PLL has because of the loop. Can anyone explain this? I didn't
>think that the VCO wouldn't be effected by the locking loop.
>Thanks
>73s de Zack, W0ZC
Within the loop bandwidth of the PLL, the phase noise at the output,
is equal to the reference osc. noise multiplied by the total division
factor, N. The phase noise outside of the Loop bandwidth is that of
the VCO.
Reference: PLL Primer, by Andrzej Przedpelski

ie, you will decrease phase noise within the loop bandwidth of the
PLL.

3527. Re: How to get QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961202164000.LAA15517@ladder01.news.aol.com>
Source record: 100115

Subscribe. It's an expensive proposition from your country however. ($44 a year in US funds) . Might prefer going to your library.

ARRL
225 Main Street
Newington, CT 06111-1494

Telephone 860-594-0200
FAX 860-594-0259

Good luck.

W4ZCB

3528. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000212960908480001@news.vcnet.com>
Source record: 100116

In article <19961202144900.JAA13291@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Rich,
>
> Im think we should finish one thing before starting something else.
>
> In article <measures-ya023180000212960313390001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >No help. The frequency sounds in the ballpark, however, this resonance
> >moves DOWN slightly as the tune capacitor is meshed, not UP.
>
> No, the VHF resonance moves UP slightly as the capacitor is meshed. If you
> know all the answers, why do you bother asking questions?

Who told you that I know all the answers? Apparently you haven't read the copy of the Rebuttal I mailed to you. .

> > What I am attempting to calculate is how the VHF current distributes in
> >the suppressor example YOU gave me (85nH/100 ohms). If you (Ameritron)
> are
> >really one of the "recognized amplifier experts", you should have nothing
> >to fear.
>
> Fear? What has that got to do with parasitics? Does the tube get so afraid
> it shakes?
>
> 73 Tom

Hello, Tom:
If you believe that you can prove me wrong, then you should not be afraid to take your dipper and measure the dip-freq. at the AL-80's DC blocking capacitor. The anode resonant frequency is highest when the tuning cap. is at minimum C. The anode resonant frequency is slightly lower when the tuning cap. is at maximum C. Knowing both frequencies would be helpful.

How are you coming on the Q problems, Tom? That second Q problem is a bit tricky. Would you prefer to let me post the answers first, or would you prefer that we simultaneously post the answers at 00:00 hours GMT, or what??? We need to start digging into the Q issue that you brought up, Tom.

Tom: Does the AL-1500 amplifier, which you designed, utilize a VHF suppressor?

Did you answer the question that Jesse asked you:

"Tom, are you absolutely sure it's impossible for a unstable amplifier
to start into oscillation intermittently from switching transcients?"
---73, Jesse, W6KKT
This seems like a fair question, Tom. Roughly 95% of the parasitic
oscillations that I hear about occur when transient currents are present in
the anode circuit. .
==========
e-mail copies to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3529. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961202173500.MAA16480@ladder01.news.aol.com>
Source record: 100117

In article <19961201035100.WAA09400@ladder01.news.aol.com>,
w8jitom@aol.com writes:

>It absolutely is, the Kenwood I have overshoots into the 250-300 watt
>range on some bands.

Evidently this overshoot is an elusive culprit tearing up jack.
Pleae explain the sparkgap you use Tom.

Carl

3530. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <57v7vd$5ss@sf18.dseg.ti.com>
Source record: 100118
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

In article <32A18C19.764F@radio.org>, ke4krt@radio.org says...
>
>I need an S meter for my homebrew rig. Does anyone
> have one they'd like to sell?
>

Phil, try using one out of an old CB radio. They typically have 100
to 200 uA movements, and they work great in QRP and homebrew gear. I
have used them many times (I always keep a bunch in my junk drawer).
Some are even lighted using small 12v grain-of-wheat light bulbs, and
you could use a small switch to enable/disable the light to save your
battery power.

I see old CB rigs for sale at flea markets for a buck or two apiece
all the time. Doesn't matter if the rig works or not. I've never yet
found a CB with a bad meter movement (except one that was sunk in salt
water when the boat it was installed on went down).

--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3531. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: Andy Heninger <andy@barbwired.com>
Message-ID: <32A32E3E.5680@barbwired.com>
Source record: 100119

Marijan Miletic wrote:
>
> Rich, AG6K asked me to show the right mathematical formulas for calculating
> VHF suppressor values and I did my homework! To the best of my knowledge,
> this was not done before in the ham literature. I understand N7WS showed
> proper current distribution in parallel R/L circuit ahead of my KISS example.
>
> #1.
> Decide the frequency of potential VHF oscillations from known history of the
> particular tube or measurement data in real QRO circuit. Avoid the multiples
> of the highest operating frequency (in case of 30MHz NEVER tune suppressor at
> 90, 120 or 150 MHz). Let us take F=130 MHz.
>

[Remainder of calculation deleted.]

Don't neglect the poor grid circuit.

An amplifier with a VHF parasitic is operating as a tuned-grid tuned-plate oscillator, with tank circuits on each side composed primarily of the tube capacitances and the wiring inductances. As Tom R. has pointed out earlier, the oscillating amplifier is functioning in a common-cathode, grid driven configuration, even in (for normal operation) grounded grid amps.

The parasitic suppressor in the plate lead works in two ways - the much discussed lowering of the Q of the VHF plate circuit resonance AND moving that resonance far in frequency from the grid resonance. The assumption is that the grid resonance is at a higher frequency than the plate to start with, in which case moving the plate resonance lower (suppressor coil), or the grid resonance higher will help. I believe Tom R. mentioned the importance of short direct grounding or bypassing of the grid somewhere back in one of these amplifier threads.

In trying to make sense of all of these discussions, I find it helps to keep the whole circuit in mind. We've got an amplifier with a VHF frequency response that is determined by its input and output circuits, and some feedback through the tube's internal capacitances. If, at any frequency, the gain around the loop (amplifier + feedback path) exceeds unity, the amplifier will oscillate. Anything that sufficiently reduces the maximum gain or feedback will make the amplifier unconditionally stable.

I have an old textbook (Radio Engineers' Handbook, Frederick Terman, 1943) that talks about suppressing VHF parasitics in HF RF amplifiers by several methods -

- A coil alone in the plate lead, to further separate the grid and plate
VHF resonances. No resistor.

- A resistor alone in the plate lead, to dampen the resonance. No added inductance.
This resistor is directly in the VHF tank, but not in the HF tank. The same is true of the resistance component of Rich M.'s suppressors.

- A neutralization circuit that is effective at VHF (reduce the feedback).

Evidently the modern suppressor circuit either wasn't yet developed or wasn't well known when the book was written. But the basic problem was the same, and was well understood.

-- Andy Heninger WB6MPT

3532. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961202165000.LAA15697@ladder01.news.aol.com>
Source record: 100120

I use a flat bed scanner and file the whole sheet as a PCX file where I can reconstitute it if I need it. Great filing system. If you don't have a scanner, you can get someone else to scan it for you and stick it on a floppy till you get it home.
Schematics, data sheets, measurements anything.

W4ZCB

3533. Re: Transformer For Power

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8CD61AD.0367000B6D.uuout@sourcebbs.com>
Source record: 100121

-=> Quoting Dave Morrow to All <=-

DM> @FROM :dave@cybergate.com
DM> than I thought. I'm looking for a 120v primary and 20v - 25v 10amp
DM> secondary or something close. Of the places I've called they don't
DM> carry it or they want $200.00 for it.

DM> Any words of advise? Any ideas as to where to find a transformer at a
DM> cut rate price?

Hi Dave,

You can achieve the desired current by paralleling two or more secondaries
of the same voltage and current rating. For example two 24V 6A xformers
will yeild 24V at 12A. The only thing you have t watch is that all of
the units are in phase. If two transformers are used and they are out
of phase they will cancel out to 0V. With more than two units the
possibilities are more diverse but easy enough to figure out.

73
Bob
KE4QOK

... Two most common elements in the universe: Hydrogen & Stupidity.
___ Blue Wave/DOS v2.30 [NR]

3534. Re: Transistor equivelents

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <32A345CF.21BA@up.net>
Source record: 100122

Stephen Muther wrote:
>
> In article <57q0hm$88d@runswick.octacon.co.uk>,
> Paul Mooney <pmooney@onyx.octacon.co.uk> wrote:
> >Hi everyone,
> >
> >I'm looking for a source of transistor equivelents on the Net.
> >I've tried all the search machines I know but got no joy.
> >
> >Is there anyone out there who could point me in the right direction,
> >please?
> >
> >73s de Paul G7SPV
> >
>
> If by these you mean spice models or S parameters for RF transistors
> I have not seen any on the usual corporate websites yet. I know
> you can get them on disk from Motorola, NEC and HP for the asking.
> I would try your local rep. Hopefully, they will appear on the web
> eventually.
>
> Steve M. WF6Rhttp://www.nteinc.com/distlink.html

3535. Broken Palomar active audio filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: Monty Wilson <nospam@see.signature.part>
Message-ID: <E1t2qy.I73@twisto.eng.hou.compaq.com>
Source record: 100123
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

One day I just switched the audio filter on and no sound came
out. When I switch it off, it patches the audio through to
the speaker just fine, but with it turned on, no sound comes
through at all, regardless of the setting of the frequency knob,
selectivity switch, or bass filter switch.

Does anyone have any documentation, or a schematic?

Please email.

--
.........Monty.
mwilson @ flex.net (with spaces deleted)

3536. Re: Loop antenna theory?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <57vjpb$aih@newsfeeder.total.net>
Source record: 100124

Madjid <mboukri@cam.org> wrote:

>Robert Nase Johnson wrote:
>>
>> Hello -- I'm designing a VLF loop antenna and have read that the
>> sensitvity of such an antenna is affected both by number of turns and
>> area of the loop. My question is, if you can't have both, which is the
>> most important?

>For a receiving loop, the voltage
>induced by an E field is:

> V = 2.Pi.A.n.E.Cos(Angle)/lambda

> A Area
> n Number of turns
> E field in V/m
> Angle angle between plane of loop and signal

>If tuned (capacitor) multiply the above by Q
>loaded Q of tuned circuit formed by antenna
>and capacitor.

>Depends of what you want to use it for, space
>avalaible etc... as you can see from the formula
>you can play on Area or Number but the more turns
>the more difficult to tune at low frequencies and
>find a suitable capacitor.

>--------------------
>Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
>NEC4WIN Antenna simulation for Windows

Hi Madjid,

What's lambda and shouldn't E field be in Volts/m2 (squared)

Thanks
H.C.

3537. Re: Source for Siemens pa

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8CD6203.0367000B70.uuout@sourcebbs.com>
Source record: 100125

-=> Quoting Joseph M Zawodny to All <=-

JMZ> I need to find a place that sells Siemens components.
JMZ> Specifically, I looking for the BAT14-099 dual Schottky diode.
JMZ> Please reply to zawodny@exis.net.

Hello,

Call Roy Arnette at Siemens Automotive, Newport News (875-7130). He
will probably have a number to get you on the way to finding what you
need. We purchase a lot of industrial controls from Siemens (of course)
and I'm sure that those folks can point you to the exact place you need.
Also check the Siemens homepage on the internet.

73
Bob
KE4QOK

... Backup not found: (A)bort (R)etry (S)lap nearest innocent bystander.
___ Blue Wave/DOS v2.30 [NR]

3538. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000212960240300001@news.vcnet.com>
Source record: 100126

In article <19961201220400.RAA26054@ladder01.news.aol.com>, w8jitom@aol.com
wrote:

> In article <measures-ya023180003011961434390001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >Thanks, Tom. BTW, what is a "physic ability".
> > The reason I had to guess at the 160 figure is because somebody is
> >withholding the actual anode resonant frequency.
> >
> >
>
> Woops, no speel chek. I meant psychic ability, not the ability to give a
> medicine that purges.

Sorry, but I'm still in the dark, Tom. What is 'psychic'?

> Please explain what we would know (with a grid dip meter measurement)
> other than the reactance crosses zero at that point.
>
I need to find the resonant frequency of a circuit in the mid VHF-range,
whose resonating C is 5pF, but to find it without physicallyconnecting a
measurement device to the circuit under test. A dipmeter can do it.
Dipmeters are also useful for comparing the Q of two circuits that resonate
at the same frequency.
---
e-mail copies to Mr. Rauch et al.

--
--Rich-- ag6k, 805-386-3734

3539. TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: jskalski@acsu.buffalo.edu
Message-ID: <32A37AF1.63F15E8A@acsu.buffalo.edu>
Source record: 100127

Mil Spec silver plated stranded 22 & 24 AWG high temperature hook up
wire.
50' rolls
5 roll color assortment (250' total) shipped priority 2 day mail $23.
No color choices at this price, just 5 different colors.

great for building your own satellite, amplifier, rewiring the space
shuttle, your own plane, or whatever.

will not melt when you solder it.
rated at 200 degrees C and 600v.

Compare at triple the price. you won't find it cheaper.
If you find it cheaper I would like to know about it.

If interested contact jskalski@acsu.buffalo.edu

Jim (N2GO)

I am interested in trades for amateur equipment for larger quantities.
I have 1000' rolls for $80 shipped CONUS.

3540. Frequency Counter & SWR Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: scott9@pipeline.com
Message-ID: <57vvh1$ehi@camel2.mindspring.com>
Source record: 100128

I need plans for a frequency counter and a 2 meter SWR meter.

Thanks,
Scott, KF6FCN
scott9@pipeline.com

3541. Re: NorCal Cascade - Where to Buy?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: john_marshall@nt.com
Message-ID: <john_marshall-0212961254120001@nntpm365.plaza.nt.com>
Source record: 100129

In article <329FBDA8.35B6@sover.net>, lblades@sover.net wrote:

> Can anyone tell me where one can buy the NorCal Cascade
> QRP kit - and for how much? I can't seem to find a listing
> anywhere.

Wilderness Radio
P.O. Box 734
Los Altos, CA 94023-0734
(415) 494-3806
<http://www.fix.net/jparker/wild.html>

3542. HELP Bosch HFG164 E-prom

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: rkremer@worldonline.nl
Message-ID: <32a3620e.992717@news.worldonline.nl>
Source record: 100130

Hi,

Is there anybody who can give the
pin-designation of the E-prom in a
Bosch HFG164 handheld TRX.

The E-prom is of RCA manufacture
and has the following printed on it:
CDP 18 U 42CD

Thanks in advance,

'73 Ron, PA 0 RKG

3543. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: Jim Hutchings <jim.hutchings@sk.sympatico.ca>
Message-ID: <32A3A0FA.50CB@sk.sympatico.ca>
Source record: 100131
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

>
> Sorry you don't agree that the world would be a safer and cheaper place
> without them.
>
> de kg7fu
>
> The anti-gun control groups have a snappy slogan that basically says,
"guns don't cause crime any more than flys cause garbage". Without
debating the validity of that particular statement, I think that it's
unfair to blame lawyers for the state of our society. I'm not suggesting
that I agree with the strange things that go on in the "legal system"
(anyone collecting oxymorons??).
On the positive side of this topic, you might note that the Feds have now
decreed that aircraft manufacturers will only be liable for 18 years
after their product has been sold instead of eternity. Common sense does
prevail eventually.
Another point to consider is that many of these unbelievable judgements
have been rendered by juries!! Has the point been reached where we can
no longer trust the juries??
Our society has serious problems and sleazy lawyers are a symptom, not
the problem itself.
Honest, hardworking lawyers do exist and are a valuable commodity when
someone decides to rain on your parade. And yes, they're not
necessarily cheap, but most will try to keep costs down when they know
you're not well-off.
73 de Jim Hutchings VE5HM

3544. 40m FT-243 xtals to trade 4 same!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: "Carl P. Gottsmann" <kn6al@ecst.csuchico.edu>
Message-ID: <Pine.HPP.3.95.961202204017.17269B-100000@steroid.ecst.csuchico.edu>
Source record: 100132

Greetings all!
I have some FT-243 xtals (and a couple of 80m) that I
would like to trade primarily for 40m CW xtals up to 7150 Khz.
Oddball freq's (eg. 7.038, 7.112 etc,) would be especially
welcome.
Some of what I have would be of most use for going up to
15 or 10 meters (AM) phone... during the upcoming sunspot cycle.
Send me an e-mail and lets talk trades!
Here's what I've got to trade:

3.735 Mhz
3.885

7.206.6 Mhz
7.225
7.240
7.250
2 ea. 7.273.3
2 ea. 7.275
2 ea. 7.300
2 ea. 7.306.6
2 ea. 7.333.3
7.350
7.358.3
7.375
2 ea. 7.400
7.408.3

Thanks, and best 73 from here!
Carl Gottsmann, KN6AL +

3545. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000212962211360001@news.vcnet.com>
Source record: 100133

In article <21170@s55tcp.ampr.org>, S56A@s55tcp.ampr.org wrote:

> Rich, AG6K asked me to show the right mathematical formulas for calculating
> VHF suppressor values and I did my homework! To the best of my knowledge,
> this was not done before in the ham literature.

.....see "Calculating Power Dissipation in Parasitic-Suppressor Resistors"
on page 35 in the March, 1989 *QST*
.
> #1.
> Decide the frequency of potential VHF oscillations from known history of the
> particular tube or measurement data in real QRO circuit. Avoid the multiples
> of the highest operating frequency (in case of 30MHz NEVER tune suppressor at
> 90, 120 or 150 MHz). Let us take F=130 MHz.

I was not aware that an L/R VHF parasitic suppressor can be tuned. How is
this accomplished?
snip.......

You apparently did not do your homework on calculating suppressor resistor
dissipation, Mario.

--
--Rich-- ag6k, 805-386-3734

3546. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-02 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <32A30190.3E4B@hagagymnasiet.norrkoping.se>
Source record: 100134
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

Phil Heaton wrote:
>
> I need an S meter for my homebrew rig. Does anyone
> have one they'd like to sell?

Whatever you buy it won't give a true reading. Use any small meter and
mark the dial with the help of a calibrated signal generator connected to
the antenna input.
73 de Len SM5DFF

3547. Re: Suppressor calculation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <23064@s55tcp.ampr.org>
Source record: 100038

It seems to me that I made it at AG6K mailing list as I received two direct notes from him!

>I was not aware that an L/R VHF parasitic suppressor can be tuned. How is
>this accomplished?

While attempting to reason suppressor calculation, I had difficulties trying to decide the very starting point for the whole process. This variable is desired VHF frequency we wish to suppress and the only other changing factor is plate tuning capacitor. Tube output capacitance is a known fixed value so by selecting proper inductance we achieve parallel resonance at VHF and then damp the circuit by suitable low resistor.

>snip.......
Grow up, Hollywood!

>......see "Calculating Power Dissipation in Parasitic-Suppressor Resistors"
>on page 35 in the March, 1989 *QST*

Any formulas involved? Bring them up after 17 years for evaluation...

W8JI, Tom showed some interesting measured data on the anode circuit.

>The anode circuit of the AL-80B I just measured has two resonances (other
>than the ones normally due to HF tank components). One is adjustable over
>a range of 63.34 to 22.63 MHz as the plate tuning cap is adjusted. It
>moves down in frequency as the capacitor is meshed.

>The second resonance is at 152.10 - 161.36 MHz. It moves UP in frequency
>as the capacitor is meshed.

>With the suppressor removed this resonance moves up to 192.16 MHz.

Second resonance beats laws of physics but there are lot of unwanted side-efects with real components.

The first one would require capacitance change in the order of 7.8 which is impossible in series combination of tube output capacitance and plate tuning variable capacitor.

It is frightening to think that 24 & 28 MHz bands are within plate resonace with closed capacitor! What a quick way to blow suppressors!?

73 de Mario, S56A, N1YU.

P.S. In "S5 3/6/9 A" note I claimed we do NOT need suppressors unless we detect VHF oscilations in finished QRO ("Collins" way). Any comment?

P.S. II Andy, WB6MPT comment is highly appreciated emphasising known phenomena of loss of human knowledge within a short time span. I expierenced that clearly with PC which did all the previous mistakes minicomputers made!

P.S. IIi Rich, what is the tricky Q problem? I enjoy refreshing my math at 51

3548. Re: How to get QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <32A41B01.FAF@staffnet.com>
Source record: 100039

johnsonhe@aol.com wrote:
>
> Subscribe. It's an expensive proposition from your country however. ($44 a
> year in US funds) . Might prefer going to your library.
>
> ARRL
> 225 Main Street
> Newington, CT 06111-1494
>
> Telephone 860-594-0200
> FAX 860-594-0259
>
> Good luck.
>
> W4ZCB

Or wait until the end of the year and purchase the whole year on CD ROM.
Check out the ARRL website at http://www.arrl.org/

3549. Solid state design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: wirehead10@tir.com
Message-ID: <580kbf$or6@ramp2.tir.com>
Source record: 100040

mwilsher@randomhouse.com wrote:
>
> I'd like to learn how to design RF tx/rx devices. I have built some "single
> chip" trans/recv pairs and I have a Digital Eng. Degree. And have done some
> analog work, but I know little of RF Design

No doubt about it, the best book on analog solid state design is
"Solid state Design for the Radio Amateur", Published by the A.R.R.L.
This book can teach the beginner (assuming he/she knows solid state
fundamentals) everything needed to be able to produce some prettty
high performance receivers and transmitters. Also, looking through
the last 10 to 15 year's worth of QST at your local library will turn
up a goldmine of information on esactly what you are looking for.
Look for articles by Roy Lewallen, Wes Hayward, Doug DeMaw and Breed
(can't remember his first name now.... Gary I think) in particular.
They are a super great bunch of guys, and produce amazing designs...

Chuck,
N8DRF

3550. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000312960347540001@news.vcnet.com>
Source record: 100041

In article <32A32E3E.5680@barbwired.com>, andy@barbwired.com wrote:

> Marijan Miletic wrote:
> >
snip,,,,,

snip.......
> The parasitic suppressor in the plate lead works in two ways - the much
> discussed lowering of the Q of the VHF plate circuit resonance AND
> moving that resonance far in frequency from the grid resonance. The
> assumption is that the grid resonance is at a higher frequency than the
> plate to start with, in which case moving the plate resonance lower
> (suppressor coil), or the grid resonance higher will help. I believe
> Tom R. mentioned the importance of short direct grounding or bypassing
> of the grid somewhere back in one of these amplifier threads.

Yes he did Andy. However I found little difference in the resonant frequency of the grid circuit in a 3-500Z whether the grid was directly-grounded or grounded through capacitors, as is the case in the SB-220. The inductive reactance of the grid seems to be somewhat cancelled by the capacitive reactance of the grid bypass capacitors. I found that with low values of grid bypass C, the grid resonant frequency could be made slightly higher than if direct-grounding was used. This should come as no surprize. For years, people have been using a series capacitor to raise the resonant frequency of vertical antennas. // The degree of frequency lowering provided by a parasitic suppressor does appear to be substantial because the total L in the anode resonant circuit is far greater than the L of the average parasitic suppressor. In some 3-500Z amplifiers the suppressor moves the anode resonance closer to the grid resonance. Despite this, such amplifiers can be made relatively stable. The TL-922 is one such example. However, stability has its price. The 922's beautiful silver-plated-strap parasitic-suppressor inductors need to be replaced.

> In trying to make sense of all of these discussions, I find it helps to
> keep the whole circuit in mind. We've got an amplifier with a VHF
> frequency response that is determined by its input and output circuits,
> and some feedback through the tube's internal capacitances. If, at any
> frequency, the gain around the loop (amplifier + feedback path) exceeds
> unity, the amplifier will oscillate. Anything that sufficiently reduces
> the maximum gain or feedback will make the amplifier unconditionally
> stable.

Yes indeed. The mechanism that appears to reduce VHF gain is that the series-connected VHF suppressor decreases the VHF shunt/parallel load R on the anode. Here's how it appears to accomplish this: VHF suppressors provide series-R in the anode circuit. Using Yeq=1/Z, we convert the

series-R circuit (Z) to its parallel-R equivalent circuit (Y), (or we could do a vice versa using Zeq=1/Y). Thus, the higher the series-R in the anode circuit, the lower the parallel equivalent R-load on the anode. Less VHF load R on the anode = less VHF gain. As Andy said, if the VHF gain can be made low enough, the amplifier is unlikely to be able to sustain a VHF oscillation. ----- (Note: parallel circuits have susceptance (Y). Series circuits have impedance (Z). For any parallel circuit there is a series equivalent circuit. For any series circuit, there is an parallel equivalent circuit)

> I have an old textbook (Radio Engineers' Handbook, Frederick Terman,
> 1943) that talks about suppressing VHF parasitics in HF RF amplifiers by
> several methods -

I have a copy too, Andy. Terman was used as a textbook when I was struggling through courses in AC circuit analysis in the early 1960s.

> - A coil alone in the plate lead, to further separate the grid and
> plate
> VHF resonances. No resistor.
>
> - A resistor alone in the plate lead, to dampen the resonance. No
> added inductance.
> This resistor is directly in the VHF tank, but not in the HF tank.
> The same is true of the resistance component of Rich M.'s
> suppressors.

Actually, a VHF suppressor effects both circuits, especially at 29MHz---but not as much as some folks have asserted. OTOH, 29MHz is fairly close to VHF.

> - A neutralization circuit that is effective at VHF (reduce the
> feedback).

Ah yes, but the fly in the ointment is that neutralization neutralizes the amplifier at the operating frequency---but NOT at the anode circuit's resonance frequency.

---

e-mail copies to Mr. Heninger, Mr. Rauch et al.

--

--Rich-- ag6k, 805-386-3734

3551. Building a weather satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: Tom Rehnstrom <tom.rehnstrom@team.icl.se>
Message-ID: <32A49EA7.63D3@team.icl.se>
Source record: 100042

Hi all,

Where can I find some information about building a weather satellite
reciever (NOAA etc, 137.xx Mc)?

Thanx.
/Tom trum@lysator.liu.se

3552. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961203131600.IAA06380@ladder01.news.aol.com>
Source record: 100043

hi Rich,

I've been trying to answer your questions, even though you seem to avoid the ones I ask.

In article <measures-ya023180000212960908480001@news.vcnet.com>, measures@mail.vcnet.com (R. L. Measures) writes:

>Hello, Tom:
>If you believe that you can prove me wrong, then you should not be afraid
>to take your dipper and measure the dip-freq. at the AL-80's DC blocking
>capacitor. The anode resonant frequency is highest when the tuning cap.
is
>at minimum C. The anode resonant frequency is slightly lower when the
>tuning cap. is at maximum C. Knowing both frequencies would be helpful.

No, that's incorrect. The lower anode resonant frequency follows the capacitor in the normal manner, but the higher resonant frequency varies exactly as I posted.

The change of the higher frequency is very slight. You have the data you asked for.

>How are you coming on the Q problems, Tom? That second Q problem is a
bit
>tricky. Would you prefer to let me post the answers first, or would you
>prefer that we simultaneously post the answers at 00:00 hours GMT, or
>what??? We need to start digging into the Q issue that you brought up,

Coming on what? Digging into what Q issue? Did you mean QST issue?

Let's stick to one thing at a time Rich, when finished we can move on. It makes no sense to start three other topics when you don't finish the one at hand.You have the AL-80B anode resonant frequencies. Are you going to do something with them, or talk about something else?

73 Tom

3553. Making RF notch/ bandpass filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: kovar@zeus.ia.net
Message-ID: <581aus$eh3@hera.ia.net>
Source record: 100044

I have a HP-8920a with Tracking Generator/ Spec analyzer.

I Generate a frequencies up to 1 Gigahertz and sweep there bandpass

or skirts.

I would like to make some RF filter networks to insert into VHF antenna

path to notch down paging frequenies in 151mhz range.

I THERE INFORMATION FOR NON ROCKET SCIENTIST LIKE ME?

I would like 50watt threwput if possible. 5watt desirable too!

If you have some interesting ideas you are willing to share please

email me or call me: Jack Kovar
319-378-9852
K0VAR

Thanks,
Jack

3554. Re: Loop antenna theory?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961203135800.IAA06905@ladder01.news.aol.com>
Source record: 100045

In article <57vjpb$aih@newsfeeder.total.net>, hugo@infobahnos.com (H. Caron) writes:

>
>Hi Madjid,
>
>What's lambda and shouldn't E field be in Volts/m2 (squared)
>
>Thanks
>H.C.

But the POWER intercepted is proportional to the area and frequency. Adding more turns makes the voltage (terminal impedance) higher, but does not increase receive power available.

73 Tom

3555. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961203135800.IAA06904@ladder01.news.aol.com>
Source record: 100046

Hi Andy,

In article <32A32E3E.5680@barbwired.com>, Andy Heninger
<andy@barbwired.com> writes:

>Don't neglect the poor grid circuit.

My point all along. Without a grid problem, we have no parasitic problem.

>An amplifier with a VHF parasitic is operating as a tuned-grid
>tuned-plate oscillator, with tank circuits on each side composed
>primarily of the tube capacitances and the wiring inductances. As Tom
>R. has pointed out earlier, the oscillating amplifier is functioning in
>a common-cathode, grid driven configuration, even in (for normal
>operation) grounded grid amps.
>
>The parasitic suppressor in the plate lead works in two ways - the much
>discussed lowering of the Q of the VHF plate circuit resonance AND
>moving that resonance far in frequency from the grid resonance.

>In trying to make sense of all of these discussions, I find it helps to
>keep the whole circuit in mind. We've got an amplifier with a VHF
>frequency response that is determined by its input and output circuits,
>and some feedback through the tube's internal capacitances. If, at any
>frequency, the gain around the loop (amplifier + feedback path) exceeds
>unity, the amplifier will oscillate. Anything that sufficiently reduces
>the maximum gain or feedback will make the amplifier unconditionally
>stable.

Amen. Science actually works.

>Evidently the modern suppressor circuit either wasn't yet developed or
>wasn't well known when the book was written. But the basic problem was
>the same, and was well understood.

No, the folklore and rumor never took over in Termins book. That's why he
shows many methods. The ideal cure varies from application to application.

73 Tom

3556. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961203152200.KAA08030@ladder01.news.aol.com>
Source record: 100047

Hi Rich,

We absolutely agree on a few things (like exciter power overshoot) but some things don't make sense.

For example, you suggest someone place a VHF radio near an arcing PA, and listen for VHF RF, and site that as proof a parasitic is taking place. Yet any arc has broad bandwidth, and contains energy from dc to light frequencies. While the arc can be detected at VHF, it can be detected at VLF also. It can also be detected by ear, and by eye! I can hear it the arc on an AM BCB portable radio also.

You seem to feel a grid dip meter can be used to measure impedance or Q. Can you please explain how to do that with a grid dip meter? Can I use a grid dip meter to measure the impedance of a feedline? Will it tell me if a circuit is series resonant, or parallel resonant? Can I use a grid dip meter to measure resistance?

You seem to think the presence of a "grid dip indication" (point where reactance crosses zero) means a PA will oscillate at that frequency. Yet I can think of many examples where the PA would actually be LESS prone to oscillation at a resonant frequency. For example, if I made a series resonant path to ground at a given frequency, the gain could go to zero at that frequency. If that occured from the anode to chassis, why would the PA oscillate on that frequency? If I build a TPTG oscillator and put a series resonant circuit in the anode, it won't oscillate at the series resonant frequency.

Finally, I can make a AL-80B oscillate at VHF by removing the suppressor and increasing the HV. Why doesn't that cause the tuning capacitor to arc, or the bandswitch to fail? Why don't the components you single out fail when this parasitic condition is intentionally created? Why, if you are correct that the feedthrough capacitance has something to do with this oscillation, doesn't the cathode affect the frequency or level of the parasitic oscillation? Why do only the anode and grid connections affect the oscillation?

When a Penta-Labs Chinese 3-500Z was used in the oscillating PA, the glass does not melt. Why not, since you determined that was the cause of glass failure?

When I stopped the oscillation and biased the tube into 400 watts of disipation, the glass failed in less than 15 minutes. Yet a spectrum analyzer showed complete RF silence. Why did the glass melt with no RFoscillation, and NOT melt with an oscillation, if the cause was a parasitic as you claimed?

If you can explain any of this, it would make your theories much more believable.

73 Tom

3557. WANTED: Vacuum variable caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: km3t@akorn.net
Message-ID: <581l1ipu1@news.akorn.net>
Source record: 100048
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

Wanted: Vacuum variable caps in the 800-2000 pF @ 5kV+ range

If you have one or more you'd consider parting with, please contact me:

73
--
Dave Pascoe
KM3T
km3t@akorn.net

3558. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: Roy Keeley <rkeeley@dibbs.net>
Message-ID: <32A45FE2.3E97@dibbs.net>
Source record: 100049
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Jim Hutchings wrote:
>
> Anthony S. Pelliccio wrote:
> >
> > In article <32a1b458.7226315@news.uark.edu>, <bs02@engr.uark.edu> wrote:
> > >There are only 3 laywer jokes...
> > >
> > >all the rest are true stories!
> >
> > I can pretty much believe that. After reading those it makes me wish
> > I had a daughter so I could forbid her to marry a lawyer. :)
> >
> > >>Why is it that when you tell a 'joke' about an Irishman it is called
> > >>tasteless; when you tell a joke about a black it is called racist, and
> > >>when you tell a joke about a lawyer it is called funny?
> >
> > Even though you didn't post this, I missed the original response so here
> > goes:
> >
> > The reason it's funny is because by and large most lawyers are lower
> > than slime.
> >
> > Tony
>
> first of all, I doubt that this is a reasonable place to be posting this
> stuff.
> second, I have been in the unfortunate position where a qualified capable
> lawyer was required. To my great relief, we won our case and I vowed to
> never again tell another lawyer joke...I no longer get the humor
> Jim Hutchings VE5HM

I too once needed a lawyer, and he came thru for me. I think the problem
is the
bottom half of the class. This lower 50% has contemp for the law, and
they are
who the lawyer joke are for. Basically, it is the Judges who have my
contemp, but
then they are lawyers also. And if you say, "What about the judge in my
case, where
I won", I will just say, at one point, the Judge fell asleep, and I won
in spite of him, mainly because of the strength of my lawyer.
--
73's

Roy KC4IMC

rkeeley@dibbs.net
rkeeley@MAF.mobile.al.us
kc4imc@maf.wa4wbi.ampr.org
Snail Mail = 10675 Salt Aire Rd, E., Theodore, AL 36582, USA

3559. Re: How to get QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <ta92PGAiNDpyEwtC@ifwtech.demon.co.uk>
Source record: 100050

Bob Lewis wrote:
>
>Or wait until the end of the year and purchase the whole year on CD ROM.
>Check out the ARRL website at http://www.arrl.org/
>
Apart from joining ARRL, that is the first workable suggestion that's
been offered.

Remember, the question came from GERMANY.

Strange as it may seem, QST and other American radio magazines are not
available at corner bookstores outside of the USA, or in local
libraries. If you go into a pharmacy outside of the USA to ask for QST,
they will offer a wide range of products to help with your delusional
state... but sorry, no radio magazines.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3560. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: kd1hz@anomaly.ideamation.com
Message-ID: <581s1b$1fg@anomaly.ideamation.com>
Source record: 100051
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <32A3A0FA.50CB@sk.sympatico.ca>,
Jim Hutchings <jim.hutchings@sk.sympatico.ca> wrote:

>> The anti-gun control groups have a snappy slogan that basically says,
>"guns don't cause crime any more than flys cause garbage". Without
>debating the validity of that particular statement, I think that it's
>unfair to blame lawyers for the state of our society.

You are, to some degree, correct.

The proliferation of lawsuits really isn't the fault of the Trial
Lawyers Association. In a sense, they are merely providing a service
to accomodate a demand for legal services in our country.

It is the desire to "get rich quick" (and sueing someone seems to
be a way of doing that with little to no risk if you can get a
lawyer to take your case on a percentage basis, which most will)
that the American people have today [inherently lazy bastards
they are -- the Japanese were right -- they want to lay around
with the good life, no work, have everything paid for them by
someone else -- basically an extension of the welfare-state
mentality that permeates this country today].

MD
--
--
-- "Guns don't kill people. I kill people." -- T-shirt slogan
--
-- If you don't like my opinions, that's just too damn bad.

3561. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961203184000.NAA11197@ladder01.news.aol.com>
Source record: 100052

In article <19961202155100.KAA14654@ladder01.news.aol.com>,
johnsonhe@aol.com writes:

>
>W4ZCB
>
>Lot's of references to it over the last 5 years in the RSGB magazine,
>"Radio Communications". Usually titled HuffnPuff.
>
>

I'm considering a design like this.
Is it merely a frequency counter and an embedded controlled D/A converter?

Carl
N9EFJ

3562. Wanted: CAD Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: drallen@prairienet.org
Message-ID: <581uf6$pp9@vixen.cso.uiuc.edu>
Source record: 100053

I am looking for PC software for front panel design.
Of course, AutoCAD is available, but for my homebrew
designs a bit pricey!!

Does anyone have any suggestions regarding shareware
or commercial programs that are not too costly?

Vy 73,
Don Allen W9CW

--

3563. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec3.193918.17633@ke4zv.atl.ga.us>
Source record: 100054

In article <measures-ya023180002911960425060001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>In article <1996Nov28.211626.21736@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us >(Gary Coffman) wrote:
>> In article <measures-ya023180002411960917350001@news.vcnet.com> >measures@mail.vcnet.com (R. L. Measures) writes:
>> >I understand the confusion, Filip. There has been plenty of smoke and
>> >mirrors in this debate, and I suspect there will be more. Briefly---The
>> >roots of the debate date from 1926, when Mr. F. E. Handy said on page 72 in
>> >the *Radio Amateur's Handbook*:
>> >
>> > "The combination of both resistance and inductance is very effective in
>> >limiting parasitic oscillations to a negligible value of current."
>> >
>> > In other words, Mr. Handy found that VHF parasitic-oscillation
>> >suppressors performed measurably better when the suppressor's inductor (L)
>> >was made from resistance wire instead of copper wire.
>>
>> That does not appear to be what Mr. Handy was saying at all. The quote
>> indicates that a combination of an inductor and a resistor is very effective
>> as a parasitic suppressor.
>
>Mr. Handy was talking about the suppressor inductor itself. I was talking
>about the suppressor inductor itself For a grid parasitic-suppressor, F.
>E. Handy recommends a100 ohm resistor and 10 ohms per foot resistance wire
>to wind the suppressor inductor. Quoting "The grid chokes in the
>photograph are most effective of all as a coil of resistance wire is used."

Ah, then I see why Mr. Handy's advice was dropped from later Handbooks.
Just as you are doing, he fails to consider the suppressor as a unit,
and insists on treating its components as if they were operating in
isolation. That's an incorrect approach.

>> That advice is, of course, correct, and is the
>> way *every* parasitic suppressor is made today. Even yours. The resistance
>> needs to be in *parallel* with the reactance, however, not in series with
>> it, for best results.
>>
>This is the position of Mr. Rauch, who insists that insignificant VHF
>current flows through the suppressor L. Gary: Do you believe that
>insignificant VHF current flows through the suppressor L?

No, not at all. I believe that significant current flows through the
suppressor circuit. Some through the resistance, and some through the
reactance. If the two currents are approximately equal, then the

resistance and the reactance must also be approximately equal, and
hence the Q must be approximately *1*. Now where I grew up, *1* is
considered low Q.

You *cannot* treat the inductor and the resistor in isolation. They
are two parts of a *parallel circuit*. You *must* analyze the behavior
of the *circuit* as a unit to see what effects it may have.

>> Indeed, which is why there is a *paralleled* resistor across the inductor,
>> to lower the suppressor's *VHF Q*, or more to the point, to increase the
>> suppressor's *dissipation* at VHF. At *HF*, however, we want high Q so that
>> we don't have attenuation of the *desired* HF energy.
>
>I agree that we don't want HF attenuation. However, the additional loss
>created by a low VHF Q suppressor inductor is on the order of 1% at 29MHz
>and 0.2% at 14MHz. I found this acceptable because lower VHF Q suppressors
>eliminated occasional parasitic arcing in my SB-220 on 40m. If you feel
>that a 1% loss is unacceptable at 29MHz, then you should probably not be
>using lossy suppressor inductors. // Low VHF Q suppressors also eliminated
>the pecuilar double-peak in 40m output during tune-up. Other SB-220 owners
>have reported similar results in both of these areas.

If any of this is true, it is because the Q at *HF* has been lowered
by the lossy coil. It has *nothing* to do with the Q of the suppressor
at VHF. Calling this "low VHF Q" is extremely misleading.

> Of late, I have seen plenty of seemingly-questionable VHF Q theories
>proffered hereabouts. If you have access to a dipmeter, Gary, you may (or
>may not) be interested in comparing the dip between a VHF suppressor L made
>from copper wire, and a VHF suppressor L made from nichrome resistance
>wire. If you are curious, but you need a low VHF Q suppressor to make the
>comparison, let me know for which amplifier. I will build a low VHF Q
>suppressor and mail it to you--free. The 55-cent stamp is on me. This
>offer is good whether or not you report your findings on this newsgroup.

Rich, measure one of your *suppressors* with your dipmeter, not just the
coil, the whole damn thing. Now replace the nichrome wire with copper wire
and measure the *suppressor* again. If there is a significant difference
at VHF, I will be more than a little surprised.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3564. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec3.191854.17375@ke4zv.atl.ga.us>
Source record: 100055

In article <19961127163100.LAA29424@ladder01.news.aol.com> w8jitom@aol.com writes:
>In article <1996Nov26.191316.11108@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
>(Gary Coffman) writes:
>>
>>I do think that many of Rich's proposed mechanisms are highly
>implausible.
>>OTOH, Tom's rather cavalier explanations don't wash either. Amplifiers
>*can*
>>break into oscillation.
>
>I never said amplifiers "can't" oscillate. I just indicated that by proper
>design and testing the likelyhood of oscillation can be reduced to zero.

Zero is pretty strong. It is very hard to prove a negative. How can you
ever be sure you've tested all *possible* conditions?

>In over 20 years of commercial PA design and 34 years of amateur PA design
>and construction I have never found a PA that "oscillates" in the field
>through a defect or fault rooted in the PA that can not be made to
>oscillate in a test situation.
>
>That's not a guess, it's a fact.

Then I guess you're better than the boys from RCA and Harris, because
we've had oscillations in the field that they couldn't duplicate back
at the factory, and they had to send field engineers out to find and
fix the problems on site.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3565. Re: Inexpensive but reliable frequency counter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec3.192402.17458@ke4zv.atl.ga.us>
Source record: 100056

In article <57gao0$nce@hpscit.sc.hp.com> rkarlqu@scd.hp.com (Richard Karlquist) writes:
>In article <1996Nov26.195159.11361@ke4zv.atl.ga.us>,
>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>
>>IMHO, a counter is a lot less useful than it may at first appear.
>>Counters only give reliable readings when fed pure sinewaves.
>>They will often lock to a harmonic or subharmonic of a typical
>>complex signal. *AND YOU WON'T KNOW THAT.* I'd much rather have
>>a scope, even a relatively cheap import scope, than to have a
>>counter. Of course having both is better.
>
>This depends on the counter. For cheap "ham" type counters,
>this is probably fairly accurate. However, many "universal"
>type counters, such as the HP 5334B*, have front ends and triggering
>circuits that are practically the same as scopes. I.E., you
>can set triggering for positive slope or negative slope, and
>set the trigger level as well.

I don't dispute this at all. However, if you don't know what the
signal *looks* like, you're just guessing when you adjust the
counter trigger. You might not be measuring what you think you
are at all. That's where the scope is invaluable. It allows you
to see what the waveform looks like so that you can intelligently
adjust your counter to measure it.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3566. Re: Transistor equivelents

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <32A490FE.4694@up.net>
Source record: 100057

Roland Burgan wrote:
>
> Stephen Muther wrote:
> >
> > In article <57q0hm$88d@runswick.octacon.co.uk>,
> > Paul Mooney <pmooney@onyx.octacon.co.uk> wrote:
> > >Hi everyone,
> > >
> > >I'm looking for a source of transistor equivelents on the Net.
> > >I've tried all the search machines I know but got no joy.
> > >
> > >Is there anyone out there who could point me in the right direction,
> > >please?

http://www.nteinc.com/distlink.html

3567. need tube meaual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: leeboo@ct.net
Message-ID: <5825gp$cvi@news.ct.net>
Source record: 100058

Will buy old rca tube manuals.
need them for homebuilt projects,help help.help

3568. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961203220700.RAA15052@ladder01.news.aol.com>
Source record: 100059

Hi Mario
In article <23064@s55tcp.ampr.org>, s56a@s55tcp.ampr.ORG (Marijan Miletic) writes:

>Second resonance beats laws of physics but there are lot of unwanted side-
>efects with real components.

Not really. Only 500 watt boiling gold 8877 grids and photons beat the laws of physics. This stuff is simple common sense. The capacitor looks slightly inductive at that frequency, and inductance increases as the plates are unmeshed! That does not seem strange to me, the path is slightly longer and we are above series resonance. We can consider Xc to be zero at that frequency, and so only the varying path length remains.

>The first one would require capacitance change in the order of 7.8 which
>is impossible in series combination of tube output capacitance and plate
>tuning variable capacitor.

I was looking INTO the anode lead with the network analyzer, to see exactly what the tube "sees". Keep in mind Mario, the tube is a time varying resistance. The output capacitance of the tube is in shunt with this resistance, not in series. We can not place the tube's output capacitance in series with its' resistance and the tuning capacitor C, it is in SHUNT with the tube's time varying resistance.

If we need to know what the tube sees as a load, we MUST always view the system correctly.

>It is frightening to think that 24 & 28 MHz bands are within plate resonace
>with closed capacitor! What a quick way to blow suppressors!?

Do not get lost in the "Hollywood method" of ignoring impedances and only looking at resonances to reach profound conclusions about a complex system.

The tank appears, to the tube and plate choke, as a few thousand ohms at the operating frequency. Even if the suppressor IS series resonant, the power across the suppressor is related to the time integrated value of current pulled from the tank by the tube. The only bands where this is an appreciable factor is on 10 and 15 meters, where the tube output capacitance is part of the tank and larger circulating currents flow through the suppressor throughout the entire RF cycle. If we can make the suppressor survive the resonant VAR problem, everything else is simple.

Do not worry about series suppressor resonance because that component is in series with the tube's time varying resistance and tank impedance at the operating frequency. We only need worry about parallel suppressor resonance or circulating currents due to the tube's output C. That is the real heating problem.

This all makes sense (like the anode swing issue) when you look at it close enough.

73 Tom

3569. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961203220700.RAA15050@ladder01.news.aol.com>
Source record: 100060

Hi Rich,

In article <measures-ya023180000312960347540001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Yes he did Andy. However I found little difference in the resonant
>frequency of the grid circuit in a 3-500Z whether the grid was
>directly-grounded or grounded through capacitors, as is the case in the
>SB-220. The inductive reactance of the grid seems to be somewhat
cancelled
>by the capacitive reactance of the grid bypass capacitors. I found that
>with low values of grid bypass C, the grid resonant frequency could be
made
>slightly higher than if direct-grounding was used.

Rich,

Tell us HOW you measure the grid resonant frequency of the 3-500Z when the grid is directly grounded. What instrumeentation do you use?

Using my computerized Wiltron network analyzer (which I hope is an acceptable instrument) I measure the following frequencies and transmission losses in a cold tube mounted in an AL-80B chassis, with anode and cathode connections terminated in 50 ohm loads.

No bypass and grids grounded directly:
105.94 MHz (-40.12 dB) parallel grid resonance
168.28 MHz (-82.39 dB) series grid resonance
439.48 MHz (-8.18 dB) parallel grid resonance
and from there almost a straight line to 1 GHz.

SB-220-type mica capacitor bypasses with one inch leads:
129.81 MHz (-32.30 dB) parallel resonance
161.62 MHz (-58.74 dB) series resonance
215.01 MHz (-13.17 dB) parallel resonance
385.46 MHz (-8.24 dB) parallel resonance
575.32 MHz (-30.35 dB) series resonance
611.43 MHz to 1 Ghz an upwardly tilted line to -3.05 dB.

That looks like a major change to me Rich. Both the resonant frequency and transmission loss changes, and it moves in undesirable directions. IN NO CASE does the grid isolation become better!

Perhaps that is also why, in the SB-220, inductance can safely be removed from the parasitic suppressor when the grids are directly grounded through short leads.

Why do you say it has no effect? Can you explain your method?

73 Tom

3570. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: horowitz@nosc.mil
Message-ID: <1996Dec3.221002.27325@nosc.mil>
Source record: 100061
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

S-meter readings? Just guess using your trained ears, it's probably as valid!

3571. Re: IC-27H Tone Encoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: martinbw@telalink.net
Message-ID: <9612031628.AA54003@oscar.telalink.net>
Source record: 100062

In article <32a0caae.1499933@news.vaxxine.com>, robmitch@vaxxine.com (Robert Mitchell) writes:
> From: robmitch@vaxxine.com (Robert Mitchell)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: IC-27H Tone Encoder
> Date: Sun, 01 Dec 1996 00:06:07 GMT
> Organization: Vaxxine Public Internet Access
>
>
> Does anyone have any information on how to modify a ICOM
> IC-27H to enable the subaudible tone encoder to tramsmit on simplex as
> well as on duplex.
>
> Any assistance would be greatly appreciated.
>
> Bob - VE3KYA
> robmitch@vaxxine.com
>

IC-x7A series radios do not use tone on simplex, however, you can "trick" the radio by setting it to duplex and changing the offset to 0.00, then you can set the tone encoder on.

Hope this helps,

Bruce

--
****
* Bruce W. Martin Internet: martinbw@telalink.net *
* 4558 Brooke Valley Dr. HAM Call: KQ4TV *
* Hermitage TN 37076-2650 Voice: (615) 872-7733 *
* FAX/MODEM: (615) 872-0045 APRS:3610.50N/08635.50W *
* "Being a Mac user is like being a Navy SEAL: a small, elite *
* group of people with access to the most sophisticated *
* technology in the world, who everyone calls on to get the *
* really tough jobs done quickly and efficiently." *
* -- Nick Lehmann *
****

3572. Microwave surplus dealers in LA area?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfE1uzyB.MuH@netcom.com>
Source record: 100063

On an upcoming trip to LA, I have some time to visit local surplus dealers/junkyards. Are there any to be recommended that have microwave type hardware?

73 Dave WB0GAZ dgf@netcom.com

3573. Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: gamrunr@aol.com
Message-ID: <19961203225300.RAA16090@ladder01.news.aol.com>
Source record: 100064

Hello all, Thanks for your time, I'm interested in building a couple of Different RF Power Amps, I need Construction Info/Schematics for An amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I would also like to construct the same using A single 4CX250B, then when I finish these I would like to Build a Multi Tube unit using 4CX250B's or one of its slightly larger brothers. I would be willing to pay for any of the above info. If you have any parts you think may be usable in the above projects let me know! Thanks and 73.

Rob Long
N7711 State Hwy 52
Lily, Wi 54491

Email to :gamrunrr1@juno.com

3574. FS Vac. Var. & roller induc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: jskalski@acsu.buffalo.edu
Message-ID: <32A4AB0A.54705932@acsu.buffalo.edu>
Source record: 100065

I have a 1000pf vacuum variable capacitor

and a roller inductor. Both are motor driven and include mounting
hardware. will run off of 12 - 28vdc.
great condition.
Good for Amp project or tuner.

Offer?

Jim N2GO

3575. WTB: Resistance Substitution Box

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: "Dennis L. Edinger" <dedinger@ecentral.com>
Message-ID: <32A4C7EA.3AAD@ecentral.com>
Source record: 100066

I also want a cap. sub box and an ind. sub box. Old kit or homebrew makes no difference.

E-mail me at dedinger@ecentral.com. I am also good in the qrz directory.

de Dennis/w0gd

3576. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <582dbm$gf@hpcvsnz.cv.hp.com>
Source record: 100067

jskalski@acsu.buffalo.edu wrote:
(posting it for a second time...)
: Mil Spec silver plated stranded 22 & 24 AWG high temperature hook up
: wire.
: 50' rolls
: 5 roll color assortment (250' total) shipped priority 2 day mail $23.
: No color choices at this price, just 5 different colors.
:
..
: Compare at triple the price. you won't find it cheaper.
: If you find it cheaper I would like to know about it.

Since you asked, and assuming others reading the posting might like to know too...

Locally, Boeing Surplus has this sort of thing for about $.40/100 feet. They aren't guaranteed to have it in stock, but seem to pretty often (as you can imagine from what they build). You have to go pick it up there, but I'd guess there are other places around the country that have similar deals on Teflon insulated wire. (I've gotten some wonderful deals on Teflon-insulated coax from Boeing Surplus...)

--
Cheers,
Tom
tomb@lsid.hp.com

3577. Anybody Know of a HomePage for Avontek ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <582dvn$oj6@buffnet2.buffnet.net>
Source record: 100068

Like to get info on some ot their GaAsFETs.

Any Ideas ??

Thanks

-- db --

3578. Make money fast, hey, this really works!!!! [1/1]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: Nick Laurinas <nl.@ix.netcom.com>
Message-ID: <582e4u$3nj@dfw-ixnews11.ix.netcom.com>
Source record: 100069
Body handling: Inline uuencoded payload not displayed: money.txt

```
[Inline uuencoded payload not displayed: money.txt]
```

3579. search for solid state Grid Dip Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <E1v0rv.76p@actcom.co.il>
Source record: 100070
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,rec.radio.amateur.antenna,sci.electronics.equipment

Hi All,

We're still looking for a solid state Grid Dip Meter (preferably the
Millen Solid State version). Delivery is to Israel.
Can anyone help?

(PS: When responding, please email directly in addition to posting
here, so that no responses are missed).

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

3580. Converter for bands outside of scanner range

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <E1v0Bz.67D@actcom.co.il>
Source record: 100071

Hi,

I'm looking for a converter to extend the range of my PRO-36 scanner
(limited to 512MHz). I've heard such beasts exist.
It could either be a complete product, a kit (should be simple
actually) or just a schematic and article of a proven design. Any
leads to such products or companies would be appreceated.

(PS: When responding, please email directly in addition to posting
here, so that no responses are missed).

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

3581. PIN Diode TR plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: JOHNWHITE@gnn.com
Message-ID: <582jbd$ifs@news-e2b.gnn.com>
Source record: 100072

I am looking for plans (schematics/construction details)
for a 2 Meter PIN Diode TR switch. I'd like to keep
it compact while still able to handle 35-40 watts, let's
call it 50 watts MAX. I've got the rf sense worked out,
so all I need is the actuall switching. Any help would
be greatly appreciated. Thanks in advance.

John
KD4YRB

3582. Re: TL922 Arcing/Oscillating? Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: mai@iquest.net
Message-ID: <581l0g$16o_001@news.iquest.net>
Source record: 100073

In article <01bbdf8b$5227aa40$836d3bc6@internet.roadrunner.com>,
"David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> wrote:
>Thanks for the reply, Tom. Here are some comments and further questions:
>
>> Remember the power control is via the ALC system. The contol voltage is
>> derived from an RF output detector that feeds a voltage comparison
>system.
>> When the output power detected by the detector if the detector voltage
>> exceeds a reference voltage, ALC is developed.
>>
>> When the rig is at rest, or on receive, the ALC voltage is at zero. The
>TX
>> system is at full gain. It takes several RF cycles before the ALC voltage
>> can climb and limit drive.
>>
>
> Hmmm... Is this true even when not driving the linear? When I adjust the
>power output
>of the transceiver via the front panel control, am I adjusting the ALC
>somehow? I didn't
>think this was the case.
>
>
>
>> I'm not surprised by this. Does Kenwood warn you to overcouple the PA
>> slightly before advancing drive? If not, they should. This problem is
>> compounded by the fact the 940 certainly has power "overshoot". The load
>> control should always be operated beyond the setting where maximum output
>> occurs, and you should never depend ALC to keep the power reduced. The
>> ALC/ power control system is just too slow.
>
> Appears that Kenwood does not recommend overcoupling the PA before
>advancing
>the drive. The only recommendation for the load setting when initially
>tuning is
>to put the load control at 12:00 and start there.
>
>
>
>> You are using the 922 at the worst possible condition for arc prevention
>> when you run low power at high anode voltage.
>
> Hmmm...but an arc never (or at least never that I can recall) under these
>conditions on

>my rig at least. Wonder what is going on here...
>
>
>>
>> Yes, but you need a storage scope or a very good very fast peak reading
>> meter. Even a Bird 43P is on the slow side for this. There is no doubt
>you
>> have the problem, because I've yet to see a modern rig that doesn't.

Your question and answer posting is a good reminder for all on ANY amp - and the additional point worth
checking-numbers (scales) on front panels vary from brand to brand! Either check the manual or
(preferred method!) look under the hood! With power off of course, visually see if capacitor is fully
closed (max cap) at the high or low scale on the front panel.

Keep asking questions and you'll keep pulling out answers!

Good luck!

Patrick
WB9IQI

3583. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
Message-ID: <32A50DB7.4EA9@TECLink.net>
Source record: 100074

w8jitom@aol.com wrote:

[Partial]
> I'm still wondering what you can predict with a GD meter.
>

You can get a pretty good idea of where (frequency wise) the thing might oscillate. Or at least where it might ring.

I thought Rich's purpose for the GDO measurements was quite obvious.

What do YOU usually use a grid dip oscillator for? It's a really great tool for finding resonances. And, as you and I both know, if a circuit is going to break into oscillation, it is liable to do it at (you guessed it!) the frequency of resonance. And, since we are talking about parasitic *oscillations* here (among other things), I'd say that makes Rich's GDO measurements pretty significant.

I would have thought that a "recognized amplifier expert" would have seen this right away......

73, Tom KJ5IE

3584. Pay Off Christmas Bills With Only $5

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: "Mark W. Mabina" <mabinam@InfoAve.Net>
Message-ID: <01bbe0be$ac679c20$a5d24ace@gateway-2000>
Source record: 100135
Cross-posted to: alt.business.home.pc,alt.home.repair,alt.mobilehome,alt.tv.home-imprvment,misc.consumers.house.homeowner-assn,misc.education.home-school.misc,rec.radio.amateur.homebrew,uiuc.org.homebrewers

```
========
Newsgroups: rec.games.video.sony
Subject: BUY A BRAND NEW PLAYSTATION FOR ONLY $5!!!!!!!!!
From: heather8@flash.net (Heather)
Date: Sun, 01 Dec 1996 03:27:20 GMT

GUYS, TRY THIS OUT IT REALLY WORKS, I STARTED IT 2 WEEKS AGO AND HAVE
MADE
OVER $500!!

------------------------------------------------------------------------

----------------------------------------
THIS IS THE FAIREST MOST HONEST WAY I KNOW OF TO SHARE THE WEALTH!!

Hello! Would you like to make thousands of dollars, quickly,
legally, with NO CATCH? Then keep reading.... Please thake a few minutes to
read this article, it will change your life, just like it did mine. It's
true! You can make up to or over $50,000 in just 4-6 weeks, maybe
sooner! I SWEAR I'M NOT LYING TO YOU, AND THIS IS NOT A SCAM! If your
interested, please, keep reading. If your not, Then I apologize for
wasting your time.

Here we go, a little while back, I was browsing these
newsgroups, just like you are now, and came across an article similar to
this that said you could make thousands of dollars within weeks with only
an initial investment of $5! So I thought, "Yeah, right, must be a scam",
but I
was curious, like most of us, so I kept reading. Anyway, it said that you
send $1 to each of the 5 names and addresses stated in the article.
You then place your own name and address in the bottom of the list at #5,
and post the article in at least 200 newsgroups. (THERE ARE THOUSANDS!) No
catch, that was it. So after thinking it over, and talking
to a few people first, I tried it. I figured what have I got to lose except
for 5 stamps and $5, right?

Well GUESS WHAT!... within 7 days, I started getting money in
the mail! I was shocked! I still figured it would end soon, and didn't
give it
another thought. But the money just kept coming in. In my first week, I
made about 20 to 30 dollars. By the end of the second week I had a mad
total of over $1,000!!!! In the third week I had over $10,000 and it's
still growing. This is now my fourth week and I have made a total of just
over $42,000 and it's STILL coming in..... It's certainly worth $5, I
```

spent more than that on the lottery!

Let me tell you how this works and most importantly, WHY it
works... also, make sure you print a copy of this article NOW, so you can
get the information off of it as you need it. The process is very simple
and
consists 3 EASY steps:

STEP 1: Get 5 separate pieces of paper and write the following on each
piece of paper:

"PLEASE PUT ME ON YOUR MAILING LIST. YOU ARE NUMBER 4."

Now get five $1 bills and place ONE inside EACH of the 5 pieces of paper
so the bill will not be seen through the envelope tp prevent thievery.
Next, place one paper in each of the 5 envelopes and seal them. You
should now have 5 sealed envelopes, each with a piece of paper stating
the above phrase and a $1 bill. What you are doing is creating a service
by this. THIS IS PERFECTLY LEGAL!

NOW, Mail the 5 envelopes to the following addresses:

1: Ash, 1325 15th street apt #108, Sacramento, CA. 95874

2: A. Wensel, 1306 Park Ave., Williamsport, PA. 17701

3: Hafer's, 952 Anderson Lane., Kalispell, MT. 59901

4:D.Morand 95 Boutelle St.,Leominster,MA 01453-6303

5: M.Mabina, 22 Anderson Street, FT Stewart,GA 31315

STEP 2: Now take the #1 name off of the list that you see above, move the
other 4 names up. (5 becomes 4, 4 becomes 3, etc..) and add YOUR NAME as
number 5 on the list.

STEP 3: Change anything you need to, but try to keep this article as
close to original as possible. Now, Post your ammended article to
at least 200 newsgroups. (I think there is close to 18,000 groups) All
you NEED is 200, but remember, the MORE you post, The more money you
make! Dont know HOW to post in the newsgroups? Well do EXACTLY the
following:

FOR NETSCAPE USERS,

1) Click on any newsgroup, like normal. Then click on 'To News',
which is in the top left corner of the newsgroups page. This will
bring up a message box.

2) Fill in the Subject with a FLASY title, like the one I used.

3) Now, go to the message part of the box and retype this
letter exactly as it is here, with the exception of your few changes.
(remember to add your name to number 5 and move the rest up)

4) When your done typing in the WHOLE letter, click on 'File'
above the send button. Then, 'Save As..' DO NOT SEND YOUR ARTICLE UNTIL YOU
SAVE IT. (so you don't have to type this 200 times :)

5) Now that you have saved the letter, go ahead and send your
first copy! (click that send button in the top left corner)

********6) THIS IS WHERE YOU POST ALL 200! OK, go to ANY newsgroup article
and click the 'To News' button again. Type in your flasy
subject in the SUBJECT BOX, then go to the body part of the message and
leace your cursor here. NOW click on 'Attachment' which is right below the
SUBJECT BOX. click on attach file then find you letter wherever you
saved it. click once on your file and then click 'open' then click
'OK'.
IF you did this right, you should see your filename in the attachment
box and it will be shaded green. NOW POST AWAY!!

IF YOUR USING INTERNET EXPLORER:

It's just as easy, Holding down the left mouse button, highlight
this entire article, then press the 'CTRL' key and 'C' Key at the same time
to
copy this article. Then print the article for your records to have the
names of those you will be sending $1 to. NEXT go to the newsgroups and
press 'POST AN ARTICLE' Type in your fancy subject and click the large
window below. Press 'CTRL' and 'V' and the article will appear in the
message window.

BE SURE TO MAKE YOUR ADDRESS CHANGES TO THE 5 NAMES
Now re-highlight the article and re-copy it so you have the changes... then
all you have to do for each newsgroup is 'CTRL' and 'V'. and press 'POST'
IT's That EASY!

7) THAT'S IT! all you have to do is jump to different newsgroups
and post away, after you get the hang of it, it take about 30 seconds for
each newsgroup! **REMEMBER, THE MORE NEWSGROUPS YOU POST IN, THE MORE MONEY
YOU WILL MAKE!! BUT YOU HAVE TO POST A MINIMUM OF 200**

That's it! You will begin recieving money from around the world
within days! You may eventually want to rent a PO BOX due to the large
amount of mail you recieve. If you wish to stay anonymous, you can invent a
name to use, as long as the postman will deliver it. **JUST MAKE SURE
ALL THE ADDRESSES ARE CORRECT**

Now the WHY part: Out of 200 postings, say I recieve only 5
replies (a very low example) So then I made $5 with my name at #5 on the
letter. Now, each of the 5 persons who just sent me $1 make the MINIMUM
200 postings, each with my name at #4 and only 5 persons respond to each
of the original 5, that is another $25 for me, now those 25 each make 200
MINIMUM posts with my name at #3 and only recieve 5 replies each, I
will bring in an additional $125! NOW, those 125 persons turn around and
post the MINIMUM 200 with my name at #2 and only recieve 5 replies each, I
will Make an additional $625 dollars! OK, NOW here is the FUN part,
EACH of those 625 persons post a MINIMUM 200 letters with my name at #1 and

they each ONLY recieve 5 replies, that just made me $3,125!!! With a original investment of only $5 dollars!

AMAZING! And as I said 5 responses is actually VERY LOW! The average is probably 20 to 30! So lets put those figures at just 15 responses per person. Here is what you will make!

at #5 $15
at #4 $225
at #3 $3,375
at #2 $50,625
at #1 $759,375

When your name is no longer on the list, you just take the latest posting that is appearing in the newgroups, and SEND OUT ANOTHER $5 TO THE NAMES ON THE LIST, PUTTING YOUR NAME AT NUMBER 5 AGAIN. And start posting again. The thing to remember is, do you realize that THOUSANDS OF PEOPLE ALL OVER THE WORLD ARE DOING THE INTERNET AND READING THESE ARTICLES EVERYDAY, JUST LIKE YOU ARE RIGHT NOW!!!

So can you afford $5 dollars and see if it really works? I think so..... People have said, "what if the plan is played out and no one sends you the money? So what! What are the chances of that happening when there are TONS OF NEW HONEST USERS AND NEW HONEST PEOPLE who are joining the Internet and newsgroups everyday and are willing to give it a try? Estimates are at 20,000 to 50,000 new users, every day, with THOUSANDS of those joining the actual Internet. Remember, play FAIRLY and HONESTLY and this WILL WORK, I PROMISE YOU!!! You just have to be honest. Make sure you print this article out RIGHT NOW, also. Try to keep a list of everyone that sends you money and always keep an eye on the newgroups to make sure everyone is playing fairly. REMEMBER, HONESTY IS THE BEST POLICY. YOU DON'T NEED TO CHEAT THE BASIC IDEA TO MAKE THE MONEY!!

GOOD LUCK TO ALL AND PLEASE PLAY FAIRLY AND YOU WILL REAP THE HUGE REWARDS FROM THIS, WHICH IS TONS OF EXTRA CASH. ** By the way, if you try to decieve people by posting the messages with your name in the list and not sending the money to the people already on the list, you will not get as much. Someone I talked to knew someone who did that and he only made about $150 dollars, and that's AFTER seven or eight weeks! Then he sent the 5 $1 bills, people added him to their lists, and in 4-5 weeks, he had over $10K.

THIS IS THE FAIREST AND MOST HONEST WAY I HAVE EVER SEEN TO SHARE THE WEALTH OF THE WORLD WITHOUT COSTING ANYTHING BUT OUR TIME!!!

You also may want to buy mailing and email lists for future $$$. Please remember to declare your extra income. Thanks once again! $$$

3585. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: Marc Denis <mdenis@ez-net.com>
Message-ID: <01bbe0d8$5f6912e0$126843cf@P3mdenis.netnet.net>
Source record: 100136

Zack Clobes <zclobes@southwind.net> wrote in article
<57qrpb$ag8@opal.southwind.net>...
> I was reading an article in the latest copy of QST covering the
> theory/construction of a temp compensated VFO. The schematic reminded me
of a
> PLL with a feedback loop tied to a crystal oscilator. In his article, he
made
> the statment that his VFO wouldn't have the extra phase noise that a
> traditional PLL has because of the loop. Can anyone explain this? I
didn't
> think that the VCO wouldn't be effected by the locking loop.
> Thanks
> 73s de Zack, W0ZC
> zclobes@southwind.net
> http://www2.southwind.net/~zclobes/zackc.html
>
>

The article you are referring to is describing a digital AFC loop, not a PLL. As such,, the error voltage to the VCO is a very slow and sllight change. The VCO will slowly drift within the correction range , but no further.

This approach SHOULD be able to deliver better noise sideband preformance for a given oscillator design than wold be feasible for a PLL, but it is not truly phase locked to a reference.

Obvious good applications would be to retrofit older radios with LC tuned oscillators that are drifty (all of them).

3586. Re: Sound Blaster 16 Spectral display & Filtering FREEWARE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-03 00:00:00 UTC
From: bartelar@telkom04.telkom.co.za
Message-ID: <580kp2$jtl@news1.saix.net>
Source record: 100137
Cross-posted to: alt.radio.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,alt.ham-radio.binaries,alt.ham-radio.am,alt.ham-radio.amtor,alt.ham-radio.digital-voice,alt.ham-radio.dxing,alt.ham-radio.eme,alt.ham-radio.spread,alt.ham-radio.exotic-modes,alt.ham-radio.fax,alt.ham-radio.fm,alt.ham-radio.hf,alt.ham-radio.nocode,alt.ham-radio.slowscan,alt.ham-radio.packet,alt.ham-radio.ssb,alt.ham-radio.uwave,alt.ham-radio.morse,alt.ham-radio.vhf-uhf,alt.ham-radio.rtty

>> >>Can you tell me what the s/w is called and where I could d/l it?
>> >>
>> >>> http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip
>> >>> ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft11.zip 1032518 bytes
>> >>>
>> >>> sbfft11.zip Sound Blaster spectral display and filtering

>> Is the software anywhere else on the net?? I can't connect to
>> simtel.net for some reason. Netscape keeps giving me "no DNS entry"

Let's settle this one for once and for all. The Simtel collection is
available all over the place and should be very well know:

"Simtel.Net : List of authorized FTP mirror sites

Simtel.Net, located at Walnut Creek CDROM, is the origin point of
Keith Petersen's world-wide distribution network for Shareware,
Freeware, and Public Domain programs for MS-DOS, Windows 3.x, and
Windows 95. It has more mirror sites than any other archive on the
Internet. Its web pages are also mirrored on many servers around the
world.

FTP.Simtel.Net is the name of the primary distribution site for these
collections. It is actually several ftp sites arranged in a rotating
pattern of IP addresses to help balance the load and to avoid access
problems due to network outages and simultaneous user limits. At the
present time ftp.ou.edu and oak.oakland.edu are the primary sites. Our
files are located in the /pub/simtelnet directory tree on these hosts.

The following sites are authorized mirrors of Simtel.Net as of the
revision date at the end of this document. This list will be
frequently updated as new sites are added.

Country URL (host and directory path)
--------- ---
Argentina ftp://ftp.satlink.com/pub/mirrors/simtelnet/
Australia ftp://ftp.iniaccess.net.au/pub/simtelnet/
Australia ftp://ftp.tas.gov.au/pub/simtelnet/
Australia ftp://sunsite.anu.edu.au/pub/pc/simtelnet/
Austria, Vienna ftp://ftp.univie.ac.at/mirror/simtelnet/
Belgium ftp://ftp.linkline.be/mirror/simtelnet/
Belgium ftp://ftp.tornado.be/pub/simtelnet/

Bulgaria ftp://ftp.eunet.bg/pub/simtelnet/
Brazil ftp://ftp.iis.com.br/pub/simtelnet/
Brazil ftp://ftp.unicamp.br/pub/simtelnet/
Canada, Ottawa ftp://ftp.crc.doc.ca/systems/ibmpc/simtelnet/
Canada, Vancouver ftp://ftp.direct.ca/pub/simtelnet/
Chile ftp://sunsite.dcc.uchile.cl/pub/Mirror/simtelnet/
China ftp://ftp.pku.edu.cn/pub/simtelnet/
Czech Republic ftp://ftp.eunet.cz/pub/simtelnet/
Czech Republic ftp://ftp.zcu.cz/pub/simtelnet/
Czech Republic ftp://pub.vse.cz/pub/simtelnet/
Finland
ftp://ftp.funet.fi/mirrors/ftp.simtel.net/pub/simtelnet/
France ftp://ftp.grolier.fr/pub/simtelnet/
France ftp://ftp.ibp.fr/pub/simtelnet/
Germany ftp://ftp.mpi-sb.mpg.de/pub/simtelnet/
Germany ftp://ftp.rz.ruhr-uni-bochum.de/pub/simtelnet/
Germany ftp://ftp.tu-chemnitz.de/pub/simtelnet/
Germany ftp://ftp.uni-heidelberg.de/pub/simtelnet/
Germany ftp://ftp.uni-magdeburg.de/pub/mirrors/simtelnet/
Germany ftp://ftp.uni-paderborn.de/pub/simtelnet/
Germany ftp://ftp.uni-trier.de/pub/pc/mirrors/simtelnet/
Germany ftp://ftp.rz.uni-wuerzburg.de/pub/pc/simtelnet/
Greece ftp://ftp.ntua.gr/pub/pc/simtelnet/
Hong Kong ftp://ftp.cs.cuhk.hk/pub/simtelnet/
Hong Kong ftp://ftp.hkstar.com/pub/simtelnet/
Hong Kong ftp://sunsite.ust.hk/pub/simtelnet/
Ireland ftp://ftp.iol.ie/pub/simtelnet/
Israel ftp://ftp.huji.ac.il/pub/simtelnet/
Italy ftp://cis.utovrm.it/simtelnet/
Italy ftp://ftp.flashnet.it/pub/simtelnet/
Italy ftp://ftp.unina.it/pub/simtelnet/
Italy ftp://mcftp.mclink.it/pub/simtelnet/
Japan ftp://ftp.iij.ad.jp/pub/simtelnet/
Japan ftp://ftp.riken.go.jp/pub/simtelnet/
Japan ftp://ftp.saitama-u.ac.jp/pub/simtelnet/
Japan ftp://ftp.u-aizu.ac.jp/pub/PC/simtelnet/
Japan ftp://ftp.web.ad.jp/pub/simtelnet/
Japan ftp://ring.aist.go.jp/pub/simtelnet/
Japan ftp://ring.asahi-net.or.jp/pub/simtelnet/
Latvia ftp://ftp.lanet.lv/pub/mirror/simtelnet/
Malaysia ftp://ftp.jaring.my/pub/simtelnet/
Malaysia ftp://ftp.mimos.my/pub/simtelnet/
Mexico ftp://ftp.gdl.iteso.mx/pub/simtelnet/
Netherlands ftp://ftp.euro.net/d5/simtelnet/
Netherlands
ftp://ftp.nic.surfnet.nl/mirror-archive/software/simtelnet/
New Zealand ftp://ftp.vuw.ac.nz/pub/simtelnet/
Norway ftp://ftp.bitcon.no/pub/simtelnet/
Poland ftp://ftp.cyf-kr.edu.pl/pub/mirror/Simtel.Net/
Poland ftp://ftp.icm.edu.pl/pub/simtelnet/

Poland ftp://ftp.man.poznan.pl/pub/simtelnet/
Portugal ftp://ftp.ip.pt/pub/simtelnet/
Portugal ftp://ftp.ua.pt/pub/simtelnet/
Romania ftp://ftp.sorostm.ro/pub/simtelnet/
Singapore ftp://ftp.nus.sg/pub/simtelnet/
Slovakia ftp://ftp.uakom.sk/pub/simtelnet/
Slovenia ftp://ftp.arnes.si/software/simtelnet/
South Africa ftp://ftp.is.co.za/pub/simtelnet/
South Africa ftp://ftp.sun.ac.za/pub/simtelnet/
South Korea ftp://ftp.nuri.net/pub/simtelnet/
South Korea ftp://ftp.sogang.ac.kr/pub/simtelnet/
South Korea ftp://sunsite.snu.ac.kr/pub/simtelnet/
Spain ftp://ftp.rediris.es/mirror/simtelnet/
Sweden ftp://ftp.sunet.se/pub/simtelnet/
Switzerland ftp://sunsite.cnlab-switch.ch/mirror/simtelnet/
Taiwan ftp://ftp.ncu.edu.tw/Packages/simtelnet/
Taiwan ftp://nctuccca.edu.tw/mirror/simtelnet/
Thailand ftp://ftp.nectec.or.th/pub/mirrors/simtelnet/
UK, Edinburgh ftp://emwac.ed.ac.uk/mirrors/simtelnet/
UK, London ftp://ftp.demon.co.uk/pub/simtelnet/
UK, Lancaster ftp://micros.hensa.ac.uk/pub/simtelnet/
UK, London ftp://sunsite.doc.ic.ac.uk/packages/simtelnet/
US, California ftp://ftp.cdrom.com/pub/simtelnet/
US, California ftp://ftp.digital.com/pub/micro/pc/simtelnet/
US, California ftp://ftp.lib.sonoma.edu/pub/simtelnet/
US, Illinois
ftp://uiarchive.cso.uiuc.edu/pub/systems/pc/simtelnet/
US, Massachusetts ftp://ftp.bu.edu/pub/mirrors/simtelnet/
US, Michigan ftp://oak.oakland.edu/pub/simtelnet/
US, New York ftp://ftp.rge.com/pub/systems/simtelnet/
US, Oklahoma ftp://ftp.ou.edu/pub/simtelnet/
US, Oregon ftp://ftp.orst.edu/pub/simtelnet/
US, Utah ftp://ftp.cyber-naut.com/pub/simtelnet/
US, Virginia ftp://mirrors.aol.com/pub/simtelnet/ "

Now that's more than enough wasted bandwidth, but at least it answers
the question! ;-)

Cheers
Adrian

"It does not do to leave a live dragon
out of your calculations." -- Tolkien

3587. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961204154500.KAA02294@ladder01.news.aol.com>
Source record: 99988

Hi Gary,
In article <1996Dec3.191854.17375@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>Zero is pretty strong. It is very hard to prove a negative. How can you
>ever be sure you've tested all *possible* conditions?

That's why I go over voltage on the PA, and vary the bias durning the test. That's why I have a stepped relay switched line section for rotating phase and impedance in the load.

>>In over 20 years of commercial PA design and 34 years of amateur PA design
>>and construction I have never found a PA that "oscillates" in the field
>>through a defect or fault rooted in the PA that can not be made to
>>oscillate in a test situation.
>>
>>That's not a guess, it's a fact.
>
>Then I guess you're better than the boys from RCA and Harris, because
>we've had oscillations in the field that they couldn't duplicate back
>at the factory, and they had to send field engineers out to find and
>fix the problems on site.

I have no control over other's test methods, so I can't speak for or against any of your claims.

It is a fact that any oscillation occuring in the field can be duplicated in the lab, unless the source of oscillation is RF ingress into a low level stage that is not part of the lab tested system.

73 Tom

3588. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000412960711490001@news.vcnet.com>
Source record: 99989

In article <19961203131600.IAA06380@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> hi Rich,
>
> I've been trying to answer your questions, even though you seem to avoid
> the ones I ask.

HI, Tom-------Here is the way I try to operate in a debate: When I read a reply, at the first statement I come to that does not appear to wash, I stop reading, and I deal with it. If time and space permit, I continue reading until I come to another item that does not appear to wash, and I deal with that. I know that if I do not do this, the debate can become diffused and turn into a quagmire.

> In article <measures-ya023180000212960908480001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >Hello, Tom:
> >snip... The anode resonant frequency is highest when the tuning cap.
> is at minimum C. The anode resonant frequency is slightly lower when the
> >tuning cap. is at maximum C. Knowing both frequencies would be helpful.
>
> No, that's incorrect. The lower anode resonant frequency follows the
> capacitor in the normal manner, but the higher resonant frequency varies
> exactly as I posted.

Exactly? Incorrect? I take "meshed" to mean that the tune cap. is at maximum C. Since the tune C is effectively in series (through the chassis connection) with the anode's C of 5pF, the net C of the two caps. should be maximum when the tune C is at maximum. The net C should be at minimum when the tune C is at minimum, or unmeshed. Since the net C is parallel-resonant with the anode circuit's total L. (see <http://www.vcnet.com/measures/D.a.13.GIF>), therefore, Mr. Rauch's statement (that the resonance moves up in frequency when the tune capacitor is meshed) sounds backwards.......
I will proceed using Tom's figure of 161MHz in the calculation. // The problem is: how does the (161MHz) current divide in a paralleled 85nH Ls and a 100ohm Rs in the AL-80B?......... Using XL=2*Pi*f*L ohms, the reactance of the 85nH Ls = 86 ohms. Applying 1Vrms to the paralleled Rs and Ls, the current throuh Rs is 1 volt divided by 100 ohms=10mA, and the current through the Ls is 1 volt divided by 86 ohms=11.6mA.

Tom Rauch said: "The coil's reactance increases with frequency, and at VHF most of the signal path is through the resistor. It is plainly evident that the dominant component at VHF is the resistor, not the coil."

Tom: do you presently stand by this statement?

Tom: are you prepared to discuss Q?
---
e-mail copies to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3589. Re: Making RF notch/ bandpass filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: dtmiller@dsmnet.com
Message-ID: <09961103122939.OUI83.dtmiller@dsmnet.com>
Source record: 99990

In article <581aus$eh3@hera.ia.net>, From kovar@zeus.ia.net (Jack Kovar KE0AX), the following was written:
> I would like to make some RF filter networks to insert into VHF
> antenna
>
> path to notch down paging frequenies in 151mhz range.

Hi Jack,

Couldn't you simply go to Radio Shack and get one of their TVI filters? They have 2 or 3 that could either work as-is or be easily modified. (and cheap)

3590. Re: O'Scope - HOw to ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <584au2$see@news.icanect.net>
Source record: 99991

mhorowit@erols.com (Michael Horowitz) wrote:

->Folks - I'm trying to look at the video coming out my VCR.
->I got a 'scope, set input to AC, internal trigger, low voltage
range,
->high sweep rate. Don't see anything that might be lines of video.
->Do I need a special proble?
->Any suggestions? TIA - Mike

I think what you're looking at is RF (channel 3 or 4), for which
you'll need some sort of demodulator probe to view the video
modulation.

73--Terry/WB4FXD in Ft. Lauderdale, FL
fsimonds@icanect.net

3591. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000412960910540001@news.vcnet.com>
Source record: 99992

In article <19961203152200.KAA08030@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Rich,
>
> We absolutely agree on a few things (like exciter power overshoot) but
> some things don't make sense.

Nah, not really, Tom. I have never seen 300+ watt overshoots.

> For example, you suggest someone place a VHF radio near an arcing PA, and
> listen for VHF RF, and site that as proof a parasitic is taking place.

This was an actual case. Someone phoned me and asked why a nearby VHF field strength meter---about 4 feet away---pegged out whenever he heard/saw the tune cap. in his amplifier arc? (the perf. cover to the final compartment was removed so he could observe the arc)

snip.......
> You seem to feel a grid dip meter can be used to measure impedance or Q.
> Can you please explain how to do that with a grid dip meter? Can I use a
> grid dip meter to measure the impedance of a feedline? Will it tell me if
> a circuit is series resonant, or parallel resonant? Can I use a grid dip
> meter to measure resistance?

IMO, a dipmeter can NOT be used to measure impedance or absolute Q'.

A dipmeter is basicly used to measure the frequencies of resonances. Also, relative Q can be discerned by comparing the dips of two circuits that resonate on the same frequency. Higher Q is indicated by a sharper dip. Less Q is indicated by a broader dip. (positioning the dipmeter the same distance from either resonant circuit is essential). // IMO, a dipmeter can not be used to find the resonance of a series-resonant circuit unless a conductive path exists between the ends of the seriesed L and C. If such a conduction path does not exist, no current can flow in the series-circuit, and resonace can not be found.. However, a series-resonant circuit whose ends are connected together through a conductor is a parallel-resonant circuit.

> You seem to think the presence of a "grid dip indication" (point where
> reactance crosses zero) means a PA will oscillate at that frequency.

Is this something you think you saw in one of my QST articles, or in e-mail, or from an impression you got during our telephone conversation?

snip......

> Finally, I can make a AL-80B oscillate at VHF by removing the suppressor
> and increasing the HV. Why doesn't that cause the tuning capacitor to arc,
> or the bandswitch to fail? ...snip...

Fortunately, we are about to get into that, Tom. Bob Scott, KF9YH presently has an AL80 whose bandswitch contacts are arcing. I e-mailed Bob, so he just might be showing up on this thread. // More good news: I should be receiving a photocopy of the schematic diagram for the AL1500 8877-ampliier.via snailmail. This will answer the question I have about whether or not the AL1500 uses a VHF parasitic-oscillation suppressor.
>
> When a Penta-Labs Chinese 3-500Z was used in the oscillating PA, the glass
> does not melt. Why not, since you determined that was the cause of glass
> failure?

Chinese tubes have been improved since they first came on the market, although I have no specifics on the glass-recipe they are currently using. The tubes that Mr. Raich had the melted glass problem with were manufactured around1990.

> When I stopped the oscillation and biased the tube into 400 watts of
> disipation, the glass failed in less than 15 minutes. Yet a spectrum
> analyzer showed complete RF silence. Why did the glass melt with no
> RFoscillation, and NOT melt with an oscillation, if the cause was a
> parasitic as you claimed?
> If you can explain any of this, it would make your theories much more
> believable.

How long did the vhf oscillation last?
What was the frequency of oscillation, approximately?
What is the code-date on the tube that you forced to oscillate?
---
copies to Mr. Rauch et al.

--
--Rich-- ag6k, 805-386-3734

3592. Re: Making RF notch/ bandpass filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: mays@indigo
Message-ID: <582jb5$2rn@mark.ucdavis.edu>
Source record: 99993

Hey Jack,
How about some "T" connectors with 1/4 and 1/2 wave coax stubs to do what
you want, works for me fine. You can read up on a shorted stub in the
ARRL Antenna and Regular Handbook.
Good Luck
skip may wv6f
mays@indigo.ucdavis.edu

Jack Kovar KE0AX (kovar@zeus.ia.net) wrote:
: I have a HP-8920a with Tracking Generator/ Spec analyzer.

: I Generate a frequencies up to 1 Gigahertz and sweep there bandpass

: or skirts.

: I would like to make some RF filter networks to insert into VHF antenna

: path to notch down paging frequenies in 151mhz range.

: I THERE INFORMATION FOR NON ROCKET SCIENTIST LIKE ME?

: I would like 50watt threwput if possible. 5watt desirable too!

: If you have some interesting ideas you are willing to share please

: email me or call me: Jack Kovar
: 319-378-9852
: K0VAR

: Thanks,
: Jack

:
:

3593. Re: Wanted: CAD Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961204175700.MAA04795@ladder01.news.aol.com>
Source record: 99994

In article <582nrr$bp9$1@excalibur.flash.net>, kmiller@flash.net (Kerry Miller) writes:

>
>>I am looking for PC software for front panel design.
>>Of course, AutoCAD is available, but for my homebrew
>>designs a bit pricey!!
>
>>Does anyone have any suggestions

Easytrax is a freeware PCBoard layout program that can
be made to do some drawing. You can export plotter files.

A shareware program called DraftChoice is available. It does not
however print nice looking text.

The best I have found for doing panels like I mention below is
Harvard Graphics 3.0 for DOS. Superb print quality.
You can export plotter files.

Use transparencies. Reverse the image so that it appears to
read backwards. Print it in color if possible and let dry.
Spray with 3M artists spray mount glue on the printed side.
Stick it to your panel. The print is on the inside and
can not be rubbed off. HP Premium transparencies work
better than others. This is also how I make PCBoard negatives minus the
glue of course..

Microsoft Office has all you need to get the job done also.
So does CorelDraw.

One bit of info about printing on transparencies is that Windows
allows you to use a black cartridge with transparencies using a Deskjet.
Thats something I can't do with HG3.

Carl

3594. Re: Making RF notch/ bandpass filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: stevem@best.com
Message-ID: <584f4g$4ud@shellx.best.com>
Source record: 99995

In article <09961103122939.OUI83.dtmiller@dsmnet.com>,
Dean T. Miller <dtmiller@dsmnet.com> wrote:
>In article <581aus$eh3@hera.ia.net>, From kovar@zeus.ia.net (Jack Kovar
> KE0AX), the following was written:
>> I would like to make some RF filter networks to insert into VHF
>> antenna
>>
>> path to notch down paging frequenies in 151mhz range.
>
>Hi Jack,
>
>Couldn't you simply go to Radio Shack and get one of their TVI filters?
>They have 2 or 3 that could either work as-is or be easily modified.
>(and cheap)
>

There are some inline filters used by CATV companies which are broad
bandstop filters between 108 and 170MHz. I think they were used to
block midband cable channels from subscribers homes unless they paid
and additional expanded service fee. I'd be interested in one myself.
Since I no longer work for a CATV equipment manufacturer, I don't
get the CATV hardware catalogs like I used to. If anyone knows of
a source for these filters, I'd like to know about it.

Steve Muther
WF6R

3595. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: jskalski@acsu.buffalo.edu
Message-ID: <32A5CD2A.88904F2@acsu.buffalo.edu>
Source record: 99996

Bill Turner wrote:
>
> tomb@lsid.hp.com (Tom Bruhns) wrote:
>
> >
> >
> >: Compare at triple the price. you won't find it cheaper.
> >: If you find it cheaper I would like to know about it.
> >
> >Since you asked, and assuming others reading the posting might like to
> >know too...
> >
> >Locally, Boeing Surplus has this sort of thing for about $.40/100 feet.
> >They aren't guaranteed to have it in stock, but I'd guess ...)
> >
> >> >Cheers,
> >Tom
> ----------
> Amen. Never, never, never buy something as generic as teflon wire at prices
> like that. Look around and get a bargain. Keep your eyes open, they're
> everywhere.
>
> 73, Bill W7TI
> wrt@eskimo.com

GEE,
I guess you don't need any wire Bill.
List your sources with addresses and shipping costs. I think the readers
might find that a little more useful than pretentious statements.

Sincerely,

Jim N2GO

3596. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000412961119110001@news.vcnet.com>
Source record: 99997

In article <19961203220700.RAA15050@ladder01.news.aol.com>, w8jitom@aol.com
wrote:

> Hi Rich,
Hello, Mr. Rauch
> In article <measures-ya023180000312960347540001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >Yes he did Andy. However I found little difference in the resonant
> >frequency of the grid circuit in a 3-500Z whether the grid was
> >directly-grounded or grounded through capacitors, as is the case in the
> >SB-220. The inductive reactance of the grid seems to be somewhat
> cancelled
> >by the capacitive reactance of the grid bypass capacitors. I found that
> >with low values of grid bypass C, the grid resonant frequency could be
> made
> >slightly higher than if direct-grounding was used.
>
> Rich,
>
> Tell us HOW you measure the grid resonant frequency of the 3-500Z when the
> grid is directly grounded. ....snip.....

Rich measures the resonance with a dipmeter, by inductively-coupling the
dipmeter to a grid pin on the tube socket and searching for the dip..
>
> SB-220-type mica capacitor bypasses with one inch leads:
> 129.81 MHz (-32.30 dB) parallel resonance
> 161.62 MHz (-58.74 dB) series resonance
snip...
>
> That looks like a major change to me Rich.

I do not see a comparison.

> Both the resonant frequency and
> transmission loss changes, and it moves in undesirable directions. IN NO
> CASE does the grid isolation become better!
>
> Perhaps that is also why, in the SB-220, inductance can safely be removed
> from the parasitic suppressor when the grids are directly grounded through
> short leads.

I just checked the resonances in my unstock SB-220 which uses 1000pF caps.
to ground the grids. Directly-grounding the Amperex 3-400Z grids increased
the grid-resonant frequency from 72MHz to 77MHz. However, when I

originally tried direct-grounding, the occasional bouts of tune capacitor arcing continued. This result was not surprising since dirctly-grounding the grids moved the grid resonance slightly closer the anode circuit's VHF-resonance.

IMO, there is really no such thing as a 'direct-ground' at RF frequencies. Even 6-inch wide copper ribbon has a finite amount of inductance per unit length. At 100MHz, roughly 30 inches of such material looks like a high-Z RFC.at the open end.
---
e-mail copies to Mr. Rauch, Mr. Andy Heninger, et al.

--
--Rich-- ag6k, 805-386-3734

3597. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961204194200.OAA06962@ladder01.news.aol.com>
Source record: 99998

In article <32A50DB7.4EA9@TECLink.net>, "Tom C. Brown, Jr."
<tbrown@TECLink.net> writes:
>
>[Partial]
>> I'm still wondering what you can predict with a GD meter.
>>
>
>You can get a pretty good idea of where (frequency wise) the thing might
>oscillate. Or at least where it might ring.

I guess the correctness of your statement depends heavily on what we consider "a pretty good idea". The GDO is certainly better than looking at the system with a conventional ohm meter, or a battery and a light bulb, but it doesn't indicate anything definitive about ringing or oscillation.

The GDO may dip at a frequency where the PA has the lowest anode impedance (the least gain) or the highest impedance (the most gain). Does your grid dip meter measure impedance? Does it have a scale that indicates Q, R, or X ? If not, it tells you almost nothing of major importance in a complex system.

>I thought Rich's purpose for the GDO measurements was quite obvious.

Not to me. It's no more obvious than how a 25 watt rated grid can dissipate 500 watts. Does anyone want to call Mr. Miklos about this or the other claims like photons??

>What do YOU usually use a grid dip oscillator for?

I don't. I did in the 60's when I was building transmitters and receivers. The last time I took mine off the shelf was to measure the the resonant frequency of a parallel tuned circuit. In that case, I didn't need to know the Q, R, or X. I just needed to see where it was resonant at. Even a MFJ-259 will tell you much more than a grid meter, so why use a GDO in general applications like this?

>It's a really great
>tool for finding resonances.

Well, kind of. I would agree if you left the word "great" out. Simple would be OK, crude would be better. It is useful if we ONLY need to know the resonant frequency of a simple circuit, like a parallel or series lumped L/C circuit.

>And, as you and I both know, if a circuit
>is going to break into oscillation, it is liable to do it at (you
>guessed it!) the frequency of resonance.

You may know or think that, but I don't. The frequency where a circuit oscillates is often much more complex than that.

Resonance (as measured by a dip meter) merely indicates the point where maximum energy is removed from the dip meter's oscillator tank. It tells us a little bit about resonance in a complex system, but it just as likely may indicate the frequency where oscillation can NOT occur as the one where it does. In something as complex as a PA, it would be pure blind luck if the system oscillated at any particular "dip frequency".

>And, since we are talking
>about parasitic *oscillations* here (among other things), I'd say that
>makes Rich's GDO measurements pretty significant.
>I would have thought that a "recognized amplifier expert" would have
>seen this right away......

Tom, it's bad enough when one person turns this into a personal issue by constantly throwing barbs and personal digs, and making up stories about conversations and letters. I fully expect that from some people, because they view technical disagreement as ego damage or something very personal. That kind of behavior is childish and has no place in a technical discussion. If you see me do it, correct me and I will quit doing it... and I hope you will do the same.

Do you understand how a GDO actually works internally? Do you understand what makes an oscillator oscillate? If you do, why do you think a dip on the meter indicates a problematic oscillation may occur?

Imagine I place this circuit from the anode to ground.

anode-----www---] [----(((((((((-----ground
res cap ind

With R a low value, this circuit will dip at the resonant frequency of the L/C combo. In a TPTG oscillator, would you say the stage is more or less likely to oscillate at that frequency?

What if I have a TPTG oscillator with the grid parallel resonant at 120 MHz and the anode parallel resonant at 190 MHz. Would you say the system is more likely to oscillate near 120 or 190 MHz?

Suppose the VHF anode Q is one or two, do you think adding nichrome to the suppressor inductor will lower the VHF Q substantially? If so, can you explain how?

73 Tom

3598. Re: NorCal Cascade - Where to Buy?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: faunt@netcom18.netcom.com
Message-ID: <FAUNT.96Dec4123422@netcom18.netcom.com>
Source record: 99999

Err, Wilderness doesn't do the Cascade, just the Sierra and -40A. If
you're looking for a SSB rig, the new White Mountain rig from NN1G
looks very nice, although it's 75M or 20M only, no band changing.
Very solid case, built in CW frequency "display", $100. for the board
w/ parts, $60 more for case and case mounted parts.

The Cascades are all sold out from NorCal.
73, doug

From: john_marshall@nt.com (John Marshall)
Newsgroups: rec.radio.amateur.homebrew
Date: 2 Dec 1996 17:53:52 GMT

In article <329FBDA8.35B6@sover.net>, lblades@sover.net wrote:

> Can anyone tell me where one can buy the NorCal Cascade
> QRP kit - and for how much? I can't seem to find a listing
> anywhere.

Wilderness Radio
P.O. Box 734
Los Altos, CA 94023-0734
(415) 494-3806
<http://www.fix.net/jparker/wild.html>

3599. Elec Workbench

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Dave <ka1wgn@tiac.net>
Message-ID: <01bbe231$5e23cce0$2ded77ce@ka1wgn>
Source record: 100000

Can someone tell me where to find
Electronic Workbench v3.0c For Win.
Any info. would help

Thanks
Dave,N1IQO

ka1wgn@tiac.net

3600. Baycom software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: wrench107@aol.com
Message-ID: <19961204233800.SAA12050@ladder01.news.aol.com>
Source record: 100001

I'm using Baycom version 1.5 and when I transmit, it sends no data
and doesn't stop transmitting unless I shut down the program. It recieves
fine. Any suggestions?
I can be reached at Wrench107@aol.com

3601. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Gary Danaher <gdanaher@flash.net>
Message-ID: <32A60FF2.59B2@flash.net>
Source record: 100002

Tom Sefranek wrote:
>
> gamrunr@aol.com wrote:
>
> > Hello all, Thanks for your time, I'm interested in building a couple
> >of Different RF Power Amps, I need Construction Info/Schematics for An
> >amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
> >would also like to construct the same using A single 4CX250B, then when I
> >finish these I would like to Build a Multi Tube unit using 4CX250B's or
> >one of its slightly larger brothers. I would be willing to pay for any of
> >the above info. If you have any parts you think may be usable in the
> >above projects let me know! Thanks and 73.
>
> Callsign?
>
> >Rob Long
> >N7711 State Hwy 52
> >Lily, Wi 54491
>
> >Email to :gamrunrr1@juno.com

Regretably a check of the license data base fails to locate this
individual, so I have to presume that he is unlicensed, and seeking
information for an 11 meter amp. Suggest to all to ignore further
requests for information.
Gary
ab5rm

3602. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Stan Aughenbaugh <Stan.Aughenbaugh@MCI.COM>
Message-ID: <32A61523.52F9@MCI.COM>
Source record: 100003

Gary Danaher wrote:
>
> Tom Sefranek wrote:
> >
> > gamrunr@aol.com wrote:
> >
> > > Hello all, Thanks for your time, I'm interested in building a couple
> > >of Different RF Power Amps, I need Construction Info/Schematics for An
> > >amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
> > >would also like to construct the same using A single 4CX250B, then when I
> > >finish these I would like to Build a Multi Tube unit using 4CX250B's or
> > >one of its slightly larger brothers. I would be willing to pay for any of
> > >the above info. If you have any parts you think may be usable in the
> > >above projects let me know! Thanks and 73.
> >
> > Callsign?
> >
> > >Rob Long
> > >N7711 State Hwy 52
> > >Lily, Wi 54491
> >
> > >Email to :gamrunrr1@juno.com
>
> Regretably a check of the license data base fails to locate this
> individual, so I have to presume that he is unlicensed, and seeking
> information for an 11 meter amp. Suggest to all to ignore further
> requests for information.
> Gary
> ab5rm

Another goddam self righteous self appointed band cop!
I am sooooo tired of people trying to mind other people's business.
--
Stan KF0NC
"90% of all statistics are made up"

3603. Re: WANTED: Vacuum variable caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32a4f252.89651613@news.santafe.edu>
Source record: 100004
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

km3t@akorn.net (Dave Pascoe) wrote:

>Wanted: Vacuum variable caps in the 800-2000 pF @ 5kV+ range
>
>If you have one or more you'd consider parting with, please contact me:
>
>73
>--
>Dave Pascoe
>KM3T
>km3t@akorn.net
You might want to try Surplus Sales of Nebraska in Omaha. I don't
have their phone number handy, but they're a good outfit and have a
nice selection of vacuum variables of all sizes to choose from.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3604. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Don Labriola <dplabriola@ccgate.dp.beckman.com>
Message-ID: <32A5DABB.15B0@ccgate.dp.beckman.com>
Source record: 100005
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

FUman wrote:
...
> Don't you ever wonder about the screwball laws being written everyday
> to restrict and regulate our laws? Do you think they're written by
> Joe Concerned Citizen?
>
I personally think that the best thing we could do was to give congress,
(etc.) 5 years to re-touch all of the laws to make them understandable
by the average product of our school system. It would be their choice as
to modifying the laws or improving the education system! ;o)

If it has been so poorly written that only a lawyer can read it, and two
lawyers come to different opinions of what it means, then it should not
be binding! (Think what that would do the the tax structure).

$.02 from W6QS -- Don

3605. Re: Anybody Know of a HomePage for Avontek ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Dec4.195356.659@main03>
Source record: 100006

In article <582dvn$oj6@buffnet2.buffnet.net>, daveb@buffnet.net (daveb@buffnet.net) writes:
> Like to get info on some ot their GaAsFETs.
>
> Any Ideas ??
>
> Thanks
>
> -- db --
Avantek was acquired by HP in 1991. You'll find info on many of their products in the HP Communications Products Designers Catalog. Try calling your local HP sales office.
Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

3606. FT-1000 Panoramic Display - SIGN UP HERE!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Richard Valentine <tde@ntplx.net>
Message-ID: <32A64993.2AE4@ntplx.net>
Source record: 100007

********** PANORAMIC DISPLAY FOR YAESU FT-1000 ***************

Hello all, Just spoke to Jerry Vogt from "Hamtronics, Inc". He said
that if they get 40-50 committed customers they will design a "black
box" that
would connect between the Yaesu FT-1000 and a Kenwood Scope (SM220 w/BS8
or
SM230), for PANORAMIC DISPLAY use!
The FT-1000 comes with the IF OUT jack, and even refers hooking a
bandscope to it in the manual, but they never made one. The Kenwood
scopes work
excellent and are readily available new and used. The IF's (8.83 MHz)
don't
match, however.

A circuit is needed to downconvert the FT-1000's 73.62 MHz I.F. to
Kenwood's 8.83 MHz I.F. HAMTRONICS will provide the necessary mixer
and Xtal controlled oscillator (all in one small shielded box) to do
the work! This IS rather specific, but it will obviously work with
any other 73.62 IF. Not sure what the other Yaesu's or the MP has.

**** Please respond either to me (news, and email), or to Jerry Vogt
at the Hamtronics site: http://www.hamtronics.com/hamxHome.html
Just a brief, "Count me in, I want one!!" type of message will do.
If the count is high enough, we're in! They'll make em' Tell your
friends!!
It's too early to know the price, but their similar converters are
very affordable. Thank you all!! -- Richard Valentine, N1SQJ

3607. Re: O'Scope - HOw to ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Robert Mansfield <bmansfie@interaccess.com>
Message-ID: <32A65F60.4ED8@interaccess.com>
Source record: 100008

Michael Horowitz wrote:

Folks - I'm trying to look at the video coming out my VCR.
I got a 'scope, set input to AC, internal trigger, low voltage range,
high sweep rate. Don't see anything that might be lines of video.
Do I need a special proble?
Any suggestions? TIA - Mike

A line of video is 63 usec. long so you should set your scope to 10
usec. per
div also set the input to DC, and start with the trigger very negative
and
bring it up until you get a lock (the negative sync pulse is the only
stable
part of the video signal that a scope can lock on to).

Bob Mansfield WA8USR

3608. Re: Elec Workbench

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Robert Mansfield <bmansfie@interaccess.com>
Message-ID: <32A65C92.1E94@interaccess.com>
Source record: 100009

Dave wrote:

Can someone tell me where to find
Electronic Workbench v3.0c For Win.
Any info. would help

Thanks
Dave,N1IQO

ka1wgn@tiac.net

they have a web page at http://www.interactiv.com/ that you can order
from but there
up to v5 now.

Bob Mansfield WA8USR

3609. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
Message-ID: <32A662CC.29EF@TECLink.net>
Source record: 100010

Tom C. Brown, Jr. wrote:
>
> w8jitom@aol.com wrote:
>
> [Partial]
> > I'm still wondering what you can predict with a GD meter.
> > >
>
> You can get a pretty good idea of where (frequency wise) the thing might
> oscillate. Or at least where it might ring.
>
> I thought Rich's purpose for the GDO measurements was quite obvious.
>
> What do YOU usually use a grid dip oscillator for? It's a really great
> tool for finding resonances. And, as you and I both know, if a circuit
> is going to break into oscillation, it is liable to do it at (you
> guessed it!) the frequency of resonance. And, since we are talking
> about parasitic *oscillations* here (among other things), I'd say that
> makes Rich's GDO measurements pretty significant.
>
> I would have thought that a "recognized amplifier expert" would have
> seen this right away......
>
> 73, Tom KJ5IE

Plus:

Don't forget that Rich was not making exact, quantified measurements with the GDO. He was (1) finding resonances in the circuit *WITHOUT* attaching anything physically to the circuit and he was (2) able to compare the Q in a "before and after" situation by just looking at the response of the dip meter in each case. In other words, he was able to say that the Q was greater or less after swapping the suppressors. If *you* are unable to make such judgements with a GDO, then I guess you really wouldn't have much use for one.....

In one case, he saw that the Q at one particular VHF resonant point was visibly and substantially less after doing NOTHING but replacing the suppressor.

Now, in THAT particular case, if the act of changing the suppressor did not affect the Q at that VHF frequency, then what did? And do we agree that a change in the Q at a VHF resonant point is indeed important? Or do you believe the Q at the (or one of the) VHF resonant points in unimportant when considering an amp's propensity to oscillate?

Have you ever been present during a catastrophic "parasitic event"? If so, then you should know that such an event is not even close to the same thing as a controlled oscillation in laboratory conditions. Gary's comment about the RCA and Harris field guys is very appropriate here. You're contradicting a lot of high powered folks when you catagorically dismiss the parasitic problem.

Of course, you maintain that "the whole staff" at Eimac agrees with you, but you have only identified *one* person at Eimac so far. Surely we can all agree that one person does not make up "the whole staff".

Oh, and I asked before.....what is Mr. Brandon's official title at Eimac?

Jumping back, for a second.....

Did you make the analysis with your HP network analyzer *without* hooking *anything* physically to the circuit under test? If not, then the data you collected concerning the resonant points is suspect. Anytime you connect something conductive (like a probe) to a circuit and start measuring resonant frequencies up in the range where "stray reactances" can be a significant part of the whole picture, the results may indeed be affected (possibly substantially) by the very connection of the probe. I have seen this before, and believe me, it *is* a concern.

Now, if you *did* make all your measurements with no physical connection to the circuit, and without overcoupling anything in any way to the circuit, then please disregard the above. Just a thought......

73, Tom KJ5IE

3610. F.S. Microwave Tx/Rx

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Jerry Campbell <contach@lobo.net>
Message-ID: <32A6800D.518B@lobo.net>
Source record: 100011

For Sale: Racom Model 5005E microwave link. One transmitter and one receiver. Operating freq. 23.125. Units are in good working condition. Asking $2500 for both. Anything else I can add drop me a line.

3611. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: tcs@cmcorp.com
Message-ID: <582h0g$ouk@newsie.dmc.com>
Source record: 100075

gamrunr@aol.com wrote:

> Hello all, Thanks for your time, I'm interested in building a couple
>of Different RF Power Amps, I need Construction Info/Schematics for An
>amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
>would also like to construct the same using A single 4CX250B, then when I
>finish these I would like to Build a Multi Tube unit using 4CX250B's or
>one of its slightly larger brothers. I would be willing to pay for any of
>the above info. If you have any parts you think may be usable in the
>above projects let me know! Thanks and 73.

Callsign?

>Rob Long
>N7711 State Hwy 52
>Lily, Wi 54491

>Email to :gamrunrr1@juno.com

3612. Re: Anybody Know of a HomePage for Avontek ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32A538F0.407C@worldnet.att.net>
Source record: 100076

Let me know if you find one...

Avantek is now owned by Hewlett Packard, as I understand. Tried looking
at HP, but didn't find at the time. Pennstock (I think) sells the
parts.
73, Woody

daveb@buffnet.net wrote:
>
> Like to get info on some ot their GaAsFETs.
>
> Any Ideas ??
>
> Thanks
>
> -- db --

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3613. Re: 6m Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32A53855.236A@worldnet.att.net>
Source record: 100077

A possibility.... Either one of two circuits should fit your requirements, even though they are "over kill". the amp described by the Motorola Co. paper "AR 313" is rated 300 watts out, 10-150 mhz at Vcc of 12 to 28 volts (I expect full pwr rating is for max voltage) from 15 watts drive. The other is the paper titled "AR 305". This amp is similar, except it requires a Vcc of 50 volts. Your 7 watts should give you about 150 out with plenty of "head-room" (they are linear). They use a rather expensive dual FET transistor (MFR141G or MRF151G, respectively). These amps should have a filter placed in the output. This is not part of the circuit described.

There is a company in the US that sells all the parts to build one... is: Communications Concepts, Inc.

Another possibility: Can you obtain an old low-band FM (~48 Mhz in US) 2-way? Most solid state units will have a seperate PA board which requires (usually) several tens to 100s of mwt drive using several stages and will likely tune your freq. I have had luck in isolating the higher power stages so they can be driven from a high level source without an attenuator. This will work great for FM or CW. If you need linear, some of the PA modules can be modified to apply forward bias, but the output must usually be derated (PEAK AM will need to be lower than the saturated output level). I also suspect the FET amps above will provide much better linearity than biasing-up the PA module.

73, Woody

ernie wrote:
>
> Hi
> I'm looking for a tested design of a 7-10 w in ,70-100 w out, 54 Mhz
> solid-state PA.
> Thanks - Isaac, 4Z4TL

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3614. Seriers IC-x7 Simplex Tone Encoder Operation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: robmitch@vaxxine.com
Message-ID: <32a7f0da.10115088@news.vaxxine.com>
Source record: 100078

Procedure to use Tone Encoder for Simplex Operation for IC-x7 Series
Radios

First set freg. then put either + or - duplex and then
change the offset from 600
in increments of 100 down to 0.00 offset with the offset write button
(Item 8 pages 6 &
7 of the manual) leaving the duplex switch on, then set the tone freq
in the normal way.
As far as the radio is concerned it is on duplex. The difference is
that the duplex
transmit freq. is the same as the receive freq instead of + or - 600.

It works great and thnaks to Bruce Martin for the information.

73 Bob VE3KYA

3615. Re: Wanted: CAD Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <582nrr$bp9$1@excalibur.flash.net>
Source record: 100079

drallen@prairienet.org wrote:

>I am looking for PC software for front panel design.
>Of course, AutoCAD is available, but for my homebrew
>designs a bit pricey!!

>Does anyone have any suggestions regarding shareware
>or commercial programs that are not too costly?

>Vy 73,
>Don Allen W9CW

>--
Don,
I've used a fairly inexpensive Desktop Publishing program to layout things like panels and also to do my own QSL cards! It's called Arts and Letters Express, and the graphics program that goes with it is called Picture Perfect. If you aren't doing any real serious drafting work, there are several shareware drawing programs available. If your stuff is REAL simple, just use the graphics program that comes with windows.
73,
Kerry Miller
kmiller@flash.net

3616. Need: Address for Hi-Q Capacitor Co.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <582ta2$b1a@dallas1.connect.net>
Source record: 100080

Does someone have the address or tel. # for Hi-Q?
I need the data on one of their caps.

Thanks,
Phil, K5PC

3617. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <32a4fd0c.15989906@eskinews.eskimo.com>
Source record: 100081

tomb@lsid.hp.com (Tom Bruhns) wrote:

>
>jskalski@acsu.buffalo.edu wrote:
>(posting it for a second time...)
>: Mil Spec silver plated stranded 22 & 24 AWG high temperature hook up
>: wire.
>: 50' rolls
>: 5 roll color assortment (250' total) shipped priority 2 day mail $23.
>: No color choices at this price, just 5 different colors.
>:
>..
>: Compare at triple the price. you won't find it cheaper.
>: If you find it cheaper I would like to know about it.
>
>Since you asked, and assuming others reading the posting might like to
>know too...
>
>Locally, Boeing Surplus has this sort of thing for about $.40/100 feet.
>They aren't guaranteed to have it in stock, but seem to pretty often
>(as you can imagine from what they build). You have to go pick it up
>there, but I'd guess there are other places around the country that have
>similar deals on Teflon insulated wire. (I've gotten some wonderful
>deals on Teflon-insulated coax from Boeing Surplus...)
>
>--
>Cheers,
>Tom

Amen. Never, never, never buy something as generic as teflon wire at prices like that. Look around and get a bargain. Keep your eyes open, they're everywhere.

73, Bill W7TI
wrt@eskimo.com

3618. FS: Eimac 8877 Tubes; NIB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <582te1$b1a@dallas1.connect.net>
Source record: 100082

Unused and guaranteed Eimac 8877 tubes. $515 ea. shipped CONUS.

Phil, K5PC

3619. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: bspeed@cyberramp.net
Message-ID: <582sd4$555$1@newshost.cyberramp.net>
Source record: 100083

jlkolb@sd.cts.com (John Kolb) wrote:

In his article, he made
>: the statment that his VFO wouldn't have the extra phase noise that a
>: traditional PLL has because of the loop. Can anyone explain this? I didn't
>: think that the VCO wouldn't be effected by the locking loop.

Low freq
>noise within the loop bandwidth will be mostly canceled by the PLL
>(it can't cancel it all - it doesn't start to react untill it detects
>a change has already occured), but higher freq noise components
>above the loop time constants will not be canceled.

Really, the two main points to improved Phase noise in a PLL system
are:
1. the phase noise of the reference osc.
2. The PLL will greatly improve the VCO's phase noise inside the loop
bandwidth.

The reference osc is the critical part.
Hence, the best Reference osc. is a low phase noise TCXO.

It is always good design practice to have a low phase noise VCO.
But good results are obtained if all other paramaters are optimized as
best as possible, reagrding loop components, divider values, etc.

3620. O'Scope - HOw to ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <583n0l$6@boursy.news.erols.com>
Source record: 100084

Folks - I'm trying to look at the video coming out my VCR.
I got a 'scope, set input to AC, internal trigger, low voltage range,
high sweep rate. Don't see anything that might be lines of video.
Do I need a special proble?
Any suggestions? TIA - Mike

3621. Re: Electronic Kits, PLL&DDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: Chuck Hallett <liahona@execpc.com>
Message-ID: <32A58FB1.7094@execpc.com>
Source record: 100085

bspeed@swbell.net wrote:
>
> Greetings, electronics fans....
>
> If you are interested in building some "kits" from artwork, schematics
> and etc., then take a look at the (two) "kits" I have placed for
> download on a web page.
>
> At this time, the kits are:
>
> A Direct Digital Synthesizer, which operates up to 20Mhz, and is
> controlled by LPT1 on your PC.
>
> A Phase Locked Loop circuit, using the MC145106
> and MC1648 PLL IC's. It can operate to 225 Mhz.
>
> A shareware program for printing HPG files to a laser printer.
>
> The web page is: www.cyberramp.net/~bspeed/
>
> .....Bryan
http://www.cyberramp.net/~bspeed/

3622. Re: PIN Diode TR plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: pcb@connix.com
Message-ID: <5841j0$fls@beast.connix.com>
Source record: 100086

JOHNWHITE@gnn.com (William White) wrote:

>I am looking for plans (schematics/construction details)
>for a 2 Meter PIN Diode TR switch. I'd like to keep
>it compact while still able to handle 35-40 watts, let's
>call it 50 watts MAX. I've got the rf sense worked out,
>so all I need is the actuall switching. Any help would
>be greatly appreciated. Thanks in advance.

John,
I am looking for a similar schematic for TR switching at low power HF.
The application is a stand-alone RF sensed TR box for use at QRP using
seperate RX and TX. If you run into something like this, could you
let me know?

>John
>KD4YRB

3623. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961204154500.KAA02292@ladder01.news.aol.com>
Source record: 100087

RE: Grid Dip Meter

Hi Gary,

In article <1996Dec3.193918.17633@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>Rich, measure one of your *suppressors* with your dipmeter, not just the >coil, the whole damn thing. Now replace the nichrome wire with copper wire
>and measure the *suppressor* again. If there is a significant difference >at VHF, I will be more than a little surprised.

This was my point in asking Richard what he intended to do with the grid dip meter. It's the single worse "tool" (I certainly wouldn't call it an instrument) for measuring a complex circuit's RF characteristics.

The dip meter doesn't even measure the reactance zero-crossing reliably, it simply measures the suck-out of energy from the dip coil. Perhaps a more correct description is the GDO measures energy absortion via the coefficient of coupling between the dip meter and the circuit.

NONE of this has much to do with the behavior of the circuit at RF, only a person with little comprehension of resonant systems would think it did. A dip does NOT guarantee an oscillation, it very well might do just the OPPOSITE! It will not tell us the Q or any other important parameter.

For example, the dip meter placed next to a resonant system with poor (lossy) mutual coupling can show a shallow narrow dip, but if coupling is increased the dip will get wider and broader. That's why the dip meter's scale is not calibrated in ohms, Q, or rectangular impedance coordinates.

Secondly, the GD meter couples energy into the system (excites the system) differently than the normal operating conditions do. You may have a crude idea something is happening, but you have no idea what the system "looks like" for normal excitation. All you know is the circuit has higher mutual coupling at that frequency to some type of loss at that point in the system. The higher the coupling to the loss, the more pronounced the dip.

My reason for asking what Rich intended to DO with the grid dip meter was to see if he understood what the meter really measures. I wanted to see, if as with the photons and 500 watt 8877 grids, he made another giant unscientific leap of faith in the attempt to support his wild theories.

Gary, you are right on target with the Q issue. The Q of the suppressor Rich outlined was unity. Adding nichrome lowers the VHF Q an insignificant amount. If the suppressor became a perfect zero reactance resistance, the

Q would only drop from one to zero. Big deal.

I'm with you on this one Gary.

I consider a Q of one VERY low Q. The nichrome does reduce HF Q, and that lowers the tendency for tank overshoot when the PA is overdriven or underloaded. It also will help stabilize the PA at HF, but certainly NOT at VHF.

I am very suspect of any person who represents himself as an expert on a technique, and who so clearly fails to understand how to measure things and how to analyze a simple parallel L/R circuit. This "lower VHF Q thing" fits right in the same bin as the photons, 500 watt 8877 grids, VHF arcing tuning caps and switchs, peak tank voltage not being able to exceed the supply voltage, and so on.

Why did this stuff about nichrome apear in the early years? It's easy to understand why.

Back then, tubes had long grid and anode leads. Grounded grid operation was virtually unheard of, everything was grid driven and mostly used high feedback triodes. Shielding was very poor, even metal chassis' were rare in homebrew equipment.

Because of all this, PA's oscillated readily. The problem was uncontrolled feedback below, at, and above the operating frequency. Any resistive wiring helped stability, because the whole PA was laden with uncontrolled and "unfixable" feedback paths. The typical PA had as much a tendency to oscillate at the desired operating frequency as at other frequencies.

Distributed loss at and near the operating frequency is the only universal cure when layout, components, and circuitry are that bad.

Moving such "cures" to a modern PA should be done only with the understanding of what is actually being accomplished. Technology was very different long ago.

73 Tom

3624. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <32a73db0.101903658@netnews.worldnet.att.net>
Source record: 99938

wrt@eskimo.com (Bill Turner) wrote:

>jskalski@acsu.buffalo.edu wrote:
>>
>>GEE,
>>I guess you don't need any wire Bill.
>>List your sources with addresses and shipping costs. I think the readers
>>might find that a little more useful than pretentious statements.
>>
>>Sincerely,
>>
>>Jim N2GO
>----------
>Ok, will do. My #1 source is Boeing surplus. My other favorite surplus
>outlets in the Seattle area are Vetco in Bellevue and Electronic Dimensions in
>Tacoma. Both of them have tons (literally) of surplus. Vetco is especially
>good for wire and cable. As to shipping charges, who knows? I pick it up
>myself. UPS will be glad to quote you if you wish. They're in the phone
>book.
>
>And of course, there are always hamfests - perhaps the best source of all.
>
>73, Bill W7TI
>wrt@eskimo.com

Thanks for info. Does Boeing Surplus have a catalog or telephone
number?

3625. Re: PIN Diode TR plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961205131610.19527B-100000@oso.slonet.org>
Source record: 99939

There was a design using 50 watt PIN diodes written up in QEX magazine. They were Motorola devices as I remember and appeared in the "RF Update" column, which is not indexed well, therefore I am having difficulty referencing that article! Cliff Buttschardt K7RR

On Wed, 4 Dec 1996, pete brunelli wrote:

> JOHNWHITE@gnn.com (William White) wrote:
>
> >I am looking for plans (schematics/construction details)
> >for a 2 Meter PIN Diode TR switch. I'd like to keep
> >it compact while still able to handle 35-40 watts, let's
> >call it 50 watts MAX. I've got the rf sense worked out,
> >so all I need is the actuall switching. Any help would
> >be greatly appreciated. Thanks in advance.
>
> John,
> I am looking for a similar schematic for TR switching at low power HF.
> The application is a stand-alone RF sensed TR box for use at QRP using
> seperate RX and TX. If you run into something like this, could you
> let me know?
>
> >John
> >KD4YRB
>
>
>
>
>

3626. Online RF Power Valve specs? Where?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <587hag$ljl@clam.niwa.cri.nz>
Source record: 99940

I am looking for data on CV1924 and QY4-250 (CV2131) valves. Absolute max ratings and recommended operating paramaters. Is there an online source of this data? The ARRL handbook gives some info on the second valve, but it would be nice to have the factory specs.

I have scored a dozen new QY4-250's and have a 2nd hand amp with 2xCV1924 (parallel) sitting under my desk, and would like to double check the operating values. The gear is needed for the Kiwi Contest team at ZM2K. Checked out Rich Measures home page...excellent stuff.

Wilbert, ZL2BSJ
Would-be linear constructor

3627. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Stan Aughenbaugh <Stan.Aughenbaugh@MCI.COM>
Message-ID: <32A75388.3511@MCI.COM>
Source record: 99941

gamrunr@aol.com wrote:
>
> Hello all, Thanks for your time, I'm interested in building a couple
> of Different RF Power Amps, I need Construction Info/Schematics for An
> amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
> would also like to construct the same using A single 4CX250B, then when I
> finish these I would like to Build a Multi Tube unit using 4CX250B's or
> one of its slightly larger brothers. I would be willing to pay for any of
> the above info. If you have any parts you think may be usable in the
> above projects let me know! Thanks and 73.
>
> Rob Long
> N7711 State Hwy 52
> Lily, Wi 54491
>
> Email to :gamrunrr1@juno.com

Forgot your question had never been answered in the flurry with the
"Band Nazi's" I'd check with the Amateur Radio Handbook preferable an
older edition, none of the circuitry is complex on paper, but sometimes
the practice is. Last I saw, there were several amplifiers along the
lines of what you talk about. Might even make good toasters..heh heh.

--
Stan
Amateur Radio KF0NC
"90% of all statistics are made up"

3628. Re: TIPS: C.W. 2.4 GHz 10 KWh Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: m.j.willis@rl.ac.uk
Message-ID: <32a0b570.1152318@news.rl.ac.uk>
Source record: 99942

On 30 Nov 1996 17:57:34 GMT, bohigas@aol.com wrote:

>Dear Forum Members:
>
>I am looking for some quick ideas to build a C.W. 10 KWh, 2.4 GHz
>MW dummy load, perhaps you have some suggestions.
>
Very funny. Try a frozen chicken in a microwave. Even better some
frozen sprouts.

3629. Re: O'Scope - HOw to ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbe307$0fe89e80$0e102399@peter-s>
Source record: 99943

Robert Mansfield <bmansfie@interaccess.com> wrote in article
<32A65F60.4ED8@interaccess.com>...
> Michael Horowitz wrote:
>
> Folks - I'm trying to look at the video coming out my VCR.
> I got a 'scope, set input to AC, internal trigger, low voltage range,
> high sweep rate. Don't see anything that might be lines of video.
> Do I need a special proble?
> Any suggestions? TIA - Mike
>
> A line of video is 63 usec. long so you should set your scope to 10
> usec. per
> div also set the input to DC, and start with the trigger very negative
> and
> bring it up until you get a lock (the negative sync pulse is the only
> stable
> part of the video signal that a scope can lock on to).
>
> Bob Mansfield WA8USR
>

Also note that a standard video signal is 1 Volt peak to peak when
terminated into
75 Ohms (unterminated should be 2 Volts P-P).

I hope he is looking at the VIDEO output and not the RF channel 3 output.

...Peter

3630. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Jay <jay123a@ptw.com>
Message-ID: <32a7595f.0@mothra.westworld.com>
Source record: 99944

gamrunr@aol.com wrote:
>
>
> Hello all, Thanks for your time, I'm interested in building a couple
>of Different RF Power Amps, I need Construction Info/Schematics for An
>amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
>would also like to construct the same using A single 4CX250B, then when I
>finish these I would like to Build a Multi Tube unit using 4CX250B's or
>one of its slightly larger brothers. I would be willing to pay for any of
>the above info. If you have any parts you think may be usable in the
>above projects let me know! Thanks and 73.
>
>Rob Long
>N7711 State Hwy 52
>Lily, Wi 54491
>
>Email to :gamrunrr1@juno.com

Hello Rob: I will be happy to send you a copy of a HF Linear Amplifier,
using both a 6146 and 4CX250 type of tubes.

73's and Happy Holidays, and God Bless.

Jay at jay123aptw.com

3631. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Jay <jay123a@ptw.com>
Message-ID: <32a75949.0@mothra.westworld.com>
Source record: 99945

gamrunr@aol.com wrote:
>
>
> Hello all, Thanks for your time, I'm interested in building a couple
>of Different RF Power Amps, I need Construction Info/Schematics for An
>amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
>would also like to construct the same using A single 4CX250B, then when I
>finish these I would like to Build a Multi Tube unit using 4CX250B's or
>one of its slightly larger brothers. I would be willing to pay for any of
>the above info. If you have any parts you think may be usable in the
>above projects let me know! Thanks and 73.
>
>Rob Long
>N7711 State Hwy 52
>Lily, Wi 54491
>
>Email to :gamrunrr1@juno.com

Hello Rob: I will be happy to send you a copy of a HF Linear Amplifier,
using both a 6146 and 4CX250 type of tubes.

73's and Happy Holidays, and God Bless.

Jay at jay123aptw.com

3632. Direct PC receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Jan Servaites <servaij@concentric.net>
Message-ID: <32A7BA8B.5542@concentric.net>
Source record: 99946

Does anyone know about the engineering behind the Direct PC (Ku, digital)
high speed internet, satellite receiver?? I would like to try homebrewing
a TVRO dish and a PC interface card to receive high speed data. Thanks
for any help... Jan Servaites N8CBX
Are there anyone interested in doing this?? Maybe we can get someting
going...
--
Û¥-

3633. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Michael Black <blackm00@CAM.ORG>
Message-ID: <Pine.GSO.3.94.961205123708.18146C-100000@Ocean.CAM.ORG>
Source record: 99947

That is a good analogy, a frequency counter with a d/a converter. I
believe it is the basic idea, though there may be variations. You have a
time base, a gate, and some counters.

In fact, around 1978 or so Rohde had an article in Ham Radio Magazine
about adding this kind of frequency control to a frequency counter.
There was a followup letter in a later issue by someone who did it
in an even simpler fashion.

The simplified version, just the stabilizer, has the advantage that it
is compact and draws less current. On the other hand, making a frequency
counter is not all that costly or difficult at this time, and you have the
advantage of getting a frequency readout along with the stabilization.
What route to take might depend on whether you were trying to upgrade
an old piece of equipment (which might already have a reasonable dial)
or a portable piece of equipment, where you don't care so much about
exact frequency (don't a lot of QRP rigs have simple dial readouts?)
or want the current drain. On the other hand, provided you can fit
the readouts in, the counter will not take all that much more space
and with CMOS can still be low current. You could add a switch to
disable the readouts until needed.

Michael VE2BVW

On 3 Dec 1996 the2x4@aol.com wrote:

> In article <19961202155100.KAA14654@ladder01.news.aol.com>,
> johnsonhe@aol.com writes:
>
> >
> >W4ZCB
> >
> >Lot's of references to it over the last 5 years in the RSGB magazine,
> >"Radio Communications". Usually titled HuffnPuff.
> >
> >
>
> I'm considering a design like this.
> Is it merely a frequency counter and an embedded controlled D/A converter?
>
> Carl
> N9EFJ
>
>

3634. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Allan Dobler <doblera@cadvision.com>
Message-ID: <32A7AE61.26EF@cadvision.com>
Source record: 99948

Jay wrote:
>
> gamrunr@aol.com wrote:
> >
> >
> > Hello all, Thanks for your time, I'm interested in building a couple
> >of Different RF Power Amps, I need Construction Info/Schematics for An
> >amplifier using 1 or more 6146 tubes operational 6 through 12 meters, I
> >would also like to construct the same using A single 4CX250B, then when I
> >finish these I would like to Build a Multi Tube unit using 4CX250B's or
> >one of its slightly larger brothers. I would be willing to pay for any of
> >the above info. If you have any parts you think may be usable in the
> >above projects let me know! Thanks and 73.

Isn't a CB'er that builds a homebrew amp, a better hobbiest than a 2M
appliance operator who buys gear at Radio Shack???

73

Allan

VE6AQK@VE6YYC.#SAB.AB.CA

doblera@cadvision.com

3635. Re: Dampening...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: moorej@marshall.edu
Message-ID: <moorej-0512961745200001@muv62.marshall.edu>
Source record: 99949

In article <21946@s55tcp.ampr.org>, S56A@s55tcp.ampr.org wrote:

> Phil, K5PC (what a nice suffix) rightly pointed to my mistake in using a word
> "dumping" for an ordinary resistor instead of discussing price reductions :-)
^^^^^^^
> I even spell-checked that posting but I needed more sophisticated semantics
> test. On the other hand, English is NOT my mother tongue and I begun lerning
> it late at the age of 20...
> ALC overshoots are real shame with modern radios equiped with a lot of micro-
> processors. They should be cured at the source and NOT late in the chain...
> However, tubes can survive them, poor MOSFET's don't...
> 73 de Mario, S56A, N1YU.

Realizing that I am at great risk of being accused of picking a language nit..

Mario -

From the subject line in this post, I get the impression that the correction offered to you was, perhaps, a greater error than the original mistake.

I surmise that the word you were meaning to use was DAMPING, but that you were advised that it was damPENing. A lot of native speakers of English make this mistake, using dampening when they mean damping.

To dampen is to make wet.
To damp is to cause to die out, to reduce, attenuate, suppress.

So, if one is concerned about ALC overshoots, I would assume one would want to suppress them, not put water on them.

As an undergraduate, I saw an Elec. Engr. professor absolutely skewer a student over this. I've never forgotten it.

As I said, I may be accused of being excessively picky. However, use of the word dampen is mistaken, however widespread it may be.

Shields up.

de W5IMJ

--

Bill Moore
moorej@marshall.edu
http://webpages.marshall.edu/~moorej/
Babe, you're just a wave, you're not the water. J.D. Gilmore

3636. Re: PIN Diode TR plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <58558q$m2o$1@news3.microserve.net>
Source record: 100012

Buy the ARRL UHF/Microwave Project Manual, there are a
couple of circuits complete with componet values for
2M PIN TR switches. Or try Down East Microwave's Web
site at HTTP\\www.downeastmicrowave.com. They have
complete and partial PIN TR kits at very good prices!

Hope this helps, 73

Steven Kerns N3FTI
skerns@mail.talon.net

In article <582jbd$ifs@news-e2b.gnn.com>, JOHNWHITE@gnn.com says...
>
>I am looking for plans (schematics/construction details)
>for a 2 Meter PIN Diode TR switch. I'd like to keep
>it compact while still able to handle 35-40 watts, let's
>call it 50 watts MAX. I've got the rf sense worked out,
>so all I need is the actuall switching. Any help would
>be greatly appreciated. Thanks in advance.
>
>
>John
>KD4YRB
>

3637. Excellent PC Board Software for Windows

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <585658$m2o$2@news3.microserve.net>
Source record: 100013

This is for everyone here that has been looking for
a excellent PC design software package for Windows.

Try the Ivex web site at http://www.ivex.com

We just bought the non-shareware version and it is
only $29.00 from Mouser Electronics but you can
down load a full operational shareware version of the
program from their web site for free. The only catch
is that it will only plot 100 pin points, but for
Ham use that is plenty. The $29.00 version will
plot 220 pins and upgrades can be purchased to go
upwards of 900 pins. The manual is also offered
online, so full documentation is also avaliable,
unlike many other shareware and low buck PCB software
I have tried in the past.

This software is the best I have seen in the under
$1000 price class. It supports Gerber routing and
has many other features that only the kilo-buck software
have.

It is well worth the half of an hour it takes to
download.

73
Steven Kerns N3FTI
skerns @mail.talon.net
Penn Biomedical Support, Inc.

3638. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <32a720e8.2007143@eskinews.eskimo.com>
Source record: 100014

jskalski@acsu.buffalo.edu wrote:
>
>GEE,
>I guess you don't need any wire Bill.
>List your sources with addresses and shipping costs. I think the readers
>might find that a little more useful than pretentious statements.
>
>Sincerely,
>
>Jim N2GO

Ok, will do. My #1 source is Boeing surplus. My other favorite surplus outlets in the Seattle area are Vetco in Bellevue and Electronic Dimensions in Tacoma. Both of them have tons (literally) of surplus. Vetco is especially good for wire and cable. As to shipping charges, who knows? I pick it up myself. UPS will be glad to quote you if you wish. They're in the phone book.

And of course, there are always hamfests - perhaps the best source of all.

73, Bill W7TI
wrt@eskimo.com

3639. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: gekko@nwlink.com
Message-ID: <5859fl$eef@texas.nwlink.com>
Source record: 100015
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

In article <1996Dec3.221002.27325@nosc.mil>,
horowitz@nosc.mil (Alan M. Horowitz) wrote:
>S-meter readings? Just guess using your trained ears, it's probably as
>valid!

But it doesn't look as cool!

Seriously, I don't think I have ever seen an accurate one. Mine always
says he's S9 and his always says I'm S2! Go figure.

Gordon

3640. Re: PIN Diode TR plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Guy Fletcher <guy@mpce.mq.edu.au>
Message-ID: <32A739FE.28F0@mpce.mq.edu.au>
Source record: 100016

William White wrote:
>
> I am looking for plans (schematics/construction details)
> for a 2 Meter PIN Diode TR switch. I'd like to keep
> it compact while still able to handle 35-40 watts, let's
> call it 50 watts MAX.
>
> John
> KD4YRB

John,

Try SM5BSZ's web page for a detailed technical discussion and
design. It is at
http://ham.te.hik.se/homepage/sm5bsz/index.htm
Well down the front page, follow the link to
"High power antenna relay using PIN diodes".

Good luck, Guy VK2BBF

3641. Re: NBFM modulator: newbee help: what is de-emphasis exactly?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: bspeed@cyberramp.net
Message-ID: <585fm7gpe2@newshost.cyberramp.net>
Source record: 100017

jmccarty@sun1307.spd.dsccc.com (Mike McCarty) wrote:

>In article <57ivmd$fnp@news03.deltanet.com>,
>John Lundgren <jlundgre@delta1.deltanet.com> wrote:
>)Mike McCarty (jmccarty@sun1307.spd.dsccc.com) wrote:
>): In article <56f1bi$pp6$1@news3.microserve.net>,
>): tyler <tyler@cyberia.com> wrote:
>):)
>):)>>The standard varactor FM modulator does not inherently add pre-emphasis,
>):)>>so an external pre-emphasis network is used to allow PM and FM radios
>):)
>):)Being relatively new to this NG, what is pre-and de-emphasis exactly? I know
>):)it's used in FM communications, but how and why? Why is it needed?
>)
>): It is a noise-reduction scheme. Most of the noise in FM systems is what
>): might be termed "high frequency" or "hiss" (similar to tape). So the
>): high frequencies are "pre-emphasized" (i.e. get more gain than the lower
>): frequencies). Then when played back, the high frequencies are
>): "de-emphasized" (get lower gain). This raises the overall signal/noise
>): ratio.
>)
Partially correct. And a common misrepresentation of why emphasis is
used in FM systems.

The output of an FM detector has the characteristic curve of a
high-pass filter. That is to say an FM det. has higher noise output
with increasing frequency. - In it's detection bandwidth.
So a "de emphasis" filter is added to it;s output to flatten the noise
response.
This requires a pre-emphasis ckt at the transmitter.
So the main point is that Pre-emphasis is _required_ by the use of
De-emphasis in FM detectors.

When the pre and de are combined, the result is a flat freq. response.

I would like to see info on the effect of modulation index/sideband
energy, due to the pre-emphasis filter.

...Bryan

3642. METER REPAIRS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: james brunelle <brunelle@multi-medias.ca>
Message-ID: <585f4e$du5@wagner.spc.videotron.ca>
Source record: 100018

Do you need a Meter Repaired (Analog or Digital) Vom,s, Analog Multimeter's, Digital Multimeters, Panel Meters, Capacitance Meters, LCR, Meters, Clamp-on Ammeters, Oscilloscopes, Function Generators etc. Give us a try we have been in business 25 years and we have stock of many of the older type meters made by the following companys TRIPLETT, SIMPSON, WESTON, AMPROBE, BEEDE, G.E. etc. No we don't charge for Estimates just Mail us the unit and we will give you a very fair ESTIMATE first.

WEBB Page WWW.Channeli.com/brunelle
E-Mail:brunelle@multi-medias.ca
Tel: 1-819-569-9096
Fax: 1-819-569-1408
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3643. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961205040201.XAA18379@ladder01.news.aol.com>
Source record: 100019

Rich,

We need to talk more about how PA's work, and how to measure important parameters than all these unrelated Edisonian test methods. But first, I wonder why Vectronics stopped using the Penta Chinese tubes if your suppressors fixed the problem? I also wonder why they stoped using your suppressors if they helped PA life?

In article <measures-ya023180000412960910540001@news.vcnet.com>, measures@mail.vcnet.com (R. L. Measures) writes:

>> For example, you suggest someone place a VHF radio near an arcing PA, and
>> listen for VHF RF, and site that as proof a parasitic is taking place.
>
> This was an actual case. Someone phoned me and asked why a nearby VHF
>field strength meter---about 4 feet away---pegged out whenever he heard/saw
>the tune cap. in his amplifier arc? (the perf. cover to the final
>compartment was removed so he could observe the arc)

All that test indicates is there was VHF energy present, which we all know is present in any arc. For example, my two meter radio's S meter pins and the squelch opens when my HF antenna arcs. The two meter antenna is over 100 feet from my HF antenna. Does that mean my HF antenna has parasitics? Of course not.

If I turn on a wall switch, and hold my two meter handheld near the switch, I hear it click. If I hold the switch almost closed, and make the switch arc, I hear an S-9 plus noise on two meters. Does that mean my wall switch needs nichrome suppressors to cure its arcing?

I hear lightning discharges and corona discharges on my two meter radio. Does that mean lightning has parasitics?

>IMO, a dipmeter can NOT be used to measure impedance or absolute Q'.
>A dipmeter is basicly used to measure the frequencies of resonances.
<snip>
>a series-resonant circuit whose
>ends are connected together through a conductor is a parallel-resonant
>circuit.

At least we agree on this point. The dip meter tells us next to nothing when it is used to measure a complex circuit. We have no idea if it is indicating a series or parallel resonance as viewed by the tube element being "dipped". We have no idea what the Q is, or if the impedance is high or low at the tube element.

>> When a Penta-Labs Chinese 3-500Z was used in the oscillating PA, the glass
>> does not melt. Why not, since you determined that was the cause of glass
>> failure?
>
>Chinese tubes have been improved since they first came on the market,
>although I have no specifics on the glass-recipe they are currently using.
>The tubes that Mr. Raich had the melted glass problem with were
>manufactured around1990.

This was an old tube, one remaining from a batch purchased from Penta several months after they were introduced. Here's what I think you are implying:

1.) If the glass would have melted during the parasitic, it would have been the bad glass problem (like the kind that was never fixed when Vectronics installed your kits).

2.) Since the glass melted and sucked a hole in at less than rated dissipation after a short period of dc operation, it may be different recipe glass.

Rich, it seems like everything NOT supporting your claims is questionable. If it supports your claims it is data worth etching in stone.

The Q of the nichrome suppressor at VHF you gave as an example is only about 1 at 100 MHz. The Q of the regular suppressor at VHF is a tiny bit larger, 1.14. Do you think a Q reduction from 1.14 to a Q of one will cure oscillations that melt glass? Do you think it will cure all oscillations?

Nichrome lowers Q much more on 20 MHz than 200 MHz. Your "low VHF Q" suppressors decrease the likelyhood of arcs and make tuning slightly "smoother" because of the lower HF Q, and not because of any "improvement" at VHF. That much can be proven.

Like Gary said, measure the suppressor with the resistor in place Rich. Otherwise your test is a waste of time. Your suppressor will help some problems, but NOT VHF oscillations.

73 Tom

3644. Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbe261$ed59a1c0$5a229bcf@kn6dv.qnet.com>
Source record: 100020

For the interesting party's again.
I have uploaded PART 8 of the on going discussion.
It is still interesting and also educational (for me).
Also you will find the letter from Eimac(to AG6K here) and a few other
links to amplifier related web pages.
Hope to be a help.
Thanks 73 Will, KN6DV
--
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3645. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961205050300.AAA19779@ladder01.news.aol.com>
Source record: 100021

In article <measures-ya023180000412960711490001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Incorrect? I take "meshed" to mean that the tune cap. is at
>maximum C. Since the tune C is effectively in series (through the
chassis
>connection) with the anode's C of 5pF, the net C of the two caps. should
be
>maximum when the tune C is at maximum. The net C should be at minimum
when
>the tune C is at minimum, or unmeshed. Since the net C is
>parallel-resonant with the anode circuit's total L. (see
><http://www.vcnet.com/measures/D.a.13.GIF>), therefore, Mr. Rauch's
>statement (that the resonance moves up in frequency when the tune
capacitor
>is meshed) sounds backwards......

You only think that because you have no idea what the plate tuning
capacitor looks like, impedance wise, at frequencies above 150 MHz. I
expect that, since you do not have access to more elaborate test
equipment.

When the capacitor (as with almost any capacitor) passes its' series
resonate point, it looks inductive. It does not have a high amount of
inductive reactance, but it has some. Above the series resonat frequency,
this inductive reactance increases as the plates are unmeshed. That is
because the shunt capacitance is far down the plate, and is such a low
impedance the series inductance is the dominating reactance.

This is a common effect in RF components. Large vacuum capacitors exhibit
the same effect (but up in the upper UHF range), as they are unmeshed they
become MORE inductive.

HF roller inductors exhibit a "mirror" effect. As inductance is lowered,
the VHF impedance null moves LOWER in frequency. This can be seen on a
network analyzer. That's why some rollers quit working at the upper end of
HF, and start arcing, overheating, or just won't "tune".

Most experienced RF designers are aware of these effects.

> I will proceed using Tom's figure of 161MHz in the calculation. // The
>problem is: how does the (161MHz) current divide in a paralleled 85nH Ls
>and a 100ohm Rs in the AL-80B?

Sorry Rich, wrong frequency. The AL80B I tested did not oscillate there.
It oscillated around 182 Mhz.

..... Using XL=2*Pi*f*L ohms, the
>reactance of the 85nH Ls = 86 ohms. Applying 1Vrms to the paralleled Rs
>and Ls, the current throuh Rs is 1 volt divided by 100 ohms=10mA,
>and the current through the Ls is 1 volt divided by 86 ohms=11.6mA.

That is for an inductior of infinite Q, and neglects stray coupling and capaciatance. The AROUND (remember I plainly indicated ~85 nH) 85 nH inductor, actually measures slightly higher than it calculates or measures in free air when it is installed over the resistor.

This calculation is a wasted exercise when dealing with "standard" components at VHF. The actual characteristics are different than the textbook perfect components, but I will allow the use of perfect components for arguements sake if you at least use the correct frequency.

> Tom Rauch said: "The coil's reactance increases with frequency, and at
>VHF most of the signal path is through the resistor. It is plainly evident
>that the dominant component at VHF is the resistor, not the coil."

To put my statement in the context given, one of describing the merits of your nichrome at VHF, let's calculate the Q (it measures 0.8 on my HP) at 180 MHz. Lets calculate the change in Q when nichrome is added. Tell me what gauge nichrome you use and the length, or mail me some, and I'll calculate or measure the 180 MHz Q.

>Tom: do you presently stand by this statement?

Absolutely. The dominant component controling Q is the resistor, not the ESR of the inductor. Adding nichrome makes little difference in VHF Q. If the parasitic suppressor I tested was replaced with a pure 100 ohms resistance (no distributed inductance or suppressor coil) the q would be zero.

Is a Q change from 0.8 (by actual measurement) to zero a large improvement?? What about if the suppressor Q was one? Is a change from one to zero a large change?

73, Tom

3646. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961205050300.AAA19780@ladder01.news.aol.com>
Source record: 100022

In article <measures-ya023180000412961119110001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>Rich measures the resonance with a dipmeter, by inductively-coupling the
>dipmeter to a grid pin on the tube socket and searching for the dip..

You have no idea if you are reading grid resonance, or a resonance effect
in the leads near the socket. The only thing that measures the impedance
of the grid to ground (the effective shielding or impedance of the grid)
is passing a signal from the anode to the cathode.

The impedance of the grid is much different than indicated by the view of
a single pin with a crude dip meter.

>> SB-220-type mica capacitor bypasses with one inch leads:
>> 129.81 MHz (-32.30 dB) parallel resonance
>> 161.62 MHz (-58.74 dB) series resonance
>snip...
>>
>> That looks like a major change to me Rich.
>
>I do not see a comparison.

This is typical, I gave both sets of data and you ignore it. Let me repeat
it.

No bypass and grids grounded directly:
105.94 MHz (-40.12 dB) parallel grid resonance
168.28 MHz (-82.39 dB) series grid resonance
439.48 MHz (-8.18 dB) parallel grid resonance
and from there almost a straight line to 1 GHz.

SB-220-type mica capacitor bypasses with one inch leads:
129.81 MHz (-32.30 dB) parallel resonance
161.62 MHz (-58.74 dB) series resonance
215.01 MHz (-13.17 dB) parallel resonance
385.46 MHz (-8.24 dB) parallel resonance
575.32 MHz (-30.35 dB) series resonance
611.43 MHz to 1 Ghz an upwardly tilted line to -3.05 dB.

Both the resonant frequency and transmission loss changes, and it moves in
undesirable directions. IN NO CASE does the grid isolation become better!

Perhaps that is also why, in the SB-220, inductance can safely be removed
from the parasitic suppressor when the grids are directly grounded through
short leads.

>I just checked the resonances in my unstock SB-220 which uses 1000pF
caps.
>to ground the grids. Directly-grounding the Amperex 3-400Z grids
increased
>the grid-resonant frequency from 72MHz to 77MHz. However, when I
>originally tried direct-grounding, the occasional bouts of tune capacitor
>arcing continued. This result was not surprising since dirctly-grounding
>the grids moved the grid resonance slightly closer the anode circuit's
>VHF-resonance.

You have no idea what the anode or grids resonant frequency is with your
GDO. It is the wrong device being used the wrong way.
.
>IMO, there is really no such thing as a 'direct-ground' at RF
frequencies.
>Even 6-inch wide copper ribbon has a finite amount of inductance per
unit
>length. At 100MHz, roughly 30 inches of such material looks like a
high-Z
>RFC.at the open end.

Perhaps you call Z< 100 ohms "high Z". The wider conductor has a lower
surge impedance, and a lower impedance when resonant. A thin conductor
would have high Z, but a six inch wide conductor would look like a low
impedance.

In any event, few designers use 30 inch #14 leads in tank circuits. If
they used a 30 inch six inch wide lead inside a cabinet, the impedance
would be *very* low at VHF.

You gave a very poor example, make the conductor with higher surge Zo and
it will be true.

73 Tom

3647. Re: Building a weather satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <585lhaqks1@news3.microserve.net>
Source record: 100023

In article <32A49EA7.63D3@team.icl.se>, tom.rehnstrom@team.icl.se
says...
>
>Hi all,
>
>Where can I find some information about building a weather satellite
>reciever (NOAA etc, 137.xx Mc)?
>
>Thanx.
>/Tom trum@lysator.liu.se
Tom, can't help on the receiver information. However, if you want
wesat pictures, it may be easier to copy the already processed
pictures on the hf bands. You should have good clear copy on signals
from canada and halifax nova scotia. Find these between 3 and 8.5
mhz with good copy in the early evening. You can find good display
software from dl5yec called HAMCOMM. It will display rtty,cw,fax and
sstv on a vga monitor. Many many more sources of software also.
Happy hunting. (I once owned a military wefax receiver that weighed
about 70 pounds. Still have it, but haven't used it in years. Found
that the hf pictures from Canadian Metoc and NOAA were far better!

3648. DXER.COM Ham Radio Resource Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: kb7ub@dxer.com
Message-ID: <32a66090.3675160@news.pacbell.net>
Source record: 100024

Stop by and check out - http://www.dxer.com
A new amateur radio website, with a on line BBS,
links to DX Clubs, Contest Clubs, On line Magazines,
Packet Clusters, 6 meter links, Maritime, Scanners,
Radio Mods, VHF/HF Packet Cluster and more.

DXER.COM offers unique e-mail and webspace for personal
pages and more..

CHECK IT OUT

"http://www.dxer.com"

3649. DXER.COM Ham Radio Resource Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: kb7ub@dxer.com
Message-ID: <32a660ad.3704315@news.pacbell.net>
Source record: 100025

Stop by and check out - http://www.dxer.com
A new amateur radio website, with a on line BBS,
links to DX Clubs, Contest Clubs, On line Magazines,
Packet Clusters, 6 meter links, Maritime, Scanners,
Radio Mods, VHF/HF Packet Cluster and more.

DXER.COM offers unique e-mail and webspace for personal
pages and more..

CHECK IT OUT

"http://www.dxer.com"

3650. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32A684E6.2A60@rcru.rl.ac.uk>
Source record: 100026

Gary Danaher wrote:
>
Snip
> >
> > Callsign?
> >
> > >Rob Long
> > >N7711 State Hwy 52
> > >Lily, Wi 54491
> >
> > >Email to :gamrunrr1@juno.com
>
> Regretably a check of the license data base fails to locate this
> individual, so I have to presume that he is unlicensed, and seeking
> information for an 11 meter amp. Suggest to all to ignore further
> requests for information.
> Gary
> ab5rm

How do you know he does not want to make a high power ISM
amplifier? E.g. for PVC welding, RF heating, EMC testing etc.
You don't do you? Never presume anything.

3651. Plans for dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Norm <norm@cqg.com>
Message-ID: <01bbe120$5a6fcca0$0a6975c7@g95norm.cqg.com>
Source record: 100027

Anyone have plans for a dummy load for up to 150 watts? Thanks
norm@cqg.com

3652. Plans for dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Norm <norm@cqg.com>
Message-ID: <01bbe120$8f1bfdc0$0a6975c7@g95norm.cqg.com>
Source record: 100028

Anyone have plans for a benchtop dummy load for up to 150 watts?
Thanks, norm@cqg.com

3653. Re: Touch lamp noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: n8blk@aol.com
Message-ID: <19961205131101.IAA26747@ladder01.news.aol.com>
Source record: 100029

In article <329FBD87.4FC4@calweb.com>, Bob Miller <bmiller@calweb.com>
writes:

> Had same experience. Best to dig large hole and bury with quick
lime.
>Tell XYL that house was robbed and then buy her nice conventional lamps.
>No hope with those nasty things without massive filters. But then hope
>springs eternal.

Actually, most of them include switches that are sufficiently rated to
turn the lamp on and off at full power. Deleting the touch circuitry, and
wiring up the lamp as a regular turn on/turn off lamp works quite well.
If you really want a quiet solution, and a two level lamp, i.e. full
brightness, and almost half, a diode (at least 400 PIV & 6 Amps for
surviving just normal usage) and a dual position switch work quite well.
Since most people don't want less than about half of full brightness, it's
a much better solution than playing with triacs and the like and doesn't
produce lots of RF noise.

I sometimes consider petitioning the FCC to ban such junk from the U.S.
market, because it interferes with working reliable rf gear without need,
but it's now pointless, people want their dimmers, and touch lamps
regardless of what people they consider faceless guv'mint buro crats say
should happen. -art clemons- n8blk/3

3654. Re: Making RF notch/ bandpass filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961205132001.IAA26814@ladder01.news.aol.com>
Source record: 100030

Hi Jack--

Seems like there are at least a couple of paths you could take, depending upon your application. If you are not transmitting through the filter, you could make up a 2-3 section LC bandpass configuration using Hi-Q caps (much like Tucker does with their intermod filter). This will introduce 5-6 dB loss in the passband, but rejection outside the passband can easily exceed 40 dB. As an alternative, if you are transmitting through the filter, you could make a very high Q "suckout" trap for 152 MHz. If the Q is high enough, loss at 146 MHz will be negligible while attenuation at the pager frequencies might be 20-30 dB. I would avoid inexpensive off-the-shelf filters made with cheap ceramic caps. From my experience (which isn't all that extensive), I've found that to get good results, you'll need low-loss high-Q components.

Rick K1BQT

3655. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.208.0022535B@azstarnet.com>
Source record: 100031

In article <32A662CC.29EF@TECLink.net> "Tom C. Brown, Jr." <tbrown@TECLink.net> writes:
>From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
>Subject: Re: Good source for amplifier tips
>Date: Wed, 04 Dec 1996 23:51:08 -0600

>Tom C. Brown, Jr. wrote:
[snip]

>Don't forget that Rich was not making exact, quantified measurements
>with the GDO. He was (1) finding resonances in the circuit *WITHOUT*
>attaching anything physically to the circuit and he was (2) able to
>compare the Q in a "before and after" situation by just looking at the
>response of the dip meter in each case. In other words, he was able to
>say that the Q was greater or less after swapping the suppressors. If
>*you* are unable to make such judgements with a GDO, then I guess you
>really wouldn't have much use for one.....

Please! I'm sure Rich's attempts at determining circuit parameters are
well-meaning, and a GDO has its place, but... This ain't one of them.

>In one case, he saw that the Q at one particular VHF resonant point was
>visibly and substantially less after doing NOTHING but replacing the
>suppressor.

This may be true, but it's not proved with a GDO measurement.

[snip]

>Of course, you maintain that "the whole staff" at Eimac agrees with you,
>but you have only identified *one* person at Eimac so far. Surely we
>can all agree that one person does not make up "the whole staff".

>Oh, and I asked before.....what is Mr. Brandon's official title at
>Eimac?

Spurious arguments. Wy bother?

>Jumping back, for a second.....

>Did you make the analysis with your HP network analyzer *without*
>hooking *anything* physically to the circuit under test? If not, then
>the data you collected concerning the resonant points is suspect.
>Anytime you connect something conductive (like a probe) to a circuit and
>start measuring resonant frequencies up in the range where "stray
>reactances" can be a significant part of the whole picture, the results
>may indeed be affected (possibly substantially) by the very connection
>of the probe. I have seen this before, and believe me, it *is* a
>concern.

Clearly, you have no concept of modern network measurement techniques and I'm not about to give you a free lesson. I recently retired after 30 years with a major aerospace firm where I was engaged for most of that time in making r-f and microwave measurements and doing failure analysis on everything from components to all-up missiles.

I can assure you, that we "hooked something" to every damn one of these devices in order to characterize it electrically. Tom has provided data in the form of |S21|, ie, the magnitude of the forward transmission component. In layman's terms, this is the "gain" of the device, expressed in dB, vs. frequency. Viewed graphically, you would (he did) see the peaks and nulls of transmission through the tube.

A series resonant grid will be a low Z impedance to ground and express a minimum "gain" (high loss) through the path from cathode to plate. Conversely, a parallel resonant situation will do the opposite.

I'm not hereby either arguing for or against anybody's opinions on suppresser performance, indeed I'm formulating my own, but I will certainly defend Tom's measurement technique against your criticism

>Now, if you *did* make all your measurements with no physical connection
>to the circuit, and without overcoupling anything in any way to the
>circuit, then please disregard the above. Just a thought......

>73, Tom KJ5IE

Wes N7WS

3656. Wanted a TWTA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: femenia@power.ci.uv.es
Message-ID: <586ijn$qe3@power.ci.uv.es>
Source record: 100032
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hi

I'm looking for a Traveling Wave Tube Amplifier for microwaves
from surplus, with his power suply.
I need about 20 watts on 10 GHz band.

All information will be welcome.

Thanks

Jose Miguel

--
Jose Miguel Femenia Herrero EA5DFV | E-Mail: Jose.M.Femenia@uv.es
Servei d'Informatica |
Universitat de Valencia | http://www.uv.es/~femenia
46100 Burjassot (Valencia) SPAIN |

3657. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32A701B7.3EAB@mail.teclink.net>
Source record: 100033

w8jitom@aol.com wrote:
>
> hi Rich,
>
> I've been trying to answer your questions, even though you seem to avoid
> the ones I ask.
>

You mean like the way you have avoided questions like (1) Who is Mr. XXX at Eimac? and (2) Who are all those folks at Eimac who agree with you on the parasitics issue?

I know you are sick of hearing those questions asked, Tom, but don't forget, YOU brought both issues up in this thread. I didn't. Rich didn't. We just asked for real information once YOU brought it all up. And as soon as we asked for real, verifiable information, you dropped the subject and have pleaded with us to do the same.

Actually, in my opinion, your (1) inability (or flat refusal) to answer either question, and (2) your intense desire to drop both subjects *IS* an answer to both questions. Quite a revealing answer, I would say.

73, Tom KJ5IE

3658. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000512960920300001@news.vcnet.com>
Source record: 100034

In article <19961205050300.AAA19779@ladder01.news.aol.com>, w8jitom@aol.com
wrote:

> In article <measures-ya023180000412960711490001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
snip...
> therefore, Mr. Rauch's
> >statement (that the resonance moves up in frequency when the tune
> capacitor
> >is meshed) sounds backwards......
>
> You only think that because you have no idea what the plate tuning
> capacitor looks like, impedance wise, at frequencies above 150 MHz. I
> expect that, since you do not have access to more elaborate test
> equipment.
>
Dipmeters find resonances, Mr. Rauch.

...snip...

> .... Using XL=2*Pi*f*L ohms, the
> >reactance of the 85nH Ls = 86 ohms. Applying 1Vrms to the paralleled Rs
> >and Ls, the current throuh Rs is 1 volt divided by 100 ohms=10mA,
> >and the current through the Ls is 1 volt divided by 86 ohms=11.6mA.

Oops. It looks like Mr. Rauch's statement that insignificant current flows
in Ls is in deep feces---so here it comes........

> That is for an inductior of infinite Q, and neglects stray coupling and
> capaciatance. The AROUND (remember I plainly indicated ~85 nH) 85 nH
> inductor, actually......snip.....
> This calculation is a wasted exercise.........
....snip,,,,,,,,,,,on and on. ....Cough, cough. Bzzzzzzzzzzt At this
rate my smoke detector is going to need a new battery by December.

Mr. Rauch proposed that I calculate the currents for an Ls of 85nH, a
parallel Rs of 100 ohms, at a frequency of 161MHz. I complied. Now it
seems that the apparently correct answers are NOT correct.
---
e-mail copies to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3659. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec5.173149.27195@ke4zv.atl.ga.us>
Source record: 100035

In article <19961204154500.KAA02294@ladder01.news.aol.com> w8jitom@aol.com writes:
>Hi Gary,
>In article <1996Dec3.191854.17375@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
>(Gary Coffman) writes:
>
>>Zero is pretty strong. It is very hard to prove a negative. How can you
>>ever be sure you've tested all *possible* conditions?
>
>That's why I go over voltage on the PA, and vary the bias durning the
>test. That's why I have a stepped relay switched line section for rotating
>phase and impedance in the load.

Yeah, but what happens if the critical phase is between the steps?

>>>In over 20 years of commercial PA design and 34 years of amateur PA
>design
>>>and construction I have never found a PA that "oscillates" in the field
>>>through a defect or fault rooted in the PA that can not be made to
>>>oscillate in a test situation.
>>>
>>>That's not a guess, it's a fact.
>>
>>Then I guess you're better than the boys from RCA and Harris, because
>>we've had oscillations in the field that they couldn't duplicate back
>>at the factory, and they had to send field engineers out to find and
>>fix the problems on site.
>
>I have no control over other's test methods, so I can't speak for or
>against any of your claims.
>
>It is a fact that any oscillation occuring in the field can be duplicated
>in the lab, unless the source of oscillation is RF ingress into a low
>level stage that is not part of the lab tested system.

In *theory* that's correct. But in practice you never test every
possible condition a priori. That's what happened to RCA with the
TT50H. When fed to our 1954 vintage RCA filterplexer, and driven
with a certain page of our Vidifont character generator which had
energy at certain seldom used frequencies in the video passband,
the thing would break into a parasitic oscillation which ate the
screen grid of the 8916. The fix was a paddle in the cavity which
broke up that particular resonance mode.

We would have written it off to random premature tube failure if
we hadn't noticed that it only happened when we used that particular

graphic. (It didn't always happen then, the phasing with the other PA had to be just right too, and that varied with filterplexer temperature.) That drove one PA into a negative resistance region of the screen, and allowed it to respond to that particular drive by breaking into oscillation.

Our current Harris Gold line also had an oddity which didn't show up in factory testing. In the middle of the night, it would exciter fault for no apparent reason, indicating high exciter VSWR. We finally tracked it down to a momentary brownout on a *single* phase of the 480 3 phase powering the solid state PAs. Because of the way the multiple solid state PAs are powered and combined, that made the exciter see a high impedance load and fault. It only happened in the middle of the night because that's when Ga Power was doing a particular load reconfiguration at the substation. It wasn't an oscillation, but it was a fault that Harris didn't find in factory testing. (They reconfigured the PA combiners so that a momentary single phase brownout wouldn't do that anymore.)

The point is that test as you will a priori, you can never be sure you've covered every possible condition that may arise in the field. So to claim that there is *zero* chance of a parasitic or other fault in the field is hubris.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3660. Re: Excellent PC Board Software for Windows

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961205193600.OAA04333@ladder01.news.aol.com>
Source record: 100036

HI Steve

Does this software provide for image reversal to make negatives?

I tried it when it first came out. It was so slow
I didn't get into it very far.

Carl

3661. Re: Plans for dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-05 00:00:00 UTC
From: Monty Wilson <nospam@see.signature.part>
Message-ID: <E1yKMp.418@twisto.eng.hou.compaq.com>
Source record: 100037

>Anyone have plans for a dummy load for up to 150 watts?

You'll need a 1-qt glass pickle jar, empty and washed, with a metal lid. You'll need a quart of baby oil, a chassis-mount SO-239 connector and 36 each 47-ohm 2w resistors.

You will make six chains, each one containing six resistors in series, then solder the chains in parallel and connect them to the SO-239 connector. You will need to make a hole in the lid, and remove the plastic and paint around the hole to install the connector. Shorten the leads of 4 resistors and only one lead of 2 additional resistors in order to make a six-resistor chain about twice as long as the height of the jar. Solder the chain together and after it's cooled bend it around in a loop and put it in the jar to see how it will fit. When you're satisfied with the lead lengths, make five more like it. Solder the chains together in parallel so only one lead is on each end, and solder these two leads across the SO-239.

Make sure the jar is absolutely dry.

Now the assembly is hanging from the lid. Insert the whole works carefully into the jar, to make sure it fits and nothing touches together that shouldn't. It's OK if leads in one point of a chain touch leads in the same point of a different chain because they're at the same voltage. An ohm-meter can verify the resistance to be 47 ohms. Technically we should be using 52 ohm resistors but 47 ohm resistors are much easier to find and close enough for most purposes.

Now pull the assembly out of the jar and if you want this to be leak-proof, take this opportunity to seal around the SO-239 connector with caulk or RTV. Pour bottles of baby oil into the jar, but allow enough space for the resistor chains to be put back into the jar. You might want to finish filling the jar after inserting the resistors back into the jar, holding the jar lid open while pouring in the last of the oil. It's not important to fill the jar completely, only to fill it up enough to cover all the resistors in oil.

The dry dissipation of each resistor is rated to be 2w, so immersed in mineral oil (baby oil) the whole works should be able to dissipate 288 watts. My rig is barefoot so I made a dummy load from five strings of five resistors each rather than six by six.

I never sealed mine around the connector, just screwed the lid
on tightly and tried to keep it upright at all times. So
far it's worked out OK.

73
....Monty N5NVM.
mwilson @ flex.net (with spaces deleted)

3662. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.216.008D34CD@azstarnet.com>
Source record: 99889

In article <32A86A6F.32B2@mail.teclink.net> "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:
>From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
>Subject: Re: Good source for amplifier tips
>Date: Fri, 06 Dec 1996 12:48:15 -0600

>Wes Stewart wrote:
>>
>> In article <32A662CC.29EF@TECLink.net> "Tom C. Brown, Jr."
><tbrown@TECLink.net> writes:
>> >From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
>> >Subject: Re: Good source for amplifier tips
>> >Date: Wed, 04 Dec 1996 23:51:08 -0600
>>
>> >Tom C. Brown, Jr. wrote:
>> [snip]
>>
>> >Don't forget that Rich was not making exact, quantified measurements
>> >with the GDO. He was (1) finding resonances in the circuit *WITHOUT*
>> >attaching anything physically to the circuit and he was (2) able to
>> >compare the Q in a "before and after" situation by just looking at the
>> >response of the dip meter in each case. In other words, he was able to
>> >say that the Q was greater or less after swapping the suppressors. If
>> >*you* are unable to make such judgements with a GDO, then I guess you
>> >really wouldn't have much use for one.....

Actually, I have two Millens and one RF Measurements Corporation GDO, but I don't use them for Q measurements.

>>
>> Please! I'm sure Rich's attempts at determining circuit parameters are
>> well-meaning, and a GDO has its place, but... This ain't one of them.

>I disagree, Wes. Finding resonances and potential frequencies of
>oscillation are applications where a GDO excels. It did years ago, and
>it still does. If Rich's GDO is not indicating the resonant frequencies
>in the circuit, then please tell us what it IS indicating?

>If the circuit is NOT most likely to oscillate at one of its resonant
>points, then please tell us where it WOULD be most likely to oscillate.
>And please include an explanation of just why the circuit would be more
>liable to oscillate at some place where it is not resonant. You're
>contradicting some pretty well known facts and principles there, Wes.

No, I'm not contradicting any well-known "facts".

The requirements for sustained oscillation are that A*B=1

where A is the amplification factor and

B is the transfer characteristic of the frequency-selective network,

which results in the requirement that the product of A*B must have a magnitude of 1 and a phase angle of 0 degrees.
(REF: Electronic's Designers' Handbook, 2nd edition, edited by L. J. Giacoletto, p 16-13.)

NOTE: there is NO requirement that anything be resonant! For example, a phase shift oscillator can be made with an inverting amplifier and three or more cascaded RC networks which provide an additional 180 degrees of phase shift. Please try to find the resonant frequency of this circuit with your GDO.

Even most crystal oscillators do not operate at the EXACT crystal resonance. Instead, due to non-ideal phase shifts in the active device, the frequency of oscillation shifts slightly to a point where the phase shift through the crystal and associated components makes up for the non-ideal device. BTW, most hams believe that crystals operate at either their minimum (series mode) or maximum (anti-resonance) impedance. As the foregoing states, this is not necessarily the case. A crystal oscillator is stable because of the crystal's very steep phase vs frequency slope, not its point of minimum loss. But, I digress....

Learning that there is a spurious resonance some place DOES NOT mean that this is a point of instability. If the loop gain is low enough, the system does not oscillate. Period. Conversely, it the feedback phase shift is correct (or incorrect in this case) and the loop gain is greater than one, we have oscillation.

>>
>> >In one case, he saw that the Q at one particular VHF resonant point was
>> >visibly and substantially less after doing NOTHING but replacing the
>> >suppressor.
>>
>> This may be true, but it's not proved with a GDO measurement.

>Why not? If the GDO's dip was deep and narrow before replacing the
>suppressors, and it is broad and shallow after replacing the
>suppressors, then exactly what information do you have that makes you
>feel that the GDO is lying to us? I just don't see where you are coming
>from on that one, Wes.
>>
>> [snip]
>>
>> >Of course, you maintain that "the whole staff" at Eimac agrees with you,
>> >but you have only identified *one* person at Eimac so far. Surely we
>> >can all agree that one person does not make up "the whole staff".
>>
>> >Oh, and I asked before.....what is Mr. Brandon's official title at
>> >Eimac?
>>

>> Spurious arguments. Wy bother?

>*NOT* spurious arguments. Not by a long shot. And the reason "to
>bother" is that Mr. Brandon has been one of Rich's critics, and Tom
>seems to put a lot more stock in Mr. Brandon's opinion than he does in
>Mr. Foote's letter stating his opinion. We know Mr. Foote's title,
>which is the only real indication of his credentials we have. However,
>we do not know Mr. Brandon's official title. Therefore we currently
>have no information about his qualifications to say that Mr. Foote is
>all wet, beyond the fact that he works at Eimac. Well, so did Mr.
>Foote. Therefore, logically, we have no reason whatsoever to think Mr.
>Brandon knows more about what he is talking about than Mr. Foote did.
>Unless, of course, we knew just what Mr. Brandon's lot at Eimac is.
>Which is why I asked the question.
>>
>[Snip]
>>
>> Clearly, you have no concept of modern network measurement techniques and I'm
>> not about to give you a free lesson.

It appears that you're going to suck me into one.

>You are starting to sound more and more like Tom. When you start
>telling other folks what they do and don't have an understanding of, you
>are (to borrow a phrase from Paul Harvey) telling us more than you
>know. Not usually a wise practice.

>> I recently retired after 30 years with a
>> major aerospace firm where I was engaged for most of that time in making r-f
>> and microwave measurements and doing failure analysis on everything
>> from components to all-up missiles.
>>
>> I can assure you, that we "hooked something" to every damn one of these
>> devices in order to characterize it electrically. Tom has provided data in the
>> form of |S21|, ie, the magnitude of the forward transmission component. In
>> layman's terms, this is the "gain" of the device, expressed in dB, vs.
>> frequency. Viewed graphically, you would (he did) see the peaks and nulls of
>> transmission through the tube.

>Wes, you have taken my comment that was specifically focused on *this*
>case (assessing the resonant frequency and relative Q of the PA cicuits)
>and applied it to test and measurement in general. That is not what I
>said or what I meant. The fact is that there are some cases with some
>circuits where attaching virtually anything conductive to the circuit
>will compromise the measurements.

OH? Tom R posted data from a "specific case" which you challenged and I
defended, both specifically and generally. Indeed, EVERY measurement perturbs
the device under test to some degree, even your GDO. The beauty of modern
network analyzers is that the pertubation is quantifiable. For instance, I
can and have measured transistors that have an input reflection coefficient
greater than one. This means that if you were talking about reflected power,

more is coming out than you are putting in, or expressed another way, the resistive component is negative.

In my measurement circuit, the device is stable, not oscillating, and therefore, I have highly "peturbed" it with the measurement system. This does not mean, however, that I can't predict how it will perform in another circuit. In fact, with the known data, I can compute how prone to oscillation an amplifier might be which used this device. Will your GDO predict this?

>In my opinion, a GDO with no physical connnection, and with care not to
>over couple the GDO into the circuit, is one of the least invasive ways
>to measure the resonant frequency of the circuit IN THIS CASE.

>What kind of network analyzer would be less invasive than that? You are
>the expert on modern network analysis (you told me so). Please
>enlighten us.
>>
>[snip]

>Would the analyzer that Tom used present an infinite impedance to the
>circuit under test AT THE POINT OF CONNECTION?

Of course not. Nothing has an infinite impedance. As I stated above, the "invasiveness" can be accounted for.

>If yes, then I have no problem with his measurment technique. If not,
>then his network analyzer IS affecting the data. If you don't know,
>then you are (again) telling us more than you know. (still not a wise
>practice)

No again. The network analyzer is affecting the circuit but it is not affecting the data. The data are corrected for the effects of the measurement system.

>>
>> >Now, if you *did* make all your measurements with no physical connection
>> >to the circuit, and without overcoupling anything in any way to the
>> >circuit, then please disregard the above. Just a thought......
>>
>> >73, Tom KJ5IE
>>
>> Wes N7WS

>Tom KJ5IE

N7WS

3663. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: ke9pq@netnet.net
Message-ID: <58avkd$jth@laslo.netnet.net>
Source record: 99890

All prices are plus shipping

Mark Olson "KE9PQ" 1490 Norfield Rd.
Suamico,Wi. 54173
Call (414) 434-8097 after 6:00pm central time.
Email ke9pq@netnet.net Thanks and 73 Mark
NOTE: All items listed are guaranteed to be
as described or your money back.

3664. soldering home brew boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "K.R.Burtchaell" <kburt@telis.org>
Message-ID: <32A8E359.69CE@telis.org>
Source record: 99891

I am looking for suggestion s on soldering homebrew pcbs.Usually just a couple of ICs chip caps and resistors.Is solder paste the way to go?If so how to solder?Heat gn or reflow?Looking for suggestions that are easily done in the homeworkshop. 73 Ken W6GHV

3665. Cu-Seeme Video conferencing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: wa4twa@versoft.com
Message-ID: <32a84a91.12306269@nntp.cntfl.com>
Source record: 99892

Does anyone know of anyone using Video Conferencing on computer/internet in conjunction with amateur redio? I have been in contact with hundreds of people from around the world on Cu-Seeme and have run into only one ham. Is there a freq. HF or VHF where hams may hang out that use both modes..computer and radio. I believe this would be a natural progression from Slow Scan. We now can SEE the people we are in QSO with.

If you are interested in setting up a sched. and have Video COnferencing capabilities or are just interested drop me an e-mail,

73's
Charlie

wa4twa@versoft.com

3666. Re: Need: Address for Hi-Q Capacitor Co.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: mgkepner@facstaff.wisc.edu
Message-ID: <587p9f$1e32@news.doit.wisc.edu>
Source record: 99950

philk5pc@connect.net (Phil Clements) wrote:

>Does someone have the address or tel. # for Hi-Q?
>I need the data on one of their caps.

Weren't the Hi-Q caps made by Sprague?

Jim

Melissa Kepner Jim Adney
mgkepner@facstaff.wisc.edu jim.adney@mpcug.com
Laura Kepner-Adney
Madison, Wisconsin

3667. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961206014000.UAA11101@ladder01.news.aol.com>
Source record: 99951

Hi Wes,

Without drawings it's pretty difficult to explain how to measure a PA. But factually, even if someone "see's a real sharp dip", it means nothing at all in operation of the PA. It certainly does not indicate the likelihood of oscillation.

The whole exercise is just another way to support claims that aren't true.

In article <n7ws.208.0022535B@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) writes:

Tom Brown:
>>Of course, you maintain that "the whole staff" at Eimac agrees with you,
>>but you have only identified *one* person at Eimac so far. Surely we
>>can all agree that one person does not make up "the whole staff".
>>Oh, and I asked before.....what is Mr. Brandon's official title at
>>Eimac?
>
>Spurious arguments. Wy bother?

Let me say why we should bother Wes. Rich's intentions may be good, but he is absolutely giving false information about how a tube operates, and how it fails. He has taken a situation that was found in one UHF high power triode, and applied it to other tube types. His descriptions of failures and the reasons for failures is absolutely incorrect.

The delemma is this, in order to prevent engineers from wasting time with unimportant calls, or an employee from providing incorrect information, most companies have a screening process. Engineers channel information through one person, and that person disperses the information to a customer service enginner or technician. At Varian (now CPI), the person in contact with customers is Reid Brandon. The actual engineers are only available to other engineers who have very specific technical questions about a tube, or operation of a tube.

Rich refuses to consider Reid Brandon a good source, even though he is the interface between engineering and the customer base. I did offer to let any two people call a design engineer that is director of a group of tube design engineers, a person who was head of Varian's Power Grid tube R and D group. I also offered John Button, presently a manager at Varian, as additional confirmation.

The reason for this is Rich has made some claims that, ludicrious as they are, can cause people to ruin expensive tubes. These claims also causes people toi falsely believe that parasitics are a major source of PA and PA tube damage, and divert people from finding or understanding the real

causes and cures of problems. This hurts technology, and costs people time and money. It can even cost lives.

W2GO was killed installing an "improvement kit" in a Ten Tec Titan. Al had repeated 3CX800 failures, probably do to the fact Ten Tec did NOT use an electronic overload grifd protection system in that PA. Had Al been given accurate information, his repetitious tube failures might have been cured and he might still be alive. Of course, he might have been killed adding a grid protection circuit also, but at least he would have been doing something to actually cure the problem.

I think it is important to get accurate information out, because there is no reason to put people in harm's way doing needless modifications. Especially when some of the modifications can actually reduce the life of expensive tubes.

Rich claims he is Varian's messanger. Yet all of the people I deal with on a regular basis think Rich's theories are the worst thing that has happened to PA technology to date. Buzz Miklos, a tube design engineer in charge of a staff of 15 design engineers, has offered to donate his time to explaining how a tube fails, and where the parasitic story came from. But he can not do it on the net.

Apparently no one is interested in the truth, since it is not as exciting or sinister as some tall stories are.

Tom B wrote:
>>Did you make the analysis with your HP network analyzer *without*
>>hooking *anything* physically to the circuit under test? If not, then
>>the data you collected concerning the resonant points is suspect.

Tom, the data is not suspect at all. It is the only accurate way to measure the grid's role in shielding. The primary error it is subject to is the tube being cold. This is the one of the very same tests Eimac uses to measure the RF characteristics of tubes.

The beauty of a network analyzer is the anode and cathode can be loaded with the same impedances presented during operation, and the various parameters displayed accurately. The instrument measures Q and other parameters with an accuracy of a fraction of a percent, and loads the circuit with as much loading as desired, from a few ohms to hundreds of thousands of ohms.

It even can allows placement of dc bias voltages and currents on the components while testing. A grid dip meter is the poorest method available to test any of the parameters Rich was claiming to measure, that fact is indisputable.

>>Anytime you connect something conductive (like a probe) to a circuit and
>>start measuring resonant frequencies up in the range where "stray
>>reactances" can be a significant part of the whole picture, the results
>>may indeed be affected (possibly substantially) by the very connection
>>of the probe. I have seen this before, and believe me, it *is* a

>>concern.
>
>Clearly, you have no concept of modern network measurement techniques and I'm
>not about to give you a free lesson. I recently retired after 30 years with a
>major aerospace firm where I was engaged for most of that time in making r-f
>and microwave measurements and doing failure analysis on everything
>from components to all-up missiles.
>
>I can assure you, that we "hooked something" to every damn one of these
>devices in order to characterize it electrically. Tom has provided data in
>the form of |S21|, ie, the magnitude of the forward transmission component. In
>layman's terms, this is the "gain" of the device, expressed in dB, vs.
>frequency. Viewed graphically, you would (he did) see the peaks and nulls of
>transmission through the tube.
>
>A series resonant grid will be a low Z impedance to ground and express a
>minimum "gain" (high loss) through the path from cathode to plate.
>Conversely, a parallel resonant situation will do the opposite.

Exactly. As I've said all along, with a GDO we have no idea what the systems impedance or Q is. The user has no idea if the dip indicates a point of enhanced stability, or reduced stability. There is no indication of impedance or Q. A GDO is one small step above a battery and buzzer.

Rich avoids technical questions about Q. Very plainly the conventional parasitic suppressor examples he gave have a Q of about one. Adding nichrome only reduces the Q a few percent, yet Richard claims it cures all oscillation problems. While he accuses me of making smoke, he sidesteps the issue that the parasitic oscillation is at 180 Mhz in the PA I tested.

It's tough to resove something when one of the major players responds to facts with accusations.

73 Tom

3668. Re: NorCal Cascade - Where to Buy?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: pchow@cisco.com
Message-ID: <587tdl$3k1@cronkite.cisco.com>
Source record: 99952

Post something on the QRP-L. I remembered there is a gentleman I met during
last NorCal meeting told me that he wants to sell his unbuild kit. Good luck.

73,
KQ6JH

Doug Faunt N6TQS +1-510-655-8604 (faunt@netcom18.netcom.com) wrote:
: Err, Wilderness doesn't do the Cascade, just the Sierra and -40A. If
: you're looking for a SSB rig, the new White Mountain rig from NN1G
: looks very nice, although it's 75M or 20M only, no band changing.
: Very solid case, built in CW frequency "display", $100. for the board
: w/ parts, $60 more for case and case mounted parts.

: The Cascades are all sold out from NorCal.
: 73, doug

: From: john_marshall@nt.com (John Marshall)
: Newsgroups: rec.radio.amateur.homebrew
: Date: 2 Dec 1996 17:53:52 GMT

: In article <329FBDA8.35B6@sover.net>, lblades@sover.net wrote:

: > Can anyone tell me where one can buy the NorCal Cascade
: > QRP kit - and for how much? I can't seem to find a listing
: > anywhere.

: Wilderness Radio
: P.O. Box 734
: Los Altos, CA 94023-0734
: (415) 494-3806
: <http://www.fix.net/jparker/wild.html>

3669. Ribbon cable stripping

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: dsp@io.com
Message-ID: <587v38$3e9@nntp-2.io.com>
Source record: 99953

I am looking for a low cost approach to stripping 14 conductor ribbon cable (0,050: spacing). I need some kind of tool to strip about 0.1" off one end of the cable. A company named Paladin/Weidmueller made one once upon a time but can't get it in the U.S. anymore. Does anyone have such a tool for sale ? Are there some homebrew versions that anyone knows of ? Any help in this regard is appreciated.

TIA

3670. FS: new Eimac 8877 (post for K6ZZ)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbe326$c9f59d40$4f229bcf@kn6dv.qnet.com>
Source record: 99954

I have a couple of new Eimac 8877's for sale. Date code on box is 6/92.
Asking $400 each. If interested, drop me an E-Mail at w9nq@ccis.com or
call
me at (619) 373-2204 eves or (805) 275-4106 days (pacific time). Thanks es
73.

Bob, K6ZZ (ex W9NQ)

--
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

3671. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbe327$73e77940$4f229bcf@kn6dv.qnet.com>
Source record: 99955

I have made a change on my web page about the "Good source for amplifier tips" some body gave me a tip to ad the date's to the archive(Thanks Rich).
This makes it easier to lookup something by date.

Please let me know if there is any other web page with amplifier related item's so I can make a link to there also.
Thanks 73 Will, KN6DV

--
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3672. SbFFT1.2 SB16 spectrum & filtering - BETTER GRAPHICS SUPPORT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: kevinm@eden.com
Message-ID: <5884t7$1s5$4@boris.eden.com>
Source record: 99956

I have uploaded to Simtel.Net:

http://www.simtel.net/pub/simtelnet/msdos/hamradio/sbfft12.zip
ftp://ftp.simtel.net/pub/simtelnet/msdos/hamradio/sbfft12.zip 1558410 bytes

sbfft12.zip Sound Blaster spectral display & filtering

Features:
* Sound Blaster 16 (or 100% compatible) input and output.
* Band widths of 2K, 4K, 8K or 16K Hz.
* Spectral resolutions of 1 Hz to 16 Hz per pixel.
* Display of power spectral density with any of 4 color maps in either
linear or logarithmic scale.
* Define and use up to six filters simultaneously -- band pass, band
stop, low pass, and high pass. Filters have 25 Hz skirts at 3 to 50
dB points.
* Filters are defined graphically by mouse movement based upon the
displayed spectrum. Once you see a signal, you can quickly define a
pass or stop filter around the signal by clicking and dragging the
mouse.
* Net filter passband is displayed at all times.
* Filters can be selectively enabled and disabled by a single keystroke
or mouse click.

Special requirements: DOS 3.0 or higher, SB16 or 100% compatible, SVGA,
VESA 640x480 & 1024x768, mouse, 486/66 or higher to display spectra,
Pentium 120 or higher to filter.

Changes: Differences from version 1.1:
* Compatible with many more graphics cards.
* Full screen mouse support with faster response at high resolutions.
* Mouse click to enable/disable and delete filters.
* Defaults are assumed for the Blaster environment variable.
* Support for PCX graphics files instead of TIFF.

Freeware. Uploaded by the author.

Kevin McWilliams, KW5Q, Applied Mathematician
kevinm@eden.com

$$e^{-\frac12 K^2} \frac d{dK} e^{\frac12 K^2}e^{\sqrt{in}}$$
Kevin McWilliams
KW5Q
Applied Mathematician

3673. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: mbv@flash.net
Message-ID: <588783kjd1@excalibur.flash.net>
Source record: 99957
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Please go away.

3674. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: mbv@flash.net
Message-ID: <5887bakjd2@excalibur.flash.net>
Source record: 99958
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

Go away nuts.

3675. VHF Slugs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: jsm@deepcove.com
Message-ID: <32a7a365.10485566@news.van.hookup.net>
Source record: 99959

Does anyone know of a source for miniature vhf ferrite slugs? I have
ben stripping them from old vcrs'and TVs' for making slug-tuned coils.
I would like to bulk purchase some if anybody can help.

Steve / VE7SL

3676. Re: Ribbon cable stripping

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "Robert A. Recny" <rrecny@neo.lrun.com>
Message-ID: <01bbe32f$a0288a00$4dc7d2cc@n8sqt.neo.lrun.com>
Source record: 99960

Check out T&B Ansley. I believe Pioneer Standard carries that line..and
maybe Allied as well.

William A. Gordon <dsp@io.com> wrote in article
<587v38$3e9@nntp-2.io.com>...
> I am looking for a low cost approach to stripping 14 conductor ribbon
cable
> (0,050: spacing). I need some kind of tool to strip about 0.1" off one
> end of the cable. A company named Paladin/Weidmueller made one once upon
a time
> but can't get it in the U.S. anymore. Does anyone have such a tool for
sale ?
> Are there some homebrew versions that anyone knows of ? Any help in this
regard
> is appreciated.
>
> TIA
>

3677. ForSale: Kwd TS450SAT, Astron RS-20A P/S, Timewave DSP-59+, Multibd invtd-V/telescpg-mast/coax Ant.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: gvs@netcom.com
Message-ID: <32a8c69f.77239489@192.0.2.3>
Source record: 99961

Sale In Silicon Valley Area:

For Sale:(All equipment almost new, asking $1500
for all, but will sell individually). Hate to
sale HF ham shack, but between jobs :-{

*Kenwood TS450SAT: ($1100)
(Including addition accessories installed)
-High Stability Osc.,TCXO UNIT,Model SO-2
-SSB narrow filter, YK88SN-1, 1.8kHz

*Astron RS-20A Power Supply ($75)
(perfect match for TS450SAT)

*Timewave DSP-59+ ($200)

*Multi-band Inv-V/Dipole Ant. System ($250)
-Alpha Delta DX-CC, a no trap 10 thru 80
meter, Dipole Antenna
-37 foot Telescoping Mast, material is
schedule 80 PVC Tubing, in 4 sections,
with O.D's: 3.50", 2.75", 2.25", and 1.75".
Complete with all clamps, eye-bolt
(guy points), hardware and marine nylon
rope. More durable than Steel Masts in
a wind storm when guyed properly. Also,
much better ground isolation.
-100 feet of RG-213/U coax.
-Bencher YA-1 Low Pass Filter, 50/52 ohm

3678. Re: Anybody Know of a HomePage for Avontek ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: carl@ais.net
Message-ID: <588ie8$3h1@news2.ais.net>
Source record: 99962

In <582dvn$oj6@buffnet2.buffnet.net>, daveb@buffnet.net (daveb@buffnet.net) writes:
>Like to get info on some ot their GaAsFETs.
>
>Any Ideas ??
>
>Thanks
>
> -- db --
>

Avantek was bought by HP some time ago ... I think HP absorbed some of
the line ... the remainder was sold off ... to Penstock, I believe.

Try www.penstock.avnet.com or something similar ...

Carl - wa6vse
carl@ais.net

3679. need info or design on two channel telemetry system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: Richard Friedrich <dakota@ccwf.cc.utexas.edu>
Message-ID: <32A7D47A.7FB3@ccwf.cc.utexas.edu>
Source record: 99963

I need a two channel telemetry system. The system needs to update itself
1 to 10 times per second. power out put is 50 to 100mw. 49 mhz is OK.
0 to 5v input.

any ideas out there?

thanks

richard wd5hrp

3680. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961206131300.IAA19950@ladder01.news.aol.com>
Source record: 99964

Hi Gary,
In article <1996Dec5.173149.27195@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>Yeah, but what happens if the critical phase is between the steps?

The chance of a stage being hyper-sensitive to small phase steps is pretty remote Gary. I'm sure you know that. Plus the voltage (and hence gain) is increased.

>>It is a fact that any oscillation occuring in the field can be duplicated
>>in the lab, unless the source of oscillation is RF ingress into a low
>>level stage that is not part of the lab tested system.
>
>In *theory* that's correct. But in practice you never test every
>possible condition a priori. That's what happened to RCA with the
>TT50H. When fed to our 1954 vintage RCA filterplexer, and driven
>with a certain page of our Vidifont character generator which had
>energy at certain seldom used frequencies in the video passband,
>the thing would break into a parasitic oscillation which ate the
>screen grid of the 8916. The fix was a paddle in the cavity which
>broke up that particular resonance mode.

Sure, and and a good engineer would investigate the cause of the instability, because if it happed to you it surely could happen again.

>We would have written it off to random premature tube failure if
>we hadn't noticed that it only happened when we used that particular
>graphic. (It didn't always happen then, the phasing with the other
>PA had to be just right too, and that varied with filterplexer
>temperature.) That drove one PA into a negative resistance region
>of the screen, and allowed it to respond to that particular drive
>by breaking into oscillation.

This is a much more complex system than a conventional PA. Cavity loads and especially parallel PA's are a problem I would never attempt to make a blanket stability claim about. I ceratinly agree with you now that I understand the system, because I have had similar experiences with combined transmitters operating into high Q selective filters. A system like that is a stability nightmare. I am working on a combined system of UHF FET PA's now that is very unstable.

>Our current Harris Gold line also had an oddity which didn't show
>up in factory testing. In the middle of the night, it would exciter
>fault for no apparent reason, indicating high exciter VSWR. We finally

>tracked it down to a momentary brownout on a *single* phase of the 480
>3 phase powering the solid state PAs. Because of the way the multiple
>solid state PAs are powered and combined, that made the exciter see a
>high impedance load and fault. It only happened in the middle of the
>night because that's when Ga Power was doing a particular load
>reconfiguration at the substation. It wasn't an oscillation, but
>it was a fault that Harris didn't find in factory testing. (They
>reconfigured the PA combiners so that a momentary single phase
>brownout wouldn't do that anymore.)

>The point is that test as you will a priori, you can never be sure
>you've covered every possible condition that may arise in the field.
>So to claim that there is *zero* chance of a parasitic or other fault
>in the field is hubris.

Well it's so damn close to zero it might as well be zero in a HF PA, which was the subject at hand. Mr. Measures was speaking of VHF oscillations, and I was responding in kind. They are NOT affected by things downstream of the selective components of the PA, except as those components affect the current and voltage of the PA.

Parasitics in an HF amplifier are a cakewalk compared to combined systems. And remember, the PA problem you witnessed was at or near the operating frequency. It was not something removed several times from the operating frequency.
As a matter of fact Gary, the most difficult stability problems are those which occur closest to the desired operating frequency.

A cavity was involved in the 3CX10000U7 parasitic that Measures tries to tie into small tubes like the 8877. In that case, the tube (operating in a UHF cavity) oscillated at microwave frequencies. The oscillation was a low enough level that it didn't show on the meters, and the frequency was high enough that the sustained oscillation slowly cooked the grid over weeks and months of operation.

The Russians has a similar problem with a larger tube in a cavity. There was even a paper published on this effect (when very large triodes are operated in UHF cavities).

Somehow, this was twisted by Rich into the basis for nichrome in 8877's and such at HF. You and I can argue statistics all day, but while we do that people trying to learn how a HF PA fails will be fed false data. Perhaps your cavity combined TV transmitters will launch a new wave of HF PA parasitic paranoia, even though the systems are as different as night and day from the ones we were talking about. I guess that's what happens when certain personalities are fed information they can not grasp.

So we fully agree on this point. With combined transmitters driving a high Q load and unknown excitation, it is impossible to test for stability with certainty. Even with an unknown cavity, exciter, and a single transmitter, the reliability of any test would be very suspect.

VHF stabilty in an HF amp? No way is that a problem. And I remain solidly convinced of that. The entire RM parasitic theory is pure unfiltered bunk. None of it washes.

73 Tom

3681. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <5896d0$dqp@nonews.col.hp.com>
Source record: 99965

Allan Dobler (doblera@cadvision.com) wrote:

: Isn't a CB'er that builds a homebrew amp, a better hobbiest than a 2M
: appliance operator who buys gear at Radio Shack???

No

3682. Parting out Heath SB-102 - need anything?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <5898se$bna@sf18.dseg.ti.com>
Source record: 99966
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I am parting out a Heath SB-102 HF transceiver. Do you need any parts
to repair your Heath rig? Most of the electrical parts are the same in
the SB-100/101/102 and HW-100/101 rigs.

The following parts are NOT available, so don't ask:
- Meter (I do have one with a bad face and good movement, however)
- Plate and load capacitors (I'm using them in a HB 807 transmitter)
- Tubes
- Plate tank coil
- VFO dial (it was shattered already)
- CW filter (put it in another rig)
- Filter selecting lever knob (it was broken anyway)
- Crystals (all have been sold to other Heath owners)
- RCA jacks from rear panel
- Rubber drive belts (they were rotted)

The LMO works, but tuning was real scratchy, indicating either worn out
or dirty bearings on the tuning capacitor inside.

I do have nearly all of the internal parts still available. The front
panel is not in great shape, but it's usable. The markings are faded,
but the paint's not too bad. The cabinet is dent-free and the paint
is in fair condition. Good restoration candidate.

Email me with your parts needs.
--
Dean W. Hemphill Email: kc5ng@dlep1.itg.ti.com
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator KC5NG, Extra Class, VE (ARRL/W5YI), QRPer, CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3683. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961206153900.KAA21936@ladder01.news.aol.com>
Source record: 99967

Well Tom, I'm happy for you that you live next door to Boeing and can take advantage of the govt's largesse that we're both paying for. Not all of us can do that. I got some of this guys wire, (when he advertised it in the QRP-L) and am very happy to get it. I used to manufacture Power transformers, and we used a bunch of this stuff, and paid thru the nose for it new. I had brought some with me when I retired, but was running low and am happy to be able to buy it at 10 percent of DigiKey and Mousser prices.

If you didn't need it, you didn't have to be snippy about it. Matter of fact, I'll make you a standing offer, make me up 100 foot put ups of the stuff you get, send it priority, and sell it to me cheaper, and I'll buy from you. You too Bill,

W4ZCB

3684. Re: Ribbon cable stripping

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961206105643.29840B-100000@primeline.net>
Source record: 99968

On 6 Dec 1996, William A. Gordon wrote:

#I am looking for a low cost approach to stripping 14 conductor ribbon cable
#(0,050: spacing). I need some kind of tool to strip about 0.1" off one
#end of the cable. A company named Paladin/Weidmueller made one once upon a time
#but can't get it in the U.S. anymore. Does anyone have such a tool for sale ?
#Are there some homebrew versions that anyone knows of ? Any help in this regard
#is appreciated.
#
#TIA
#

What I do is slice the into both sides of the ribbon, and pull the
insulation off. Be sure not to nick the wires.

Gary Tait , VE3VBF
- Please quote prices in $CDN, as $US prices are no good to me ,here in -
- Canada. If you must quote prices, please quote prices from dealers in -
- the Toronto, Ontario area,and westward.(my location is near Kincardine)

3685. Re: Direct PC receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961206110035.29840C-100000@primeline.net>
Source record: 99969

On Thu, 5 Dec 1996, Jan Servaites wrote:

#Does anyone know about the engineering behind the Direct PC (Ku, digital)
#high speed internet, satellite receiver?? I would like to try homebrewing
#a TVRO dish and a PC interface card to receive high speed data. Thanks
#for any help... Jan Servaites N8CBX
#Are there anyone interested in doing this?? Maybe we can get someting
#going...
#--
#

IMHO, the hardware woulde be cheaper to buy, than to engineer your own.

Gary Tait , VE3VBF
- Please quote prices in $CDN, as $US prices are no good to me ,here in -
- Canada. If you must quote prices, please quote prices from dealers in -
- the Toronto, Ontario area,and westward.(my location is near Kincardine)

3686. needed:reference article on FM generation via "dual modulus prescaler".

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "Tom C." <tcipollo@ix.netcom.com>
Message-ID: <32A846B7.493@ix.netcom.com>
Source record: 99970

I am attempting to do an FM modulation of digital data. There is a method to do this that involves the use of dual modulus prescalers but I have no references on it. I have been told that the original work on this method was done by Motorola and that they have an app note somewhere that describes it. Does anyone know where I can find it?

Thanks

Tom

3687. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: mbv@ti.com
Message-ID: <589j4e$c2f@tilde.csc.ti.com>
Source record: 99971
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

In article <32A3A0FA.50CB@sk.sympatico.ca>, jim.hutchings@sk.sympatico.ca says...
>
>>
>> Sorry you don't agree that the world would be a safer and cheaper place
>> without them.
>>
>> de kg7fu
>>
>> The anti-gun control groups have a snappy slogan that basically says,
>"guns don't cause crime any more than flys cause garbage". Without
>debating the validity of that particular statement, I think that it's
>unfair to blame lawyers for the state of our society. I'm not suggesting
>that I agree with the strange things that go on in the "legal system"
>(anyone collecting oxymorons??).
>On the positive side of this topic, you might note that the Feds have now
>decreed that aircraft manufacturers will only be liable for 18 years
>after their product has been sold instead of eternity. Common sense does
>prevail eventually.
>Another point to consider is that many of these unbelievable judgements
>have been rendered by juries!! Has the point been reached where we can
>no longer trust the juries??
>Our society has serious problems and sleazy lawyers are a symptom, not
>the problem itself.
>Honest, hardworking lawyers do exist and are a valuable commodity when
>someone decides to rain on your parade. And yes, they're not
>necessarily cheap, but most will try to keep costs down when they know
>you're not well-off.
>73 de Jim Hutchings VE5HM
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
header edited
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

3688. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000612961027090001@news.vcnet.com>
Source record: 99972

In article <19961205040201.XAA18379@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Rich,
>
> We need to talk more about how PA's work,
.snip......
OK, Tom. Let's do it.

Path:
news.qnet.com!news.he.net!www.nntp.primenet.com!nntp.primenet.com!cs.utexas.edu!howland.erols.net!portc02.blue.aol.com!audrey01.news.aol.com!not-for-mail
From: w8jitom@aol.com
Newsgroups: rec.radio.amateur.homebrew
Subject: Re: Good source for amplifier tips
Date: 28 Nov 1996 02:25:20 GMT
snip...

>Hi Rich,

>... ... Could you look this over an comment. It
>seems to indicate you do not understand Q. Could you tell me if I did
>something wrong?
snip

Ok, Tom.. Sorry for the delay, but there were some other issues that didn't appear to wash, which I dealt with first.
>snip,,,

With 70 nH and 100 ohms:
Q = 2.3
...snip...

.....Does Q = 2.3?

This is a parallel circuit, so most things are inverted. (Standing on head may be useful.) Instead of calculating reactance (X), as would be the case for a series circuit, we must instead calculate susceptance (B). . In a parallel circuit, we graph B (with the + and - signs inverted) and conductance (G), (G=1/R), to calculate admittance (Y) instead of graphing R and X to calculate impedance (Y). R is in ohms and G is in siemens. (archaic: mhos) . Using Y=1/Z and Z=1/Y, we can convert a parallel circuit to a series equivalent circuit, or we can convert a series circuit to a parallel equivalent circuit.

In order to be able to use the formula Q=X/R, we must first convert the parallel 70nH/50 ohm circuit (Y) to an equivalent series circuit (Z) by using Z=1/Y. To do this, most everything inverts. BL @100MHz, is -1/(2*Pi*100^6 Hz*70^-9 H) = -22.7 milli-siemens. The G of the 50 ohm R is 1/50 = 20 milli-siemens.

To graph this, the -22.7 milli-siemen BL vector heads down and the 10 milli-siemen G vector heads to the right. The resulting vector forms a right triangle whose tangent is -22.7/10 = -2.27, = -66.22 degrees. The hypotenuse, Y, can be solved with the square root of the sum of the squares. Thus, Y = 24.8 siemens@-66.22 degrees
Using Z=1/Y, , we convert this to an equivalent series circuit whose Z vector can be resolved into its X and R components---the very things we need to solve Q=X/R. Solving for Z = 1/(24.8 millisiemens @-66.22 degrees), Z = 40.3 ohms @+66.22 degrees. The X vector is sin 66.22 degrees (0.915) * 40.3 ohms = 36.9 ohms. The R vector is cos 66.22 degrees (0.403) * 40.3 ohms = 16.2 ohms.

Finally, using Q=X/R, Q = 36.9/16.2 = 2.28. Thus, your answer of Q = 2.3 looks good to me, Tom.
I checked another one of your Q problem's answers, and it looks good too.

Tom: Why did you recently cancel your 28 November post?
---
e-mail copy to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3689. Tektronix 491 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istE2094t.HFx@netcom.com>
Source record: 99973
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I recently picked up a Tek 491 spectrum analyzer at a flea. It seems to be working fine, but I have one question: How do you calibrate the vertical (signal strength) scale? Short of having a signal generator of known amplitude at the desired frequency, I haven't figured out how. Right now, I'm using it to measure 860 MHz signal strength around the apartment to see how much is coming in from a new SMR site being installed 25' above us...

Also, any recommendations for who to get a user and service manual from?
Thanks and 73.
/mike

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

3690. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32A86A6F.32B2@mail.teclink.net>
Source record: 99974

Wes Stewart wrote:
>
> In article <32A662CC.29EF@TECLink.net> "Tom C. Brown, Jr." <tbrown@TECLink.net> writes:
> >From: "Tom C. Brown, Jr." <tbrown@TECLink.net>
> >Subject: Re: Good source for amplifier tips
> >Date: Wed, 04 Dec 1996 23:51:08 -0600
>
> >Tom C. Brown, Jr. wrote:
> [snip]
>
> >Don't forget that Rich was not making exact, quantified measurements
> >with the GDO. He was (1) finding resonances in the circuit *WITHOUT*
> >attaching anything physically to the circuit and he was (2) able to
> >compare the Q in a "before and after" situation by just looking at the
> >response of the dip meter in each case. In other words, he was able to
> >say that the Q was greater or less after swapping the suppressors. If
> >*you* are unable to make such judgements with a GDO, then I guess you
> >really wouldn't have much use for one.....
>
> Please! I'm sure Rich's attempts at determining circuit parameters are
> well-meaning, and a GDO has its place, but... This ain't one of them.

I disagree, Wes. Finding resonances and potential frequencies of
oscillation are applications where a GDO excels. It did years ago, and
it still does. If Rich's GDO is not indicating the resonant frequencies
in the circuit, then please tell us what it IS indicating?

If the circuit is NOT most likely to oscillate at one of its resonant
points, then please tell us where it WOULD be most likely to oscillate.
And please include an explanation of just why the circuit would be more
liable to oscillate at some place where it is not resonant. You're
contradicting some pretty well known facts and principles there, Wes.
>
> >In one case, he saw that the Q at one particular VHF resonant point was
> >visibly and substantially less after doing NOTHING but replacing the
> >suppressor.
>
> This may be true, but it's not proved with a GDO measurement.

Why not? If the GDO's dip was deep and narrow before replacing the
suppressors, and it is broad and shallow after replacing the
suppressors, then exactly what information do you have that makes you
feel that the GDO is lying to us? I just don't see where you are coming
from on that one, Wes.
>

> [snip]
>
> >Of course, you maintain that "the whole staff" at Eimac agrees with you,
> >but you have only identified *one* person at Eimac so far. Surely we
> >can all agree that one person does not make up "the whole staff".
>
> >Oh, and I asked before.....what is Mr. Brandon's official title at
> >Eimac?
>
> Spurious arguments. Wy bother?

NOT spurious arguments. Not by a long shot. And the reason "to bother" is that Mr. Brandon has been one of Rich's critics, and Tom seems to put a lot more stock in Mr. Brandon's opinion than he does in Mr. Foote's letter stating his opinion. We know Mr. Foote's title, which is the only real indication of his credentials we have. However, we do not know Mr. Brandon's official title. Therefore we currently have no information about his qualifications to say that Mr. Foote is all wet, beyond the fact that he works at Eimac. Well, so did Mr. Foote. Therefore, logically, we have no reason whatsoever to think Mr. Brandon knows more about what he is talking about than Mr. Foote did. Unless, of course, we knew just what Mr. Brandon's lot at Eimac is. Which is why I asked the question.
>
[Snip]
>
> Clearly, you have no concept of modern network measurement techniques and I'm
> not about to give you a free lesson.

You are starting to sound more and more like Tom. When you start telling other folks what they do and don't have an understanding of, you are (to borrow a phrase from Paul Harvey) telling us more than you know. Not usually a wise practice.

> I recently retired after 30 years with a
> major aerospace firm where I was engaged for most of that time in making r-f
> and microwave measurements and doing failure analysis on everything
> from components to all-up missiles.
>
> I can assure you, that we "hooked something" to every damn one of these
> devices in order to characterize it electrically. Tom has provided data in the
> form of |S21|, ie, the magnitude of the forward transmission component. In
> layman's terms, this is the "gain" of the device, expressed in dB, vs.
> frequency. Viewed graphically, you would (he did) see the peaks and nulls of
> transmission through the tube.

Wes, you have taken my comment that was specifically focused on *this* case (assessing the resonant frequency and relative Q of the PA cicuits) and applied it to test and measurement in general. That is not what I said or what I meant. The fact is that there are some cases with some circuits where attaching virtually anything conductive to the circuit

will compromise the measurements.

In my opinion, a GDO with no physical connnection, and with care not to
over couple the GDO into the circuit, is one of the least invasive ways
to measure the resonant frequency of the circuit IN THIS CASE.

What kind of network analyzer would be less invasive than that? You are
the expert on modern network analysis (you told me so). Please
enlighten us.
>
[snip]

Would the analyzer that Tom used present an infinite impedance to the
circuit under test AT THE POINT OF CONNECTION?

If yes, then I have no problem with his measurment technique. If not,
then his network analyzer IS affecting the data. If you don't know,
then you are (again) telling us more than you know. (still not a wise
practice)
>
> >Now, if you *did* make all your measurements with no physical connection
> >to the circuit, and without overcoupling anything in any way to the
> >circuit, then please disregard the above. Just a thought......
>
> >73, Tom KJ5IE
>
> Wes N7WS

Tom KJ5IE

3691. QST 1/97 multimode project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: Nicholas Geovanis <nickgeo@merle.acns.nwu.edu>
Message-ID: <Pine.HPP.3.93.961206132606.17623A-100000@merle.acns.nwu.edu>
Source record: 99975

Hi all --
(WARNING! WARNING! Question from electronics dilletante!)
I copied the January QST article describing the simple RS232-attach
multimode decoder. Looking at the schematic, I thought, "This is so
simple, even I might be able to figure out how it works." So...
Does the term "limiter" mean the same thing as "clipper"? Looks to me like
all this thing does is "clip" the audio waves at a level useful for RS232
(what, isn't that +13 V. max or something), and the HAMCOMM or whatever
software samples the DSR line, (hopefully) alot faster than the signal. Is
this a fair description or is it totally stupid? So, if I can decode CW,
RTTY, Amtor and WEFAX with $10 of parts, a PC and shareware, why the hell
do MFJ, AEA, etc., charge hundreds of dollars for their decoders?
Thanks...Nick G.

<-->
Swerve me? The path to my fixed purpose is | Nick Geovanis
laid with iron rails, whereon my soul | IT Computing Services Org.
is grooved to run. -- Ahab | Northwestern University
<---| 2020 Ridge Ave.
ph: 847-467-3892 em: n-geovanis@nwu.edu | Evanston, IL. 60208
<-->

3692. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000612961222590001@news.vcnet.com>
Source record: 99976

In article <1996Dec5.173149.27195@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

snip...

> The point is that test as you will a priori, you can never be sure
> you've covered every possible condition that may arise in the field.
> So to claim that there is *zero* chance of a parasitic or other fault
> in the field is hubris.
>
> Gary
> --

Very interesting, Gary. Is hubris is a factor in this fracas? When a guy becomes a self-appointed self-annointed "recognized amplifier expert" in QST magazine (p.71, 9/94), he has to defend himself absolutely, positively, 100% of the time. For instance---I worked the parallel Ls-Rs suppressor current division problem that Mr. Rauch proposed (70nH, 100 ohms @161MHz). The results showed that Mr. Rauch's statement about insignificant VHF current flowing in Ls is not the case. In fact the current in Ls was a bit more than the current in Rs. Instead of conceeding this one, Mr. Rauch started backpeddling.

To me, Gary, the most fascinating thing about hubristic persons is that they become their own character-assassins. For instance---: If Richard Millhouse Nixon had gone on TV the morning after the Watergate Breakin and said: I ordered the breakin.....Nixon would most probably have fared far better.

" Man will occcassionally stumble over the truth, but most of the time he will pick himself up and continue on". ---Winston Churchill
---
e-mail copies to Mr. Coffman, Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3693. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961206205800.PAA27676@ladder01.news.aol.com>
Source record: 99977

In article <32A7AE61.26EF@cadvision.com>, Allan Dobler
<doblera@cadvision.com> writes:

>Isn't a CB'er that builds a homebrew amp, a better hobbiest than a 2M
>appliance operator who buys gear at Radio Shack???
>73
>Allan

I guess it depends on what is meant by "better". Are you confusing
"better" with "technically more skilled"?

Is a unlicensed driver who builds his own car and drives 100 MPH in
school zones a better driver than one who just buys a car and follows the
law?

If the guy runs the PA into dummy loads, and is only trying to learn, he
definately is the better hobbiest. Of course, that is unlikely.

If he uses the PA on CB, or worse yet sells them or uses them on ten
meters (without a license) or commercial frequencies, helping him is
idiotic. This seems more likely.

73 Tom

3694. Re: VHF Slugs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961206210900.QAA27900@ladder01.news.aol.com>
Source record: 99978

Steve, do you really mean iron powder slugs for VHF?

Not being picky but it may ID them better for you.

You might get what you need from Coilcraft.

Coilcraft
Cary, IL 60013

312-689-2361 I think the area code has changed.

Some years ago they sent me an engineers kit that
included all kinds of coils with extra slugs.
It they still exist, try 'em.

Carl
The2x4
N9EFJ

3695. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961206210900.QAA27898@ladder01.news.aol.com>
Source record: 99979

In article <Pine.GSO.3.94.961205123708.18146C-100000@Ocean.CAM.ORG>,
Michael Black <blackm00@CAM.ORG> writes:

>and with CMOS can still be low current. You could add a switch to
>disable the readouts until needed.
>
> Michael VE2BVW
>
>

Here is what I had in mind Michael,

I can make a continuous tuning dial with slotted wheel,opto's, op-amp and
four other chips. Fed into a microcontroller, the up down signals give you
range.
The micro knows the frequency desired (presets and dial increments) and
the
actual since it displays it.Use an 12 -16 bit R/2R D/A (Grand
simplicity:-)) and let the micro feed the D/A to lock (not hardly) the
frequency. A half million corrections per second should stifle any drift.
Ha ha But can you imagine the AWFUL phase noise from such a design at that
speed? A good VCO is of paramount importance
here.

Carl
N9EFJ

3696. Re: QST 1/97 multimode project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: alan@curta.cc.columbia.edu
Message-ID: <58a4du$4hc$1@apakabar.cc.columbia.edu>
Source record: 99980

In article <Pine.HPP.3.93.961206132606.17623A-100000@merle.acns.nwu.edu>,
Nicholas Geovanis <nickgeo@merle.acns.nwu.edu> wrote:

>RTTY, Amtor and WEFAX with $10 of parts, a PC and shareware, why the hell
>do MFJ, AEA, etc., charge hundreds of dollars for their decoders?
>Thanks...Nick G.

Yeah, its basically a level converter which causes a serial interrupt
each time the sine wave crosses the voltage threshold, I believe.
These interrupts are counted to get the frequency.

Sure you can use a $2000 computer (or oven a $6000 one) to do the same
job that a $200 multimode controller will do. In fact, I've built the
HAMCOM interface and played around with HAMCOM 3.0 and JVFAX 7.0 for
hours on end. It was pretty neat. Kept me up late many evenings
looking at AMTOR/SITOR, RTTY, SSTV, FAX, etc. Even gave someone a new
state toward his WAS RTTY. I've also played with a BAYCOM for VHF
packet.

How well it detects might be one of the things that makes it not so
handy as an "appliance" controller. The fact that it doesn't do any
of the more advanced HF digital modes like PACTOR, CLOVER, etc. is
another. Having to tie up your multitasking PC to be running only
HAMCOM might be a concern too. But, by all means try it out before
spending the bux. HAMCOM is a very slick program.

/a

3697. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961206224500.RAA29907@ladder01.news.aol.com>
Source record: 99981

In article <measures-ya023180000512960920300001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>Mr. Rauch proposed that I calculate the currents for an Ls of 85nH, a
>parallel Rs of 100 ohms, at a frequency of 161MHz. I complied. Now it
>seems that the apparently correct answers are NOT correct.

You must like to distort facts Richard.

I never suggested 161 MHz, you picked it. It really isn't my fault the PA
oscillates higher in frequency, is it?? Instead, you right away go into
the well known RM attack mode, and once more claim anything disagreeing
with you must be false.

The whole exercise is a waste of time. You are trying to focus on one
statement I made, that the primary path for VHF currents is through the
resistor, and the primary HF path through the inductor. I'm afraid that
statement was too much of a generalization, but even as such it does not
mean you theory about VHF Q is correct.

The Q of the suppressor in question is about one at that frequency. Adding
the magical nichrome to the inductor lowers the Q and insignificant
amount, especially at the frequency where the PA really oscillates. Why do
you avoid this fact?

Nichrome makes an insignificant change in Q of the suppressor at the
frequency of oscillation.

In article <32A701B7.3EAB@mail.teclink.net>, "Tom C. Brown, Jr."
<madison@mail.teclink.net> writes:

>I know you are sick of hearing those questions asked, Tom, but don't
>forget, YOU brought both issues up in this thread. I didn't. Rich
>didn't. We just asked for real information once YOU brought it all up.
>And as soon as we asked for real, verifiable information, you dropped
>the subject and have pleaded with us to do the same.
>
>Actually, in my opinion, your (1) inability (or flat refusal) to answer
>either question, and (2) your intense desire to drop both subjects *IS*
>an answer to both questions. Quite a revealing answer, I would say.
>
>73, Tom KJ5IE

Hi Tom,

Say what you like OM. You must have problems receiving messages, or you don't read everything. Let me repost this one for you.

<19961127002400.TAA17657@ladder01.news.aol.com>, w8jitom@aol.com writes:
>The former *R+D engineering manager*, Buzz Miklos, of the Salt Lake City
>Varian plant has agreed to speak to one or two people on the telephone
>about your theories. He said he will also come on line, but since he just
>took a position as engineering manager with another tube manufacturer in
>PA, it will be sometime in January before he is able to connect directly
>to this newsgroup.
>
>But if you want a quick answer, let's find someone to talk to Mr. Miklos.
>A second person still at Varian Salt Lake, John Button, will confirm Mr.
>Miklos' employment status with Varian, and the fact that Mr. Miklos was
>indeed R+D engineering manager for Varian and a long term employee in
>power grid tube design and research. Mr. Brandon will also conform Mr.
>Miklos' qualifications. Incidentally, both Mr. Button and Reid disagree
>with you completely also.
>
>Mr. Miklos feels, and says his Eimac engineering staff felt, your theories
>have no merit and display a complete misunderstanding of how a power grid
>tube operates and the mechanisms of tube failures.
>
>He prefers you not receive his phone number, since he understands you have
>more time to argue than he does. He will, however, call you if you always
>promise to include his views whenever you mention the person assigned to
>answer customer letters, Mr. Foote.
>
>You wanted to know who at Varian disagrees with you. You now have what you
>have asked for...and perhaps more than you wanted.
>
>Mr. Miklos said my interpretation of grid damage was correct, that the
>8877 can only dissipate perhaps two times the rated dissipation (50 watts)
>before grid damage occurs. He further stated a major cause of gold
>sputtering is poor alignment between the grid and cathode bands in the
>tube, or grid dissipations above the 35-50 watt range.
>
>He also says, as I did, gold migrates slowly on its' own accord from
>normal electron bombardment. Excessive grid current speeds this process.
>Excessive dissipation makes the gold migration fatal to the cathode in a
>very short time.
>
>Let's pick someone to call Mr. Miklos. He will confirm all of this, and as
>much more as needed. Or we can drop all this parasitic nonsense and do
>better things.

As we can plainly see, I did post three names of Varian engineers who totally disagree with Richard (Reid Brandon, Buzz Miklos, and John Button). Of the three, Miklos is the most technically inclined, since he actually designs tubes and oversaw the entire staff in R and D at Varian. He presently heads a group of about 15 engineers at another tube manufacturer.

Contrary to your claim, there were names posted and an offer to repute Measure's claims. Also contrary to your claim, it was explained what Reid's position is. Rather than taking up room, you can call CPI and ask THEM what Reid's status is. Let's not make a lot of noise over nothing Tom.

Many people wrote QST and/or commented negatively on Richard's claims to QST. According to QST, they had a stack of letters an inch high from people disagreeing with Measures. Not satisfied with that, QST sent Richard's work out to at least half a dozen experts in the industry...*** these were NOT the people listed in the QST's technical retraction. *** As I understood, QST could not find a single person supporting Richard technically although they looked for months, but that's just hearsay. But at Rich has you, hi.

Ex-varian employees and present varian employees like Dave Chazen, Bill Orr, and Jim Aurand have commented strongly against the parasitic theories, as did industry experts like Warren Bruene and RF Design's editor Gary Breed. Of course ETO's Dick Erhorn, Collin's Warren Bruene, and others not named disagreed also.

Enough of that, if you think it's so important, call Buzz, Reid, John, or someone and check it out yourself. I told you that a month ago. On to technical issues....

I indicated why a network analyzer is much better, and why the GDO is almost useless. Would you like me to repeat the reasons? Would you prefer to talk about the reasons given? For example I mentioned that the GDO does NOT indicate impedance or feedback in a system. You seem to not receive answers that are clearly posted, are you having E-mail trouble?

73, Tom

3698. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961206230200.SAA00361@ladder01.news.aol.com>
Source record: 99982

Tom States: "In my opinion, a GDO with no physical connnection, and with care not to over couple the GDO into the circuit, is one of the least invasive ways
to measure the resonant frequency of the circuit IN THIS CASE."

I may be stepping into something that is out of my league, but it seems to me that the "physical connection" argument smacks of religeous fantasy. There was a time when virtually all significant RF coupling was done inductively--and even today's most advanced solid state power amplifiers transfer huge amounts of power in this manner. If I were to connect you to a powerful 160 MHz source, Tom, would you rather it be through a .5 pF capacitor with a 10 Meg resistor in series--or through a large inductive link with a high co-efficient of coupling. Your choice!

The fact is, with a grid dipper, I don't think I'd have a clue how tightly I am coupling to the DUT--save by assessing the shapness of the dip itself. And, any time the GDO is seeing something, it is also loading something--or the indication wouldn't be happening. I may be stupid, but I guess I just can't quite grasp where you're coming from!

Rick K1BQT

3699. Re: PIN Diode TR plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961206231000.SAA00527@ladder01.news.aol.com>
Source record: 99983

Hi--

I wrote a short piece on PIN TR switches in Winter '95 Communications Quarterly (P66) that may provide some helpful background. It was for low power TX switching, but might add something to your search for information. The basic priciples are the same--although the QEX article would be a lot more specific for cookbooking something in the 50-W power range.

Rick K1BQT

3700. Re: Anyone built their own UHF duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: W.Bell@psyc.canterbury.ac.nz
Message-ID: <58aaob$dgg@cantuc.canterbury.ac.nz>
Source record: 99984

In article <57gi7r$i9p@nnrp1.news.primenet.com>, markem@primenet.com
says...
>
>Ed Burress <edbu@sepia.wv.tek.com> wrote in article
><57d543INN77l@sepia.wv.tek.com>...

>>>ARRL Antenna book for
>>> building your own duplexer for the 2 meter band. I was
>>> wondering if anyone has similar plans or pointers to design
>>> formulas, plans, etc. for the 70 cm band?
>>> I have access to a machine shop, and would like the chalenge
.>I believe there were plans in either Ham Radio or QST several years ago
to
>build 70cm duplexers. I seem to remember they used PC board material.
>
.>73... Mark AA7TA
I have seen this article recently, will try to locate for you. 73 Winton.

3701. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000612961552460001@news.vcnet.com>
Source record: 99985

In article <19961206014000.UAA11101@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Wes,
>
> Without drawings it's pretty difficult to explain how to measure a PA. But
> factually, even if someone "see's a real sharp dip", it means nothing at
> all in operation of the PA. It certainly does not indicate the likelihood
> of oscillation.

I have tested anode circuit VHF resonances that were so sharp, they sucked the dipmeter out of oscillation. To me, that indicates more than "nothing at all".
snip

> Rich's intentions may be good, but he
> is absolutely giving false information about how a tube operates, and how
> it fails. He has taken a situation that was found in one UHF high power
> triode, and applied it to other tube types. His descriptions of failures
> and the reasons for failures is absolutely incorrect.

Has Tom ever looked at a gold-sputtered grid through a microscope? It's a wondrous sight, what with the cathode sprinkled with a hundreds of tiny gold melt-balls, cooled blisters of once-boiling gold on the grid, and the grid's base metal stripped of gold plating.

> The delemma is this, in order to prevent engineers from wasting time with
> unimportant calls, snip

Translation: Unimportant Calls: Owners of amplifiers whose bandswitch contacts mysteriously burned up, phoning amplifier manufacturer.

> Rich refuses to consider Reid Brandon a good source,

I don't consider a person's title. I consider what a person says. So far, we have not seen a letter from either Mr. Brandon or from Mr. Button. So far, neither of these gentlemen has shown up on this newsgroup.

> The reason for this is Rich has made some claims that, ludicrious as they
> are, can cause people to ruin expensive tubes. These claims also causes
> people toi falsely believe that parasitics are a major source of PA and PA
> tube damage, and divert people from finding or understanding the real
> causes and cures of problems. This hurts technology, and costs people time
> and money. It can even cost lives.
>
> W2GO was killed installing an "improvement kit" in a Ten Tec Titan. Al had repeated 3CX800 failures, ...

snip,

Assuming it was an AG6K low vhf Q parasitic suppressor retrofit kit, the instructions warns customers:--- "Amplifiers that are plugged into the electric-mains contain lethal voltages, whether they are switched on or switched off! If you don't pull the electric-mains plug before working on your amplifier, your amplifier may be for sale at a ï¿½silent keyï¿½ estate sale!! "

A. Prose Walker, W4BW, had similar problems with his Titan. Ten Tec was not able to resolve the problems, so Prose contacted me. He described the problems. I told him such problems might be caused by an intermittent oscillation condition. Prose installed low VHF-Q suppressor retrofit kit s/n1451 in Sept. 1990. After a while, Prose contacted me and reported that the previous problems had not yet reccured. Prose wrote to Ten Tec's President, Jack Burchfield and told him of the apparent solution to the problems which Ten Tec had not been able to resolve. Mr. Burchfield replied and said that even though he had read Mr. Measures' articles in QST magazine with "great interest", when low Q suppressors were tried, they became "very hot" during 10m operation. Apparently, Jack did not read the instructions to adjust the inductance of Ls to obtain moderate heating on 10m. IMO, if a VHF suppressor doesn't get hot at 29MHz, it is not going to work optimally above 30MHz.
I worked on a Titan in which both 3CX800A7 tubes exhibited gold-sputter leakage after about 25 hours of operation. The operator had been a ham for over 20 years, and he knew how to tune up a grounded-grid amplifier. The glitch that occured at the time the tubes were apparently damaged, did not occur during tuneup.

snip
> The beauty of a network analyzer is the anode and cathode can be loaded
> with the same impedances presented during operation, and the various
> parameters displayed accurately. The instrument measures Q and other
> parameters with an accuracy of a fraction of a percent, and loads the
> circuit with as much loading as desired, from a few ohms to hundreds of
> thousands of ohms.
>
Eureka. ..... There it is, Tom Brown "as much loading as desired". Mr. Rauch has been adjusting the NA's resistive termination controls to whatever HE presumes is appropriate. I wonder if this is how Mr. Rauch determined that no significant VHF current flows through a VHF suppressor inductor, Ls.
---
e-mail copies to Mr. Rauch, Mr. Brown, et al.

--
--Rich-- ag6k, 805-386-3734

3702. Re: Direct PC receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: "K.R.Burtchaell" <kburt@telis.org>
Message-ID: <32A8B139.4353@telis.org>
Source record: 99986

Jan Servaites wrote:
>
> Does anyone know about the engineering behind the Direct PC (Ku, digital)
> high speed internet, satellite receiver?? I would like to try homebrewing
> a TVRO dish and a PC interface card to receive high speed data. Thanks
> for any help... Jan Servaites N8CBX
> Are there anyone interested in doing this?? Maybe we can get someting
> going...
> --
> Û¥-
Check out the Hewlett-Packard HPMR-1001/1002 ICs 73 Ken

3703. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.212.001570DA@azstarnet.com>
Source record: 99987

In article <measures-ya023180000612961027090001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>From: measures@mail.vcnet.com (R. L. Measures)
>Subject: Re: Good source for amplifier tips
>Date: Fri, 06 Dec 1996 10:27:09 -0700

[snip]

>This is a parallel circuit, so most things are inverted. (Standing on head
>may be useful.) Instead of calculating reactance (X), as would be the case
>for a series circuit, we must instead calculate susceptance (B). . In a
>parallel circuit, we graph B (with the + and - signs inverted) and
>conductance (G), (G=1/R), to calculate admittance (Y) instead of graphing R
>and X to calculate impedance (Y). R is in ohms and G is in siemens.
>(archaic: mhos) . Using Y=1/Z and Z=1/Y, we can convert a parallel circuit
>to a series equivalent circuit, or we can convert a series circuit to a
>parallel equivalent circuit.

> In order to be able to use the formula Q=X/R, we must first convert the
>parallel 70nH/50 ohm circuit (Y) to an equivalent series circuit (Z) by
>using Z=1/Y. To do this, most everything inverts. BL @100MHz, is
>-1/(2*Pi*100^6 Hz*70^-9 H) = -22.7 milli-siemens. The G of the 50 ohm R is
>1/50 = 20 milli-siemens.

> To graph this, the -22.7 milli-siemen BL vector heads down and the 10
>milli-siemen G vector heads to the right. The resulting vector forms a
>right triangle whose tangent is -22.7/10 = -2.27, = -66.22 degrees. The
>hypotenuse, Y, can be solved with the square root of the sum of the
>squares. Thus, Y = 24.8 siemens@-66.22 degrees
> Using Z=1/Y, , we convert this to an equivalent series circuit whose Z
>vector can be resolved into its X and R components---the very things we
>need to solve Q=X/R. Solving for Z = 1/(24.8 millisiemens @-66.22
>degrees), Z = 40.3 ohms @+66.22 degrees. The X vector is sin 66.22 degrees
>(0.915) * 40.3 ohms = 36.9 ohms. The R vector is cos 66.22 degrees (0.403)
>* 40.3 ohms = 16.2 ohms.

[more snipping to make my newsreader happy]

Whew!

Why not just use Q=R/X for the parallel case?

73, Wes N7WS

3704. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: gamrunr@aol.com
Message-ID: <19961207004200.TAA02575@ladder01.news.aol.com>
Source record: 99893

Jeez, What a bunch of Crap! I can Buy All The Schematics I Want, I thought maybe Fellow Hobbyists would be Kind enough to help me out! I can Also buy all the Amps I wish! Its not like you would have been giving me something that cannot be aquired elsewhere. I was just looking for a little Help, Something I guess most Amateur Operators are unwilling to do these days!

I know Jay, he's a DECENT person, I'll get them from Him. I currently Have amplifiers! I just wanted to Build a couple with 4CX250's and 6146's. As for being unliscensed I'm currently Scheduled To take my General Class exam in January, Yep January Soonest it can be done because I live in a tiny town, and thats the first available testing without driving 110 miles one way! Maybe if a few of the local Amateurs would Donate some time It could have been sooner! Well I guess they are like Most of you on this newsgroup! Unwilling to help Or they have the nose up the Butt because someone is currently not In a call Directory!

All I wished to do is build a couple Amplifiers. Yeah, Big Deal!!!
I'm stupid to think you Fellow Hams would be willing to help someone who wishs to Home Brew Their entire Station, Not everyone has the funding to run out and buy A Nice Shiny new Amp for the Shack, Maybe, just Maybe, This was a legitimate request From A TO BE Amateur radio Operator Who wishs to get started on Putting my Station together! Now I realize Why this Hobby is Stagnating!

Maybe someone Could Email me and See Just what my intentions were! instead of Jumping up and down and Searching the current Call sign Database to see if I was Present! Well I beleive it would take a while for me to show up in it anyway. But Right Away.....

FELLOW NEWGROUPIES, THIS PERSON DOES NOT APPEAR TO BE
CURRENTLY AMONG US HE DIDN"T USE A CALL SIGN!!!! SO THERE FORE HE IS GOING TO MANUFACTURE AND USE THESE AMPLIFIERS IN AN ILLEGAL MANNER!
IGNORE FURTHER POSTS BY THIS INDIVIDUAL!!!

SIGNED W0ASS

Yeah, maybe the above individual can figure a way to make QST stop my Subscription, HEY, maybe you could even get the ARRL to turn down my application!!! OR HEY BETTER YET MAYBE YOU CAN GET THE FCC TO NOT ISSUE ME A TICKET!!! WOW!!!! MAYBE YOU COULD EVEN GET THE FCC TO ISSUE YOU YOUR VERY OWN FREQUENCY WHERE , NO,NEW,HAMS,ARE,ALLOWED!!!

MAYBE HE COULD EVEN GET THE LIBRARYS TO REMOVE MATERIAL ON LINEAR AMPLIFIERS SO NO ONE COULD OBTAIN IT!!

Sorry for the Wasted bandwidth, I'm sure A number of the people who frequent this newsgroup are indeed fine folk, then we have the other parties who wish to dedicate/validate an existence by policing these newsgroups for unacceptable practices!!

One other thing, I have a Ranger, A Valiant, And soon A Viking 500, they have 11 meters in them. If I wished to run illegal amounts of power on 11 meters it would not be difficult. I could probably even buy a good sized solid state amp. I however have the heart Of A True BA'er. And wish to Home Brew my own Amps, I do have a few Sweep tube amplifiers lying around, yep, even a couple CB radios. I however do not use these. I love the old Tube Equipment And will continue to purchase/build it. And in January I will be on the BA nets And buy then I should have already built either the Single tube 6146 amp or the 4cx250 amp! So you see with or without any help from here THE WORLD CONTINUES TO TURN!!

Hope to Talk With Some Of the Finer operators out here, Listen for me With the other AM Boat Anchor Operators come January!

Unlike Some Amateur Radio operators I will do my best to create interest and enthusiasm for Amateur Radio! If someone asks me for Help, I will help.

73, all, God Bless, And hope you ALL have a good Holiday season!

Rob.......

3705. Re: Building a weather satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Jerry Robinson <JerryRobinson@postoffice.worldnet.att.net>
Message-ID: <58afpb$f1@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 99894

Try Hamtronics. They have a nice looking dedicated Wx sat receiver

3706. Re: Tektronix 491 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-0612962023460001@205.246.8.86>
Source record: 99895
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <n1istE2094t.HFx@netcom.com>, n1ist@netcom.com (Michael L. Ardai) wrote:

> I recently picked up a Tek 491 spectrum analyzer
>How do you calibrate the vertical (signal strength) scale?

The amplitude scale is strictly relative, unless you do use a calibrated source as reference. That's the downside of the 491 as compared to the old HP141T systems. On the other hand, the 491 is smaller and lighter.

> Also, any recommendations for who to get a user and service manual from?

Buy one from Ed Matsuda (619-479-0225). He may or may not have an original, but his copies are of good quality and his prices are reasonable.

> Thanks and 73.
> /mike
>
> --
> \|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
> -*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
> /|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

3707. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961207043100.XAA06981@ladder01.news.aol.com>
Source record: 99896

Hi Richard,

Instead of more RM style personal attacks and non-technical comments about the other Richard we all know of, I'd like to see you answer questions about Q.

I think your parasitic theories are absolutely wrong. VHF Q does NOT change significantly with the addition of nichrome, and that is a fact you are trying to avoid. As a matter of fact, a small adjustment in the suppressor resistance and inductance makes a larger change than the addition of "nichrome".

You realize if the nichrome in the suppressor's winding of wire does not significantly lower VHF Q, then everything you attribute to VHF oscillation must be a product of vivid imaginations, or directly attributed to MY claim that HF Q and mistuning / overdriving are the major causes of arcs and sparks in the tank.

Let's make an agreement.

If I can not lower Q (using coventional components) the same amount or more at VHF without adding as much loss of Q on ten meters as the nichrome does, I will concede you have been hawking something of ### great technical merit ###. I will endorse your product as a good method of parasitic suppression.

If the system you hawk does NOT significantly reduce VHF Q at or near the frequency of oscillation (let's say between 140 and 200 MHz) compared to what I can do with conventional components, will you admit the VHF parasitic cures and theories you have been making are false?

This sounds fair to me, since you claim to have re-discovered the only cure for VHF parasitics.

73 Tom

3708. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961207043100.XAA06989@ladder01.news.aol.com>
Source record: 99897

Hi Richard,

Instead of more RM style personal attacks and non-technical comments about the other Richard we all know of, I'd like to see you answer questions about Q.

I think your parasitic theories are absolutely wrong. VHF Q does NOT change significantly with the addition of nichrome, and that is a fact you are trying to avoid. As a matter of fact, a small adjustment in the suppressor resistance and inductance makes a larger change than the addition of "nichrome".

You realize if the nichrome in the suppressor's winding of wire does not significantly lower VHF Q, then everything you attribute to VHF oscillation must be a product of vivid imaginations, or directly attributed to MY claim that HF Q and mistuning / overdriving are the major causes of arcs and sparks in the tank.

Let's make an agreement.

If I can not lower Q (using coventional components) the same amount or more at VHF without adding as much loss of Q on ten meters as the nichrome does, I will concede you have been hawking something of ### great technical merit ###. I will endorse your product as a good method of parasitic suppression.

If the system you hawk does NOT significantly reduce VHF Q at or near the frequency of oscillation (let's say between 140 and 200 MHz) compared to what I can do with conventional components, will you admit the VHF parasitic cures and theories you have been making are false?

This sounds fair to me, since you claim to have re-discovered the only cure for VHF parasitics.

73 Tom

3709. Re: Tektronix 491 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: George Baker <w5yr@swbell.net>
Message-ID: <32A90CDA.549F@swbell.net>
Source record: 99898
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Jon Goguen wrote:
>

> > Also, any recommendations for who to get a user and service manual from?
> Look up Tucker Electronics on Yahoo or whatever. They are a very large used test equipment outfit in Dallas, TX and have extensive files of Tektronix docs. Will cost some $$$ but I would bet that they have it.

--
73, George
W5YR
Fairview, TX

3710. Great BA Web Site!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <58ano0$cat@news1.mnsinc.com>
Source record: 99899
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Hey guys - take a look at my web site!
Lot s of great goodies for ham radio BA operators and home-brewers!

Also I am curious why no -one on either of these NGs ever posts information about OPERATING the old tube rigs!

Did you know there are actually NETS for folks running Boatanchors and / or homebrew tube rigs?

Every evening on 7050 kHz and 3579 kHz starting at around 9 p.m.

Check 'em out! See you all on there with my 6AG7-6L6 soon!
Bry

73 from Bry (((Amateur Radio G3XLQ / AF4K)))
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, SWL info. etc. etc.

3711. Re: Building a weather satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <58b1jf$3ht@opera.iinet.net.au>
Source record: 99900

Tom Rehnstrom <tom.rehnstrom@team.icl.se> wrote:

>Hi all,

>Where can I find some information about building a weather satellite
>reciever (NOAA etc, 137.xx Mc)?

>Thanx.
>/Tom trum@lysator.liu.se
Cirkit UK had a weather satellite receiver kit some years ago and I
think they still have. You will need some software to decode the
pictures however. Many people seem to use the Lindenblad antenna
whioch is an omnidirectional device with crossed dipoles at 45 degrees

Richard Hosking
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

3712. RE: 2300 to 2450 MHz GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Mike <mikes@fishnet.net>
Message-ID: <32A931F8.90D@fishnet.net>
Source record: 99901

Can anyone point me in the right direction for gear for use
in the ham band covering 2300 to 2450 Mhz, rcvr, tx, antenna.
I would like to explore that band, but have not seen much info
about it. The only thing I saw was a post about the loss of some
segments.
Thanks for any help.

73 Mike K6YPB

3713. FS: Eimac 4cx1000 + Eimac socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: k9uwa@cris.com
Message-ID: <58bhu4$9lm@herald.concentric.net>
Source record: 99902

tested full output 4cx1000 eimac tube and eimac socket....also have
filament transformer for the above tube...local SK had started to
build an amp but never finished it....$250 obo de John K9UWA

3714. Need and article for your club newsletter???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: gerryc@airmail.net
Message-ID: <gerryc-0712960734580001@dal04-02.ppp.iadfw.net>
Source record: 99903
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet

Hi,
Name here is Gerry (WD4BIS) and I have been writing a column for our club newsletter called "New Ham Partner". With the influx of No Code Technicians on the repeater, asking the same kinds of questions I asked 20 years ago, I have been trying to answer them.
Some of the articles are technical, some of them are general information, but they all address subjects that our new friends are struggling with.

I have set up a web page for these articles. On this page, I will place the columns I have already published in past issues of our newsletter. Doing this on a web page has advantages, the big one being that the articles wont expire in a newsgroup, I can edit old ones or add new columns as write them, and I wont have to send re-posts.

The Cost... I will ask that you do not edit the articles, and use my by-line. If you use them, send me an E-mail and let me know when and where. If you have a spare stamp mail me a copy of your newsletter to the address on the page.

Where... http://web2.airmail.net/gerryc/newham.html

Please bear in mind this site is still under construction and not all of them are there yet, but they soon will be. Some of the URL's arent resolving yet and some in reformating the text are doing funny things. But I am still working on it

73's

Gerry Crenshaw

3715. Re: Tektronix 491 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Chris Nicholson <csnicholsl@delcoelect.com>
Message-ID: <32A9829B.CB8@delcoelect.com>
Source record: 99904
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Michael L. Ardai wrote:
>
> I recently picked up a Tek 491 spectrum analyzer at a flea. It seems
> to be working fine, but I have one question: How do you calibrate the
> vertical (signal strength) scale? Short of having a signal generator
> of known amplitude at the desired frequency, I haven't figured out
> how. Right now, I'm using it to measure 860 MHz signal strength around
> the apartment to see how much is coming in from a new SMR site being
> installed 25' above us...
>
> Also, any recommendations for who to get a user and service manual from?
> Thanks and 73.
> /mike
>
> --
> \|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
> -*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
> /|\ or send "info barc-list" to listserv@majordomonetcom.com /|\
Mike, I also have a tek 491. It's OK but as you say, it's only
good for relative measurements. so you'll need that generator for
absolute measurements.
73 Chris

3716. need feedthru caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961207150900.KAA15623@ladder01.news.aol.com>
Source record: 99905

Anyone have a double handfull of the old feedthru caps? The kind that have a 1/4-28 threaded shank, a wire going straight thru the body, and something like a 3/8 x 1/4 hex head on the outside containing 500-1000 pF of decoupling capacitor?

Probably can find them at my next hamfest, but that's couple months off and this project isn't.

W4ZCB

3717. Parasitic Suppressor Q

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.217.004121D0@azstarnet.com>
Source record: 99906

I have tried to follow the raging discussion over the merits (or non-merits)of parasitic suppressors constructed with nichrome wire. Frankly, it has been tough to follow at times because the discussion has been cluttered with other topics. So, a new thread, dedicated to a single topic. (We live in hope)

To date, I have seen no one present either modeled data or actual measured data acquired using *appropriate* instrumentation. I have had email discussions with Rich Measures which lead me to believe that he will be send some hardware my way which I will attempt to quantify using my Boonton 250 RX meter. This could be tough because of the low Q, but we shall see. If this doesn't work out, I will report same.

Additionally, I have used both ARRL Radio Designer (ARD) and Mathcad to try and model the effects of nichrome on parasitic suppressor Q. To date, I can come up with no "magic" properties for these suppressors. This is not to say that there are none.

One problem with nichrome (computationally speaking) is that it is a magnetic material. In my limited searching of references, I haven't found a good value for the relative permeability, which along with the resistivity affects the skin effect losses of the wire. However, unless this is non-linear (could be), there is still seems to be no magic involved.

The higher resistivity and permeability of nichrome (whatever the values) simply increase the skin effect losses in the same fashion as in copper or any other conductor.

An inductor wound with nichrome has higher loss (lower Q) than a similar inductor wound with copper, but in the parasitic suppressor, the parallel resistor has the exact effect. In other words, the series equivalent R+jX has an equivalent parallel G-jB which can be made to look the same by addition of external parallel conductance (resistor) to a higher Q copper wire inductor.

The only positive effect I can imagine arising from the use of nichrome suppressors would be due to some non-linear phenomenon that increases VHF loss while not affecting HF loss. If someone can point us to a reference which describes this behavior it would be appreciated and might settle the arguement.

Food for thought, respectfully submitted,

Wes -- N7WS

3718. I Need an NPO Trimmer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: hoff@america.com
Message-ID: <58c6ei$sqf@defiant.america.com>
Source record: 99907

Hi,

Looking for a chassis mount 5-25 NPO ceramic trimmer capacitor. The part that sticks thru the chassis is 1/2 inch in diameter. Am trying to repair a Collins VFO.

Thanks, Conrad

3719. Home Construction Project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: george <moschkau@moschkau.com>
Message-ID: <Pine.BSD.3.91.961207085552.21693A-100000@almond.elite.net>
Source record: 99908

Check out my new home page "http://www.moschkau.com".

73
George, W0LMN
Merced, California

3720. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000712960854480001@news.vcnet.com>
Source record: 99909

In article <n7ws.212.001570DA@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) wrote:

> In article <measures-ya023180000612961027090001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
> >From: measures@mail.vcnet.com (R. L. Measures)
> >Subject: Re: Good source for amplifier tips
> >Date: Fri, 06 Dec 1996 10:27:09 -0700
>
>
>
> [snip]
>
> >This is a parallel circuit, so most things are inverted. (Standing on head
> >may be useful.) snip....

> Whew!
>
> Why not just use Q=R/X for the parallel case?
>
> 73, Wes N7WS

Whew is right, Wes. Thanks for the heads up. Sorry. I forgot that for a parallel circuit, the formula is Q=R/X. So how do we figure total Q when the parallel Ls contains series R of its own?

I'm still trying to figure out why Tom Rauch cancelled his post of 28 November.
---
e-mail copies to Mr. Stewart, Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3721. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000712960904440001@news.vcnet.com>
Source record: 99910

In article <19961205050300.AAA19780@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180000412961119110001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >
> >Rich measures the resonance with a dipmeter, by inductively-coupling the
> >dipmeter to a grid pin on the tube socket and searching for the dip..
>
> You have no idea if you are reading grid resonance, or a resonance effect
> in the leads near the socket. .....snip

There are no other leads near grid pin #3.

> >IMO, there is really no such thing as a 'direct-ground' at RF
> frequencies.
> >Even 6-inch wide copper ribbon has a finite amount of inductance per
> unit
> >length. At 100MHz, roughly 30 inches of such material looks like a
> high-Z
> >RFC.at the open end.
>
> Perhaps you call Z< 100 ohms "high Z". The wider conductor has a lower
> surge impedance, and a lower impedance when resonant. A thin conductor
> would have high Z, but a six inch wide conductor would look like a low
> impedance.

Tom: 30 inches is a quarter wave. The feed Z at the ground end of a quarter wave antenna is roughly 35 ohms. Are you saying that "<100 ohms" is the feed Z at the top end of a quarter wave?

A question: What is the inductance of a six inch wide, flat, thin copper-conductor, 12 inches long?

---

e-mail copies to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3722. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.219.009FEB81@azstarnet.com>
Source record: 99911

In article <measures-ya023180000712960854480001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>From: measures@mail.vcnet.com (R. L. Measures)
>Subject: Re: Good source for amplifier tips
>Date: Sat, 07 Dec 1996 08:54:48 -0700

>In article <n7ws.212.001570DA@azstarnet.com>, n7ws@azstarnet.com (Wes
>Stewart) wrote:

>> In article <measures-ya023180000612961027090001@news.vcnet.com>
>measures@mail.vcnet.com (R. L. Measures) writes:
>> >From: measures@mail.vcnet.com (R. L. Measures)
>> >Subject: Re: Good source for amplifier tips
>> >Date: Fri, 06 Dec 1996 10:27:09 -0700
>>
>>
>>
>> [snip]
>>
>> >This is a parallel circuit, so most things are inverted. (Standing on head
>> >may be useful.) snip....

>> Whew!
>>
>> Why not just use Q=R/X for the parallel case?
>>
>> 73, Wes N7WS

>Whew is right, Wes. Thanks for the heads up. Sorry. I forgot that for a
>parallel circuit, the formula is Q=R/X. So how do we figure total Q when
>the parallel Ls contains series R of its own?

First, compute the parallel equivalent of the series RL alone.
Then add the parallel resistance using the usual formula for such things.
This gives the new parallel equivalent R||L. Q is computed as above.

N7WS

3723. Re: TEFLON WIRE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierE2230G.48M@netcom.com>
Source record: 99912

in <32a73db0.101903658@netnews.worldnet.att.net>, David Allen wrote:
: Thanks for info. Does Boeing Surplus have a catalog or telephone
: number?

They don't know what they have, or at least don't care. That's why it's so cheap. Nothing really great stays around long enough to put in a catalog. (Sometimes they do have catalogs for bid lot auctions).

They were or are closed Monday, and the best pickings were on Tuesday. It's kind of strange to be out in the parking lot in an industrial park on Tuesday morning watching the crowd form. Usually about 50 to 100 techies, hams, machinists, all waiting for the doors to open.

Pickings can be very variable. Sometimes it's just old drill bits, office desks, computers and chunks of aluminum, sometimes you find the widget you've been looking for for years.

20651 84th S.
Kent, Washington

(206?) 393-4060 (The area code is due to change in the next year or sooner).

For a description of the surplus stores around the country, including one I did about the Seattle area, check out http://www.paranoia.com/~filipg/

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3724. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961207192000.OAA20688@ladder01.news.aol.com>
Source record: 99913

In article <19961207004200.TAA02575@ladder01.news.aol.com>,
gamrunr@aol.com writes:

> Unlike Some Amateur Radio operators I will do my best to create
>interest and enthusiasm for Amateur Radio! If someone asks me for Help,
I
>will help.
>
>
> 73, all, God Bless, And hope you ALL have a good Holiday season!
>
> Rob.......

Hi Rob,

In all that yelling I missed your call sign. What was it again?

73 Tom

3725. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961207192000.OAA20685@ladder01.news.aol.com>
Source record: 99914

In article <19961206230200.SAA00361@ladder01.news.aol.com>, k1bqt@aol.com writes:

>
>I may be stepping into something that is out of my league, but it seems to
>me that the "physical connection" argument smacks of religeous fantasy.
>There was a time when virtually all significant RF coupling was done
>inductively--and even today's most advanced solid state power amplifiers
>transfer huge amounts of power in this manner. If I were to connect you
>to a powerful 160 MHz source, Tom, would you rather it be through a .5 pF
>capacitor with a 10 Meg resistor in series--or through a large inductive
>link with a high co-efficient of coupling. Your choice!

This is another area where Mr. Brown and Measures obviously do NOT understand what they are doing.

The very requiremnt that current is removed from the oscillator, causing a dip, indicates coupling is VERY high! The oscillator coil in the dip meter has such high resonant currents that it has a very intense field.

The coupling is so high it actually robs the oscillator of current, cause a dip to appear on the indicator.

I can measure the field from my GDO almost ten feet away with the probe of my network analyzer, yet the GDO has "no idea" the NA probe is there!

It's kind of like the difference between using GPS or a compass, isn't it?

Rich, you allude I adjust the resistance "to what I want". That statement is idotic when we look at the facts.

You couple a GDO to a cold tube that appears as only reactances, when in operation each element has a very finite resistance. For example, negative feedback and other effects combine to make the cathode have a low resistive part in it's terminal impedance and alos greatly reduce the anodes resistive component (at idle it can be taken as Ep/Ip, although it varies over the plate current cycle).

I use the mean impedance of the element while the tube is conducting as the test resistance, while you use an open circuit. Your test is fine if you never power the tube up. When you adjust the tank components, do you terminate the anode in a resistance equal to the operating resistance given in a Chaffe analysis, or do you just leave the anode hang loose?

I find it remarkable you always seem to find fault with correct proceedures while using the worse methods possible in your tests.

What about Q, how much change does you nichrome make at VHF? Is it a large cahnge, or insignificant?

73 Tom

3726. 2N544 transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Andy <muldowne@wilde.oit.umass.edu>
Message-ID: <01bbe475$d47d2b20$c2b37780@oit.umass.edu.umass.edu>
Source record: 99915

Does anyone know about the 2N544 transistor? I got a schemtic for a BFO
which requires it. Thanks.
Andy, KB0MMU

3727. Re: Excellent PC Board Software for Windows

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <58chcp$e85$1@news3.microserve.net>
Source record: 99916

In article <19961205193600.OAA04333@ladder01.news.aol.com>, the2x4@aol.com says...
>
>HI Steve
>
>Does this software provide for image reversal to make negatives?
>
>I tried it when it first came out. It was so slow
>I didn't get into it very far.
>
>
>Carl

Not sure if it does reversals Carl, we outsource our boards so I have not looked into doing negatives. Running the latest version on my P5-75 it is very fast, but then again I am not designing 200+ pin boards.

73 Steve N3FTI

3728. Re: KISS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000712961222450001@news.vcnet.com>
Source record: 99917

In article <19961207043100.XAA06981@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> Hi Richard,
>
> Instead of more RM style personal attacks and non-technical comments about
> the other Richard we all know of, I'd like to see you answer questions
> about Q.

???

> I think your parasitic theories are absolutely wrong. VHF Q does NOT
> change significantly with the addition of nichrome, and that is a fact you
> are trying to avoid. As a matter of fact, a small adjustment in the
> suppressor resistance and inductance makes a larger change than the
> addition of "nichrome".

Since our telephone conversation of 1990, I have been aware that you have a different opinion, Tom. However, you appear to base your opinion on the assumption that insignificant current flows in the suppressor inductor, Ls. When presented with the calculations (from your own Ls-Rs-f I-problem) that similar VHF currents flow in both Rs and Ls, you proffered a plethora of seemingly unplausible arguments to the contrary.

> You realize if the nichrome in the suppressor's winding of wire does not
> significantly lower VHF Q, then everything you attribute to VHF
> oscillation must be a product of vivid imaginations, or directly
> attributed to MY claim that HF Q and mistuning / overdriving are the major
> causes of arcs and sparks in the tank.

I do not realize that resistance wire (nichrome) has no effect on VHF-Q. I have realized that the observed dips in amplifiers' anode VHF-resonant circuits is rather different when silver-plated strap suppressor inductors (Ls) are replaced with resistance wire suppressor inductors. With silver conductors, the dip is sharper and deep. With the resistance wire suppressors, the dip is broader and shallower. This is nothing new, Tom. Mr. F. E. Handy was aware of this technique 70 years ago.. You can read about it in the 1926 Edition of the *Radio Amateur's Handbook*. You can read about it in the 10/88, 9/90, 10/90 and 1/94 issues of *QST* magazine. There's an article about calculating values for VHF parasitic-suppressors in the 3/89 issue.

> Let's make an agreement.

I am reluctant to make an agreement with you, Mr. Rauch.

> If I can not lower Q (using coventional components) the same amount or
> more at VHF without adding as much loss of Q on ten meters as the nichrome
> does, I will concede you have been hawking something of ### great
> technical merit ###. I will endorse your product as a good method of
> parasitic suppression.

An endorsement from someone who dismisses well-established AC circuit
analysis, who purports that dipmeters are incapable of finding resonances,
would amount to an UNendorsement.
---
e-mail copies to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3729. Radio Shack Soldering Iron Replacement????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: rnharsh@visi.com
Message-ID: <58co34$g5o@darla.visi.com>
Source record: 99918
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.misc,sci.electronics.repair

For years I have been using the soldering iron that I bought from RS which has screw in base heating elements in various wattages from 10 to 30 etc. Now of course they no longer handle the screw in base elements. Does anyone know what brand the original was (Weller, Wahl, etc) and if the replacement elements are available anywhere? The base is about the same as a 110 VAC Christmas tree bulb.

Thanks & 73
--
Ron Harshbarger
K3PID
rnharsh@visi.com

3730. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000712961351340001@news.vcnet.com>
Source record: 99919

In article <n7ws.219.009FEB81@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) wrote:

snip...

> First, compute the parallel equivalent of the series RL alone.
> Then add the parallel resistance using the usual formula for such things.
> This gives the new parallel equivalent R||L. Q is computed as above.
>
Good thinking, Wes.

--
--Rich-- ag6k, 805-386-3734

3731. NEED CASH $$$

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: "L.PAGE" <Stone78@juno.com>
Message-ID: <01bbe492$742599c0$6b09f880@UIC>
Source record: 99920

***EASY MONEY - FAST !!!!!

THIS IS THE FAIREST MOST WAY HONEST WAY I KNOW TO SHARE THE WEALTH !

Would you like to make thousands of dollars, quick, legally, with NO CATCH? then keep reading......please take 5 minutes to read this article it will change your life, just like it did mine.. it's true! you can make up to $50,000 in 4 - 6 weeks, maybe sooner!

I SWEAR I'M NOT LYING TO YOU.AND THIS IS NOT A SCAM! if your interested then keep reading;if your not, i apologize for wasting your time.

this is my second time i am doing this. the first time was 7 weeks ago and i have received $48,000. the first week i received $37 dollars,the second week i received $1,364 dollars and by end of the 3rd week i had received $12,856 dollars and to this date i have received $48,074 and money is still coming in.

when i first saw this article i though it was some kind of scam, but for $5 dollars and 5 stamps i thought i would give it a try.after buying a new car,new computer and putting a down payment on a house i relized this was the best $5 dollars i ever spent!

this process is very simple, and it consists of 3 easy steps:

(this whole process will take only a few hours of your time)

STEP 1: get 5 separate pieces of paper and write the following on each sheet of paper..."PLEASE PUT MY NAME ON YOUR MAILING LIST.YOU ARE NUMBER 4." get 5 $1 dollar bills and place one inside of each paper that you just wrote on,and fold each piece of paper so the bill will not be seen in the envolope (otherwise,nosey people who like to steal envolopes with money in it will get yours). put one paper inside the envolopes and seal it. do the same for all 5. you should now have 5 envolopes sealed,each

with a piece of paper and a $1 bill stuffed inside the paper.make sure those words that were stated above are stated on each paper. what you are doing is creating a service by this, this is PERFECTLY LEGAL. now then, mail the 5 envolopes with the paper and $1 dollar bill in each to the following addresses:

1. Dan Wood

1201 #A Anderson ST

San Clemente, CA 92672

2. S. Stapleton

6329 HWY 135 N.

Lake City, AR 72401

3. C. Crafton

1231 SW 61st Terr. #2

Gainesville, FL 32607

4. Michael Barratt

27 Park Ave

Poughkeepsie,NY 12603

5. Louie Page

2907 W. Gregory

Chicago, IL 60625

STEP 2: now take the first name off the list that you see above, move the other 4 names up (5 becoming 4 , 4 becoming 3 ect.)and put your name as number 5 on the list. you can slightly alter this article if you need to, editing what you need to edit.

STEP 3: post your amended article (with your name at number 5 of the list) to at least 200 newsgroups (i think there are 18,000 of them). all need is say, at least 200. HOW TO DO THIS: IF YOU HAVE NETSCAPE DO EXACTLY THE FOLLOWING:

1) click on any news group like normal,then click on "to news",which is on the far left when your in the newsgroups page. this will bring up a box to type a message in.

2) leave the newsgroup box like it is, change the subject box to something flashy like, "NEED CASH $$$" ,"READ HERE $$$" or "FAST CASH $$$!!.

3) tab once and you should be ready to type. now, retype (only once) this whole article,execpt to insert your name at #5, and remove #1 off the list, plus any other small changes you think you need to make, keep almost all of it the same.

4) when your done typing the whole article, click on file in this box, right above send, not where it says netscape news on the first box. click on "save as" when your under file. save your article as a text file to your c: or a: drive. do not send or post your article until you do this. once save move on to number 5 below.

5) if you still have all of your text, send or post to this newsgroup now by just clicking send, which is right below file, and right above Cc: .

6) here's where your going to post all 200. ok, click on any news group then click on "to news", again in the top left coner. leave the newsgroupss box alone again, put a flashy subject title in the subject box, hit tab once your in the body of the message, then click on "attachments", which is below the subject box. you will get another box to come up. click on "attach file" then find your file below that you have saved; click once on the file,and then click open' now click on ok; if you did this right , you should see your file name in the attachments box, and it will be shaded.

if you use explorer its just as easy.... holding down the left mouse button,highlight the article. then press "ctrl" key and the "c" key at the same time to copy this article. then print this article for your records to have the names of those you will be sending $1 bills to. next go to the news groups and press "post an article", a window will open. next go to the news groups and press "post an article" a window will open. type your headline in the subject area and then

click in the large window below. press "ctrl" and the "v" and the article will be placed in the window. if you want to edit the article do so and then highlight and copy it again.now everytime you post the article in a new newsgroup you only have to repeat "ctrl" and "v" and press post.

7) THATS IT. each time you do this , all you have to do is type in a different newsgroup,so that way, it posts to 200 different newsgroups ..you see? now you just have 199 to go!! (dont worry, each only takes about 30 seconds once you get the hang of it).REMEMBER 200 IS THE MINIMUM.

THE MORE YOU POST THE MORE MONEY YOU WILL RECEIVE !!!

AND THATS IT !!! THATS THE ONLY 3 STEPS THERE IS !!!

you are now in the mail order business and will start receiving your $1 envolopes from various people all over the world within days. hint: you may want to rent a po box eventually because of all the mail you will be receiving. JUST MAKE SURE ALL THE ADDRESSES ARE CORRECT, PLEASE.

LET ME TELL YOU WHY THIS SYSTEM WORKS !!!!

out of every 200 postings, lets say i only receive 5 replies (which is actually very low!) so i made $5 dollars with my name at # 5.

now then,each person that just sent me $1 makes, say only 200 postings now with your name at #4, which is a total of 1000 postings,not including yours too. 50 people send you $1 now; thats $50.00 you just made! now, then your 50 agents post 200 each with your name at #3,or 10,000 postings (50x200). average return is 500 a $1 each is $500.

they make 200 postings, which is 5,000 returns at $1 each, which is $5,000 dollars! and finally, 5000 people make 200 postings which with your name at #1. you now get a return or $50,000 before your name drops off the list. and thats if everyone only makes 200 postings and if only 5 people respond !!!!

no like me when your name drops off the list just find the latest

posting and start over again..YOU WONT BE SORRY !!!!

3732. DGPS - I want to build a DGPS receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Doug Potter <potters@worldnet.att.net>
Message-ID: <32AA0598.194A@worldnet.att.net>
Source record: 99921

I want to build rather than buy a DGPS receiver. Can anyone refer me to plans for such a receiver.

Doug Potter

3733. ANSWER - O'scope- How to ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <58bqla$9ft@boursy.news.erols.com>
Source record: 99922
Cross-posted to: rec.radio.amateur.homebrew,rec.video.cable-tv

The answer turned out to be "Don't be confused between the VIDEO output of the VCR and the RF OUTPUT of the VCR. The VIDEO output was what gave me what I was looking for. - Mike

3734. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Allan Dobler <doblera@cadvision.com>
Message-ID: <32AA1F6F.52E9@cadvision.com>
Source record: 99923

w8jitom@aol.com wrote:
>
> In article <32A7AE61.26EF@cadvision.com>, Allan Dobler
> <doblera@cadvision.com> writes:
>
> >Isn't a CB'er that builds a homebrew amp, a better hobbiest than a 2M
> >appliance operator who buys gear at Radio Shack???
> >73
> >Allan
>
> I guess it depends on what is meant by "better". Are you confusing
> "better" with "technically more skilled"?
>
> Is a unlicensed driver who builds his own car and drives 100 MPH in
> school zones a better driver than one who just buys a car and follows the
> law?
>
> If the guy runs the PA into dummy loads, and is only trying to learn, he
> definately is the better hobbiest. Of course, that is unlikely.
>
> If he uses the PA on CB, or worse yet sells them or uses them on ten
> meters (without a license) or commercial frequencies, helping him is
> idiotic. This seems more likely.
>
> 73 Tom

You are right Tom, I suppose the point I was making was that the true
spirit of Ham radio has been lost in recent years.
--
73

Allan

VE6AQK@VE6YYC.#SAB.AB.CA

doblera@cadvision.com

You should always be aware that statistics can be manipulated...
84% of people already know that!

3735. FS: ICOM 706

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: "Samuel S. Yates" <ab4n@erols.com>
Message-ID: <32A9D292.6FEA@erols.com>
Source record: 99924
Cross-posted to: rec.ham-radio,rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap

ICOM 706 Station including:
IC-706 (Purchased new 16AUG96, never mobile)
AT-180 Antenna Tuner 160m thru 6m
FL-100 500Hz CW Crystal Filter
OPC-581 Seperation Cable
MB-62 Mobile Mount
MB-63 Faceplate Mount
Total AES Price $1901.85. My price $1520.00 plus shipping.

Also have AEA 6 Meter Halo Antenna, about one month old. AES cost
was $69.00, my price $55.00 plus shipping.

All equipment is in mint condition. E-mail me if interested. I am
located in Culpeper, Virginia (about 70 miles SW of Washington, DC).

Sam Yates, AB4N

3736. Re: Radio Shack Soldering Iron Replacement????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-07 00:00:00 UTC
From: Dave Burr <dtburr@mcs.com>
Message-ID: <32AA3220.2A47@mcs.com>
Source record: 99925
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.misc,sci.electronics.repair

Ron Harshbarger wrote:
>
> For years I have been using the soldering iron that I bought from RS which has
> screw in base heating elements in various wattages from 10 to 30 etc. Now of
> course they no longer handle the screw in base elements. Does anyone know what
> brand the original was (Weller, Wahl, etc) and if the replacement elements are
> available anywhere? The base is about the same as a 110 VAC Christmas tree
> bulb.
>
> Thanks & 73
> --
> Ron Harshbarger
> K3PID
> rnharsh@visi.com

Yeah...I feel your pain. I'd much rather spend hours and hours finding a replacement tip than buying a whole new soldering iron for $6.99. When I had the same problem I sent messages to several newsgroups and contacted many manufacturers in writing and via telephone.

But I do offer words of encouragment. After several days of effort and several e-mails, phone calls, and letters, I was able to find a replacement element, shipped by Acme, for $12 plus $3 S&H. I figure that if you count the value of my time, plus my expenses, I spent about 650 bucks but it's a hell of a lot better than letting "big business" take advantage of me!

Hang in there!

Dave K9XK

3737. Re: looking for low ppm trim pots

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32AB3CD9.4120@worldnet.att.net>
Source record: 99839

Agreed... Vishay makes the best money can buy- but apparently keep low
inventories. Does "Bourns" make anything that will work?
Woody

Chris Mesibov wrote:
>
> Looking for some good sources that have "RJR" style trimmer pots with
> low tempco. Dale/Vishay is quoting me 6 weeks on a 17s102! Who has
> stock?
>
> Thanks,
> Chris

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3738. SUPPRESSORS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32aad3a6.5318661@news.frazmtn.com>
Source record: 99840

I'm totally lost regarding the past suppressor threads. Anyone know a SIMPLE way to design suppressors for a pair of 4-1000s, conventional grid (AB1) ??? What did the engineers do before HP network analyzers etc?
73, Jesse, W6KKT

3739. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32aad6a9.6089629@news.frazmtn.com>
Source record: 99841

On 17 Nov 1996 02:29:10 GMT, w8jitom@aol.com wrote:

>In article <328dd54a.3597915@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT
>Jesse) writes:
>
>>Mario, without a doubt, your test method is without peer! I would
>>never have thought to short an antenna that was connected to a "over
>>driven", un-loaded SB-220 to compare the DC with the un-loaded RF
>>voltage. By the way, what was the exact magnitude of the RF voltage
>>and the instrument used to measure it? Or, was "almost" melting the
>>output connector the guage you used to determine the RF voltage was
>>twice the DC voltage?
>>Jesse, W6KKT (50 miles north of Hollywood)
>
>Hi Jesse,
>
>One manufacturer requires a short load test on ever PA leaving the
>factory, as well as an open load at full drive, to weed out close wires
>and weak components in tanks.
>
>The goal is to make sure the plate tuning cap or an intentional gap arcs
>before the switch, and any weak components (like padding capacitors) fail.
>
>One process of designing a new **Amateur** PA is to run 15% more than
>rated HV, short the load, and apply full drive. Components are sized to
>just barely be beyond arcing under that condition. Commercial units enjoy
>more protection and margin.
>
>73 Tom

Hi Tom, the above acid test methods may be okay for a manufacturer of
amplifiers, with a inventory of spare parts. I'm sure you don't mean
for the average Ham to do that kind of test for instability. It could
be very expensive, especially with a out of production SB-220.
73, Jesse, W6KKT

3740. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32aad92b.6731626@news.frazmtn.com>
Source record: 99842

On 17 Nov 1996 02:29:10 GMT, w8jitom@aol.com wrote:

>In article <328dd54a.3597915@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT
>Jesse) writes:
>
>>Mario, without a doubt, your test method is without peer! I would
>>never have thought to short an antenna that was connected to a "over
>>driven", un-loaded SB-220 to compare the DC with the un-loaded RF
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>>output connector the guage you used to determine the RF voltage was
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>>Jesse, W6KKT (50 miles north of Hollywood)
>
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>
>73 Tom

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amplifiers, with a inventory of spare parts. I'm sure you don't mean
for the average Ham to do that kind of test for instability. It could
be very expensive, especially with a out of production SB-220.
73, Jesse, W6KKT

3741. Re: More amplifier stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32aae6eb.10251962@news.frazmtn.com>
Source record: 99843

On 17 Nov 1996 02:29:10 GMT, w8jitom@aol.com wrote:

>In article <328dd54a.3597915@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT
>Jesse) writes:
>
>>Mario, without a doubt, your test method is without peer! I would
>>never have thought to short an antenna that was connected to a "over
>>driven", un-loaded SB-220 to compare the DC with the un-loaded RF
>>voltage. By the way, what was the exact magnitude of the RF voltage
>>and the instrument used to measure it? Or, was "almost" melting the
>>output connector the guage you used to determine the RF voltage was
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>>Jesse, W6KKT (50 miles north of Hollywood)
>
>Hi Jesse,
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>One manufacturer requires a short load test on ever PA leaving the
>factory, as well as an open load at full drive, to weed out close wires
>and weak components in tanks.
>
>The goal is to make sure the plate tuning cap or an intentional gap arcs
>before the switch, and any weak components (like padding capacitors) fail.
>
>One process of designing a new **Amateur** PA is to run 15% more than
>rated HV, short the load, and apply full drive. Components are sized to
>just barely be beyond arcing under that condition. Commercial units enjoy
>more protection and margin.
>
>73 Tom

Hi Tom, the above acid test methods may be okay for a manufacturer of
amplifiers, with a inventory of spare parts. I'm sure you don't mean
for the average Ham to do that kind of test for instability. It could
be very expensive, especially with a out of production SB-220.
73, Jesse, W6KKT

3742. Re: SUPPRESSORS??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <58eoon$349@dallas1.connect.net>
Source record: 99844

In article <32aad3a6.5318661@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) says:
>
>I'm totally lost regarding the past suppressor threads. Anyone know a
>SIMPLE way to design suppressors for a pair of 4-1000s, conventional
>grid (AB1) ??? What did the engineers do before HP network analyzers
>etc?
>73, Jesse, W6KKT

I once owned an amp (pair 4-1000A's) made by Eimac/Varian. The suppressors were made by winding 3 turns of #10 wire around Carborundum 884 SP500K 50 ohm glo-bar resistors. The clips on the ends of the resistor served as terminals for the coil and the half-inch straps leading from the top of the plate choke to the tube anodes.

My own personal design experiences with the 4-1000A:

When running this tube above 5000 volts on the plate it needs some "taming". Successful solutions were passed down from ham to ham... putting a 10 ohm resistor in series with a 25 pf cap from each filament pin to chassis was the most significant cure for squirliness.

I quickly found that small MOF and carbon resistors that I had used in the past on anode suppressors were quickly "crispy-crittered" when the amp was operated on 10 meters. The suppressor coil did not get hot, the resistor did! Even Varian agrees it takes at least a 20 watt resistor to make a reliable suppressor for this beast. Bottom line: I think the engineers took each new amp design as it presented itself, and did what was necessary to "make it work" by trial and error. (((73))) Phil, K5PC

3743. Where Hi Voltage Zeners?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <58esuq$4dm@news.icanect.net>
Source record: 99845

I have a Heathkit scope (IO-104) that has managed to eat a string of 275V 3-mA Zeners. Anybody out there have a source for such a beast?

Thanks

3744. Parasitic Suppressor Q

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961208175600.MAA15694@ladder01.news.aol.com>
Source record: 99846

>From: n7ws@azstarnet.com (Wes Stewart)
>Date: Sat, 7 Dec 1996 08:36:31 LOCAL

>To date, I have seen no one present either modeled data or actual
measured
>data acquired using *appropriate* instrumentation.

Not true Wes, I've done that although it gets lost in the needless
clutter.

I measured an AL-80B suppressor at 180 MHz and the Q was 0.80 using an
almost new HP Impedance Analyzer.

> I have had email
>discussions with Rich Measures which lead me to believe that he will be
send
>some hardware my way which I will attempt to quantify using my Boonton
250 RX
>meter. This could be tough because of the low Q, but we shall see. If
this
>doesn't work out, I will report same.

>Additionally, I have used both ARRL Radio Designer (ARD) and Mathcad to
>try and model the effects of nichrome on parasitic suppressor Q. To
date, I
>can come up with no "magic" properties for these suppressors. This is
not to
>say that there are none.

I've had difficultly locating exact data on nichrome also, mainly because
Richard offers no information as to the size or characteristics of the
nichrome.

>An inductor wound with nichrome has higher loss (lower Q) than a similar
>inductor wound with copper, but in the parasitic suppressor, the parallel

>resistor has the exact effect. In other words, the series equivalent
R+jX
>has an equivalent parallel G-jB which can be made to look the same by
addition
>of external parallel conductance (resistor) to a higher Q copper wire
>inductor.

This was my point all along Wes, and I suspect it is the reason
discussions of Q are avoided in favor of GDO measurements and arguements.

As you said, the truth is adding nichrome in the suppressor's coil is equivilent to adding slightly more inductance, and slightly lowering the suppressor resistor value. There is no magic at all to nichrome, except it lowers the loaded and unloaded HF Q of the tank (mostly around 20-30 MHz).

Nichrome changes system Q very little at VHF, and no more than could be accomplished with a slight readjustment of actual components. If the nichrome corrects anything, it is excessive voltage from improper tuning in the upper HF region. The VHF Q thing is bunk. It's as scientific as the 500 watt grids and damage to tubes on standby from photons.

As near as I can tell by measuring individual components and the system, the 80B suppressor system looks like this at 170 MHz:

Suppressor (coil in place over the 100 ohm resistor but not connected) Q 37.4 L 85 nH. Leads and components from anode to ground ~3 ohms ~100 nH (these readings vary with lead dress).

I measured an anode connector to chassis impedance at 200 MHz of 55.24 ohms in series with 138.97 nH for a Q of 3.16. This tracks closely with a suppressor coil of 85 nH with an ESR of two ohms, and two ohms of lead loss in the path from the anode to chassis.

If I add 10 ohms of resistance in series (to simulate nichrome) with the suppressor's coil, and 6 ohms of resistance to the anode lead (I think I have been overgenerous in adding that amount of resistance, but I wanted to give Mr. Measures every advantage) Q drops to 2.78.

Q drops from 3.16 to 2.78 in this VERY generious example.

The lower VHF Q theory is seriously flawed. That's a real problem, since Mr. Measures claims over and over again it magically cures arcs, sparks, bangs, pops, and melting glass from VHF parasitics.

Wes, if you'd like the actual components used in the stock PA, or a mock up of the related components on the actual chassis, let me know. Otherwise I don't see how you will compare Q. Ameritron uses a special order non-inductive resistor in this suppressor.

> In article <measures-ya023180000412961119110001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>>Rich measures the resonance with a dipmeter, by inductively-coupling the
>>dipmeter to a grid pin on the tube socket and searching for the dip..

W8JI wrote:
>You have no idea if you are reading grid resonance, or a resonance effect
>in the leads near the socket. ....snip

RM wrote:
>>There are no other leads near grid pin #3.

There were actual components attached to the leads in one condition, and in the other condition your dip meter is exciting one lead that is in parallel with two others through the base of the tube. The grid sees the circuit much differently.

A GDO is the wrong instrument for measuring changes in the grid's effect on shielding. It measures resonance at one point, when we really need to know the impedance at another point in the complex system. The only way to determine the shielding ability of the grid, or the grid's relative impedance to ground, is by passing a signal from the anode to the cathode with the grid interrupting that path.

Resonance tells you NOTHING about the frequency of oscillation. If there is a resonance it might be a frequency where the tube actually tries to NOT oscillate, where it DOES try to oscillate, or neither. Sticking the GDO near the grid pin or lead is a frivolous measurement, it's about as useful as grid dipping the power cord.

On the other hand, the change in transmission loss through the tube CLEARLY indicates changes in shield effectiveness of the grid. Where the grid has a high impedance, transmission loss is maximized. Driving the tube with a source Z close to the operating impedance of the satage, and loading the anode with a value approximating the anode resistance of the stage gives an excellent indication of potential feedback problems.

RM sez.
>>IMO, there is really no such thing as a 'direct-ground' at RF
>> frequencies.
>>Even 6-inch wide copper ribbon has a finite amount of inductance per
>>unit length. At 100MHz, roughly 30 inches of such material looks like a
>> high-Z RFC.at the open end.

W8JI said:
> Perhaps you call Z< 100 ohms "high Z". The wider conductor has a lower
> surge impedance, and a lower impedance when resonant. A thin conductor
> would have high Z, but a six inch wide conductor would look like a low
> impedance.

RM sez
>>Tom: 30 inches is a quarter wave. The feed Z at the ground end of a
>>quarter wave antenna is roughly 35 ohms. Are you saying that "<100
ohms"
>>is the feed Z at the top end of a quarter wave?

When the conductor has an L/W ratio of 5 your theory fails. The conductor has considerable capacitance and a very low surge Zo. The resistance of an end-fed 1/2 wl is less than 100 ohms for a L/D ratio smaller than 30 (Characteristics of linear elements, Antenna Enginnering Handbook, Jasik 3-3).

RM asks
>A question: What is the inductance of a six inch wide, flat, thin
>copper-conductor, 12 inches long?

Depends on the frequency, what is around the conductor, and how it is connected. Reactance and resistance varies with frequency. At high frequencies the problem is complex, on some frequencies the 12 inch lead will even be a capacitance.

I'm under the impression you consider conductors simple inductances with no distributed capacitance. If so, that is a mistake.

73 Tom

3745. Re: soldering home brew boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <58f05b$e1q@kirin.wwa.com>
Source record: 99847

Rosin Liquid Flux - alcohol based. Kester 1544RA. Try Mouser as
a source.

Always works for me. It is a little messy. Rubbing alcohol
without lanolin will clean up.

Simon

"K.R.Burtchaell" <kburt@telis.org> wrote:

>I am looking for suggestion s on soldering homebrew pcbs.Usually just a
>couple of ICs chip caps and resistors.Is solder paste the way to go?If
>so how to solder?Heat gn or reflow?Looking for suggestions that are
>easily done in the homeworkshop. 73 Ken W6GHV

In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

3746. Re: Need Info on 6146 and 4cx250 RF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961208182400.NAA16245@ladder01.news.aol.com>
Source record: 99848

In article <32AA1F6F.52E9@cadvision.com>, Allan Dobler
<doblera@cadvision.com> writes:

>
>You are right Tom, I suppose the point I was making was that the true
>spirit of Ham radio has been lost in recent years.
>--
>73
>
>Allan

A better topic might be why some CB'ers build things and while some Hams
don't.

What has ruined our ambition to learn?

73 Tom

3747. Re: Dampening...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961208182400.NAA16247@ladder01.news.aol.com>
Source record: 99849

In article <moorej-0512961745200001@muv62.marshall.edu>,
moorej@marshall.edu (Bill Moore) writes:

>> ALC overshoots are real shame with modern radios equiped with a lot of
>micro-
>> processors. They should be cured at the source and NOT late in the
>chain...
>> However, tubes can survive them, poor MOSFET's don't...
>> 73 de Mario, S56A, N1YU.
>
>Realizing that I am at great risk of being accused of picking a language
>nit..
>
>Mario -

Mario wording sounds ok to me. It is the technical content that matters,
and he has a good grasp of things. IMHO, that is what matters.

Too many people can write absolute techincal rubbish that sounds perfect.

Mario, the overshoot can trigger a tank arc in a tube type PA. I've seen
this happen often. Under the right conditions, it can be almost as bad as
shorting the output jack!

73 Tom

3748. need help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: leeboo@ct.net
Message-ID: <58f37e$78t@news.ct.net>
Source record: 99850

Need rca tube manual 1945 thru 70's.
will pay any reasonable plus shipping
am in cental.FL.
call 941 371 37 39 collect
Email leeboo@ ct.net

3749. TEST EQUIPMENT for SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: james brunelle <brunelle@multi-medias.ca>
Message-ID: <58f5e3$89f@wagner.spc.videotron.ca>
Source record: 99851

l) DECADE RESISTANCE BOX'S FOR SALE MODEL 63

Description:
The Model 63 Precision Decade makes possible the selection of any resistor value from 1 ohm to 999 ohm in 1 ohm steps. The resistor elements are housed in a sealed bakelite box and are non inductively wound on porcelaine tubes. This unit is suitable for use in electrical measurements, substitution resistor's to aid in designing and for experimentation in schools and research institutes. Ranges 0-9x units, tnes, hundreds, thousand ohms. Precision .1% resistor elements Manufactured by Brunelle Instruments Inc. Price $29.00 each (Qty only 24 on hand). Manufacturing overrun (NEW).

2) REGULATED BENCH POWER SUPPLY - MODEL 1030

DESCRIPTION:
The Model 1030 is 0-18V, 0-3A, adjustable, dual meters, regulation .01%. TOP QUALITY SUPPLIES (NOT CLUNKERS) Mfg by Instek. $189.00 NEW

3) PULSE GENERATOR - MODEL 3060

DESCRIPTION:
Can be used with an Oscilloscope for adjustable sweep delay, TTL/CMOS LEVEL (output adjustable), built-in Logic Tester, Pulse period range of 100 nS to 0.1S, Frequency range 0.5 Hz to 5Mhz. Operating modes: Run, Trigger, gAte, One Shoot, Square, Invert. MFG by Instek. $159.00 NEW

If interested send address or fax no. for complete spec sheets.

JIM BRUNELLE <brunelle@multi-medias.ca> Tel: 1-819-563-9196,
l-819-838-5854,
fax l-819-569-1408.

hand - 24

3750. Re: Where Hi Voltage Zeners?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbe549$3eff1b60$9b0f2399@peter-s>
Source record: 99852

Terry Simonds <fsimonds@icanect.net> wrote in article
<58esuq$4dm@news.icanect.net>...
>
> I have a Heathkit scope (IO-104) that has managed to eat a string of
> 275V 3-mA Zeners. Anybody out there have a source for such a beast?
>

If you can't find the 275 Volt ones, get lower voltage ones, but more of
them, so that the total
voltage of the string is the same.

Try Digi-key or Mouser (both have 800 numbers and will send you catalogs).

...Peter

3751. Need HF Amp Schematic(s)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: scott9@pipeline.com
Message-ID: <58f9pb$g9e@camel0.mindspring.com>
Source record: 99853

I need diagrams for HF amps, (20 meters), please tell me where I can get them.

Thanks,
Scott, KF6FCN

3752. Re: NEED CASH $$$

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: "Richard F. Gillette" <r.f.gillette@ieee.org>
Message-ID: <32AB3197.745F@ieee.org>
Source record: 99854

What do you want us to send you when you are in JAIL?

This pyramid con game is illegal in Illinois, and many other states.

Check with the U of Chicago it is also against their policy.

The reason is simple, the people at the bottom of the pyramid get taken,
i.e. there are not enough people to equal n^5!

Cook County Jail is the last place I would like to spend Christmas!

--
Richard F. Gillette PE, W9PE Board Member, Harper C.C. \\////
RF gillette inc. PO Box 1605, Palatine, IL 60078-1605 (OO)
r.f.gillette@ieee.org, v)847-526-2626, f)847-526-2944 oo00=={}==00oo=

3753. Dentrol Clipperton L Amp - too much current! ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: tenorman@i1.net
Message-ID: <58ffsl$n88@news1.i1.net>
Source record: 99855

Hello all: Please help. I just purchased a Dentron Clipperton Amp, with 4 - 572B tubes. The amp seems to require a lot of plate current to get going. That is, with 40 watts drive, I get 700 watts out, with 1 Amp plate current being drawn. The high voltage is about 1500 volts. Pretty bad efficiency at about 47%. If I push it harder, plate current goes beyond 1 amp, and arcing begins (arced once anyway). This is in "low" power mode, 1500 volts, if I kick it to high power or about 2200 volts, I can get almost 1000watts out, but with 2200watts in. I cannot drive it harder that say 50 watts or so without plate current going beyond 1 amp input. I can't even back it off with the load or tune. Is this normal for this amp? Will I blow it if I run it at 1 amp plate current in?

Thanks in advance, 73 all, Mike... - WQ0N - email: tenorman@i1.net

3754. Re: F.S.- 15,000 + tubes antique to modern

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: billn@PEAK.ORG
Message-ID: <58fegq$9tv@bashir.peak.org>
Source record: 99856
Cross-posted to: rec.antiques.radio+phono,rec.radio.swap,rec.radio.amateur.homebrew

MURRAY PASTERNACK (murray.p@ix.netcom.com) wrote:
: For Sale: Tubes, 1920's to 1970's, NOS & USED, 40 year accumulation of
: more then 15,000 tubes.

: E-mail your snail mail address to: m.pasternack@juno.com for a list of
: types available & prices

I tried sending you e-mail, but had the posting rejected - your address
was not acceptable.

I would like the list.

Bill

3755. Re: Radio Shack Soldering Iron Replacement????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Dec8.150447.662@main03>
Source record: 99857
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.repair,sci.electronics.misc

In article <58co34$g5o@darla.visi.com>, rnharsh@visi.com (Ron Harshbarger) writes:
> For years I have been using the soldering iron that I bought from RS which has
> screw in base heating elements in various wattages from 10 to 30 etc. Now of
> course they no longer handle the screw in base elements. Does anyone know what
> brand the original was (Weller, Wahl, etc) and if the replacement elements are
> available anywhere? The base is about the same as a 110 VAC Christmas tree
> bulb.
>
> Thanks & 73
> --
> Ron Harshbarger
> K3PID
> rnharsh@visi.com
>
Hi Ron,
Sounds like the old Ungar irons. I've noticed that Mouser carries Ungar.
You might try them. (800) 346-6873.

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

3756. FS: Realistic HTX-202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: bbrown@gate.net
Message-ID: <58fhhv$1662@news.gate.net>
Source record: 99858

4 SALE:

Realistic HTX-202 2 meter handheld.

Excellent condition. $200.00 and i will pay shipping.

call me at 561-791-0137 or e-mail me bbrown@gate.net. Im located in
south florida.

3757. FS: Realistic PRO-39 Scanner.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: bbrown@gate.net
Message-ID: <58fhl0$1662@news.gate.net>
Source record: 99859

```
4 sale:

Realistic PRO-39 handheld scanner.

Excellent condition. $200.00 and i will pay shipping.

call me at 561-791-0137 or e-mail me at bbrown@gate.net. Im located in
south florida..
```

3758. Info requested on bytek s10 eprom programmer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: les@psi.bc.ca
Message-ID: <les.16.00168DE8@psi.bc.ca>
Source record: 99860

Does anyone have any info on how to set up the bytek s10 eprom programmer.
I called bytek but they do not have any info any longer as this programmer is
likely 10 years old.
I would like to know what eprom types it programs and how to configure it
with the panel buttons.

please email les@psi.bc.ca

tnx
les

3759. AM 6154 Amp input coupling

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: mottrd@usit.net
Message-ID: <58ffn8$3ik@news.usit.net>
Source record: 99861

Does anyone out there have any experience convering a AM 6154(Fair
Radio Sales) amplifier to two meters. I am interested in the changes
to theamp input coupling for more output power.
Tnx
Ron
mottrd@usit.net

3760. Re: Radio Shack Soldering Iron Replacement????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: "clawson iea.com"
Message-ID: <32aa1afb.65457552@nntp.iea.com>
Source record: 99926
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.misc,sci.electronics.repair

rnharsh@visi.com (Ron Harshbarger) wrote:

>For years I have been using the soldering iron that I bought from RS which has
>screw in base heating elements in various wattages from 10 to 30 etc. Now of
>course they no longer handle the screw in base elements. Does anyone know what
>brand the original was (Weller, Wahl, etc) and if the replacement elements are
>available anywhere? The base is about the same as a 110 VAC Christmas tree
>bulb.
>
>Thanks & 73
>--
>Ron Harshbarger
>K3PID
>rnharsh@visi.com
>

I believe Ungar made the RS soldering irons. The base of the heating
element is in fact the same as a 110v xmas bulb. Makes a handy drop
light in a pinch. The tip I believe was a 1/4"-20 thread.

Check Mouser, MCM, etc. I known I've seen replacement tips that would
work.

-Chris

3761. Re: DGPS - I want to build a DGPS receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Erik Skovgaard <Erik_Skovgaard@bc.sympatico.ca>
Message-ID: <01bbe4b0$0a8843a0$5ac56cce@default>
Source record: 99927

Doug,

I think the DGPS beacons operate on different frequencies around the world. Here on the Canadian West coast, we use the navigation beacons in the 300 KHz-range. So, you can use any HF receiver that covers that band (modulation is AM, as far as I recall), but you will also need a decoder to make sense of the signal.

Alas, I can't help you with info on the decoder, but you could try VE7CEI's GPS pages. The URL is:

ftp://sundae.triumf.ca/pub/peter/index.html

73 de VE7MDL

Doug Potter <potters@worldnet.att.net> wrote in article
<32AA0598.194A@worldnet.att.net>...
> I want to build rather than buy a DGPS receiver. Can anyone refer me to
> plans for such a receiver.
>
> Doug Potter
>

3762. N connectors FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: shiso@ici.net
Message-ID: <shiso-0712962157330001@pmfr2ip27.ici.net>
Source record: 99928

N (M), connectors, crimp type, silver plated, by King Electronics Co. Part # KN-59-309-MO7. Good for RG 6 Foam size coax. $12 for 10 connectors plus shipping.
Thanks, Bruce KD1MW...
shiso@ici.net

3763. Re: Radio Shack Soldering Iron Replacement????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: mwolfe@wco.com*
Message-ID: <32b2349d.76136626@news.wco.com>
Source record: 99929
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.misc,sci.electronics.repair

On 7 Dec 1996 21:37:40 GMT, rnharsh@visi.com (Ron Harshbarger) wrote:

> For years I have been using the soldering iron that I bought from RS which has
> screw in base heating elements in various wattages from 10 to 30 etc. Now of
> course they no longer handle the screw in base elements. Does anyone know what
> brand the original was (Weller, Wahl, etc) and if the replacement elements are
> available anywhere? The base is about the same as a 110 VAC Christmas tree
> bulb.
>
> Thanks & 73
> --
> Ron Harshbarger
> K3PID
> rnharsh@visi.com
>

I ended up replacing my RS iron with a hakco solder station. :) Of
course my RS iron was usally the 6 dollar type. :) Know the one your
talking about, haven't seen one in years. I'd pickup a weller or
something. They'll last for years.
Cul,
Mark Wolfe

3764. Need software for AVOCET Eprom Programer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: dwentz@accessus.net
Message-ID: <58d27t$fk1@news.accessus.net>
Source record: 99930

We have a AVOCET eprom program, and am looking for software for it.

If anyone owns one please contact me, the unit has 10 zif sockets on it, and includes a ISA interface board.

Thanks

KB9JJA/Dale

3765. Re: Wanted: CAD Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Dean Arthur <dearthur@cyberhighway.net>
Message-ID: <32AA7503.16AC@cyberhighway.net>
Source record: 99931

If you have Mac with 68030 or later, can let you have disks for Aura Cad 2-D design. The original co. went out of business about two years ago.

3766. Re: Building a weather satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Dean Arthur <dearthur@cyberhighway.net>
Message-ID: <32AA7786.34D8@cyberhighway.net>
Source record: 99932

Ramsey Electronics in New York will sell you the construction manual for Weather Satellite Receiver for five dollars. Order one of their catalogs at 1-716-924-4560.

They also have kits for 6M, 2M, 1.25M and 70 cM. These come with 12 channel switching from the entire band on a diode matrix.

But you can get all the freqs available for each unit: i.e. 40-60 Mhz on 6M; 140-180 on 2M; 210-260 on 1.25; and 430-470 on 70 cM with use of BCD switchess and EPROMs or EEPROMs kit available from Technologic Concepts, 1803 Mission Street-Ste. 308, Santa Cruz, Cal.95060

3767. Re: Building a weather satellite reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Dean Arthur <dearthur@cyberhighway.net>
Message-ID: <32AA78AA.2370@cyberhighway.net>
Source record: 99933

If you live in metro area, or in vicinity of airport or other high rf saturated area you might consider El Cheapo trash can filter. Article in one of this year's issues of 73 Amateur Radio Today has article on using a 25 or 30 gal galvanized trash can to build a weather receiver filter with about 40dB attnuation of signals either side of weather freq.

3768. Re: 40m FT-243 xtals to trade 4 same!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Dean Arthur <dearthur@cyberhighway.net>
Message-ID: <32AA7450.5309@cyberhighway.net>
Source record: 99934

Will check my WW II boxed xtal sets and e-mail you the cw freqs I have.

3769. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000812960024010001@news.west.net>
Source record: 99935

> Hi Richard,
>
> Instead of more RM style personal attacks and non-technical comments about
> the other Richard we all know of, I'd like to see you answer questions
> about Q.

??? // RE: Q: On 6 Dec. I answered your Nov. 28 post about Q .

> I think your parasitic theories are absolutely wrong. VHF Q does NOT
> change significantly with the addition of nichrome, and that is a fact you
> are trying to avoid. As a matter of fact, a small adjustment in the
> suppressor resistance and inductance makes a larger change than the
> addition of "nichrome".

Since 1990, I have been aware that you have a different opinion, Tom.
However, you appear to base your opinion on the assumption that
insignificant VHF current flows in the suppressor inductor, Ls. When
presented with the calculations (from the very problem you proposed) which
showed that similar VHF currents flow in both Rs and Ls, you proffered
unplausible arguments to the contrary.

> You realize if the nichrome in the suppressor's winding of wire does not
> significantly lower VHF Q, then everything you attribute to VHF
> oscillation must be a product of vivid imaginations, or directly
> attributed to MY claim that HF Q and mistuning / overdriving are the major
> causes of arcs and sparks in the tank.

I do not realize that resistance wire (nichrome) has no effect on VHF-Q. I
have observed that the VHF dip in amplifier anode circuits is rather
different when silver-plated strap suppressor inductors (Ls) are replaced
with a resistance wire Ls. With silver (and copper), the dip is sharper
and deeper. With the resistance wire, the dip is broader and shallower.
With roughly equal currents flowing in Ls and Rs, why not?
This is nothing new, Tom. Mr. F. E. Handy was aware of this technique 70
years ago.. You can read about it in the 1926 Edition of the *Radio
Amateur's Handbook*. You can read about it in the 10/88, 9/90, 10/90 and
1/94 issues of *QST* magazine. There's an article about calculating values
for VHF parasitic-suppressors in the 3/89 issue.

> Let's make an agreement.

I am reluctant to make an agreement with you, Mr. Rauch.

> If I can not lower Q (using coventional components) the same amount or
> more at VHF without adding as much loss of Q on ten meters as the nichrome
> does, I will concede you have been hawking something of ### great
> technical merit ###. I will endorse your product as a good method of

> parasitic suppression.

An endorsement from someone who dismisses well-established AC circuit analysis , who purports that dipmeters are incapable of finding resonances, would amount to an UNendorsement.

---

e-mail copies to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3770. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000812960237390001@news.west.net>
Source record: 99936

In article <19961207192000.OAA20685@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <19961206230200.SAA00361@ladder01.news.aol.com>, k1bqt@aol.com
> writes:
>
> >
> >I may be stepping into something that is out of my league, but it seems
> to
> >me that the "physical connection" argument smacks of religeous fantasy.
> >There was a time when virtually all significant RF coupling was done
> >inductively-.....snip......
>
> This is another area where Mr. Brown and Measures obviously do NOT
> understand what they are doing.
>
> The very requiremnt that current is removed from the oscillator, causing a
> dip, indicates coupling is VERY high! The oscillator coil in the dip meter
> has such high resonant currents that it has a very intense field.
>
> The coupling is so high it actually robs the oscillator of current, cause
> a dip to appear on the indicator.

I think he's finally got it.

...snip...

> Rich, you allude I adjust the resistance "to what I want". That statement
> is idotic when we look at the facts.

> You couple a GDO to a cold tube that appears as only reactances, when in
> operation each element has a very finite resistance.

While it is true that the HF tank transforms the 50 ohm load to the anode's load R requirement, this is only the case at the operating frequency. At the anode circuit's VHF parallel-resonance, this is not the case. Parallel resonant circuits exhibit high R---and the higher the Q, the higher the R. . Since V gain is basicly mu multiplied by load R, the amplifier tube's V gain could be high at the anode's VHF resonance---provided that its VHF Q is high. When a typically 1k to 4k ohm termination in placed on the anode by the network analyzer, this is certainly representative of the HF load R. However, the actual load R at the anode's VHF resonance could be hundreds of k-ohms. For example, with a 2k ohm load, VHF gain might be so low that oscillation could not occur. However, with a 200k ohm load, V gain would be substantively higher and VHF oscillation might be sustainable.

> I find it remarkable you always seem to find fault with correct
> proceedures while using the worse methods possible in your tests.

(procedures)

> What about Q, how much change does you nichrome make at VHF? Is it a large
> cahnge, or insignificant?
>
I'm working on it, Tom. I finally found someone who owns a 250MHz Q meter
who is willing to make some measurements.
---
e-mail copies to Mr. Rauch et al.

--
--Rich--
ag6k, 805.386.3734

3771. Re: 2N544 transistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-08 00:00:00 UTC
From: Phil Heaton <ke4krt@radio.org>
Message-ID: <32AAC2DD.1C7E@radio.org>
Source record: 99937

Andy wrote:
>
> Does anyone know about the 2N544 transistor? I got a schemtic for a BFO
> which requires it. Thanks.
> Andy, KB0MMU

It's a germanium PNP. An ECG126A will replace it.

Phil
--

Phil Heaton, KE4KRT, ke4krt@radio.org

3772. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58hkti$ib4@alpha.ftech.net>
Source record: 99789

That's pretty similar to my original thoughts. I took a look
at some of the Motorola hybrid application notes and decided
on the following:

1. 1nF and 100nF capacitors decoupling the Vcc and Vbb lines
immediately where the module wires are soldered to the pcb.

2. Ferrites on all power lines.

3. 10uf Tantalum bead capacitors at the power feed end of the
line (opposite side to the ferrite beads)

4. Vbb via a MC7809 regulator mounted on the board.

5. Vcc from the main +ve rail.

If you think this should be okay I'll go ahead - the modules
are pretty expensive so I don't want it to go up in smoke !

Niels Montanana
G8RWG

nielsm@lcpub.co.uk

3773. FS: Boonton 190-A Q Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: dallen@melpar.esys.com
Message-ID: <58hldm$jjf@fcserv1.fcd.esys.com>
Source record: 99790

If you are winding your own coils, you cannot afford to be without this classic piece of test equipment. It measures inductor Q from 5-1200 over a frequency range of 20-260Mhz. The resonating capacitance is 7.5-100pf. This is a working unit in cosmetically good condition and the original manual is included. I'll take the best offer over $75. Bids accepted only from within the 48 states. Buyer to pay Mail Box Center packing and shipping charges from Northern VA (20170).
Regards,
Dale

3774. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58hl3h$ib4@alpha.ftech.net>
Source record: 99791

That's pretty similar to my original thoughts. I took a look at some of the Motorola hybrid application notes and decided on the following:

1. 1nF and 100nF capacitors decoupling the Vcc and Vbb lines immediately where the module wires are soldered to the pcb.

2. Ferrites on all power lines.

3. 10uf Tantalum bead capacitors at the power feed end of the line (opposite side to the ferrite beads)

4. Vbb via a MC7809 regulator mounted on the board.

5. Vcc from the main +ve rail.

If you think this should be okay I'll go ahead - the modules are pretty expensive so I don't want it to go up in smoke !

Niels Montanana
G8RWG

nielsm@lcpub.co.uk

3775. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58hl9p$ib4@alpha.ftech.net>
Source record: 99792

Thanks for the suggestion but this is probably similar to the data I already have on the device which shows the pin outs, internal block diagram and operating parameters but no test circuit details.

Niels Montanana
G8RWG

nielsm@lcpub.co.uk

3776. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58hl1f$ib4@alpha.ftech.net>
Source record: 99793

That's pretty similar to my original thoughts. I took a look
at some of the Motorola hybrid application notes and decided
on the following:

1. 1nF and 100nF capacitors decoupling the Vcc and Vbb lines
immediately where the module wires are soldered to the pcb.

2. Ferrites on all power lines.

3. 10uf Tantalum bead capacitors at the power feed end of the
line (opposite side to the ferrite beads)

4. Vbb via a MC7809 regulator mounted on the board.

5. Vcc from the main +ve rail.

If you think this should be okay I'll go ahead - the modules
are pretty expensive so I don't want it to go up in smoke !

Niels Montanana
G8RWG

nielsm@lcpub.co.uk

3777. Mods to SB1000?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Duncan Clark <Duncan@genesys.demon.co.uk>
Message-ID: <ydyfpDAA3FryEweo@genesys.demon.co.uk>
Source record: 99794
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi folks,

Are there any mods available for the Heathkit SB1000 Linear? I am just about to put an original kit together and before I do I'd be interested in alterations ie use on 6m by dropping out say 160m, alternative taps on the pi network coil for 17m and 12m operation without compromising 15m and 10m too much, electronic bias switching etc. Any known hiccups with the linear to be aware of?

Many thanks

Duncan
G4ELJ

3778. Programming Motorola HTs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Larry Braden <lbraden@mail.utexas.edu>
Message-ID: <32AC6A04.581@mail.utexas.edu>
Source record: 99795

Is the software and cabling necessary to re-program
Motorolla business band radio for amateur use available
anywhere? These are NBFM I think, and may work if re-reprogrammed.

3779. Re: Dentrol Clipperton L Amp - too much current! ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32ac655b.776530@news.frazmtn.com>
Source record: 99796

On Sun, 08 Dec 96 10:27:45 GMT, tenorman@i1.net (Mike Kraml) wrote:

>Hello all: Please help. I just purchased a Dentron Clipperton Amp,
>with 4 - 572B tubes. The amp seems to require a lot of plate current
>to get going. That is, with 40 watts drive, I get 700 watts out, with
>1 Amp plate current being drawn. The high voltage is about 1500
>volts. Pretty bad efficiency at about 47%. If I push it harder, plate
>current goes beyond 1 amp, and arcing begins (arced once anyway).
>This is in "low" power mode, 1500 volts, if I kick it to high power or
>about 2200 volts, I can get almost 1000watts out, but with 2200watts
>in. I cannot drive it harder that say 50 watts or so without plate current
>going beyond 1 amp input. I can't even back it off with the load or
>tune. Is this normal for this amp? Will I blow it if I run it at 1 amp
>plate current in?
>
>Thanks in advance, 73 all, Mike... - WQ0N - email: tenorman@i1.net
Hi Mike, if I understand your thread, you can not dip the plate
current (whatever the load setting). If this is so, you are loaded
too heavy (not enough load capacitanc). Check and see if you have a
fixed capacitor in shunt with the output load variable capacitor. That
condenser could be open. With good tubes, properly tuned and loaded
into a load, you should be able to see at least 1000 watts output. In
ssb mode voice PEAKS should be around 300 - 400 ma.
73, Jesse, W6KKT

3780. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000912961112450001@news.vcnet.com>
Source record: 99797

In article <19961209014000.UAA27302@ladder01.news.aol.com>, w8jitom@aol.com wrote:

snip,,,
> You totally missed the point. The operating tube offers a load resistance
> to the element even at VHF. That fact was stated several times in several
> ways. Contrary to what you may think, the driving and anode impedances of
> the tube are not infinite.

In a 3-500Z, during signal conditions, the instantaneous anode-current normally varies from 0mA to 1200mA during each 360 degree cycle. Are you saying that the anode R is constant over this range of currents?

> You overlooked critical facts. V gain = mu * Rl is untrue in the case of :
> 1.) An amplifier with feedback.
> 2.) An amplifier with control grid current.
> 3.) An amplifier with shunt and series impedances.

Sure, Tom, it's a complicated picture, but voltage gain is basicly mu multiplied by R-Load. In fact, mu is not a constant. At low values of anode I, mu is highest. At high values of anode I, mu is relatively low.
>
> >When a typically 1k to 4k ohm termination in placed on the anode
> >by the network analyzer, this is certainly representative of the HF load
> R.
> >However, the actual load R at the anode's VHF resonance could be hundreds
> >of k-ohms. For example, with a 2k ohm load, VHF gain might be so low
> that
> >oscillation could not occur.
>
> The load Z is comprised of many things, most of which you have ignored.
> The biggest flaw is you have assumed to know the impedance of the anode,
> yet you only have a GDO.

When I use my Millen dipmeter (which is not a grid dip meter/'GDO' since it uses a FET), I do not place an assumed R load on anything because I am looking for a resonance. The guy who placed an assumed R load on the anode is the guy with the sophisticted circuit-analyzer.

>While the load I used is not ideal, it was
> approximately correct for the steady state bias condition ...snip...
>
> >However, with a 200k ohm load, V gain would
> >be substantively higher and VHF oscillation might be sustainable.
>
> I can see you haven't worked with many amplifiers. There is an optimum

> value of anode load resistance for maximum gain at higher frequencies, and
> it is considerably lower than would appear with a 200k load resistance.

A VHF RL of 200k was my mistake. The VHF load presented to the anode is determined by the VHF Q of the anode resonant circuit, which is partly influenced by the Q of the VHF parasitic-oscillation suppressor. I'm guessing that the typical VHF load is a lot closer to 10k ohms. I'll know more when I get the results of some VHF Q measurements. // Maximum power gain and maximum voltage gain are not the same.

> Look closely at the self-contradiction this new Measures theory produces.
>
> You claimed earlier, both here and in your articles, VHF current gets very
> large in the tube. You also claimed tank component voltage gets very large
> from parasitics.

Yes

> Now you claim the anode has a parallel resonant circuit between the tube
> and the tank that makes the anode load impedance high.

> This brings three questions to mind.
>
> 1.) How does the tube draw large amounts of VHF current if the anode is
> driving a high Z parallel resonant circuit at VHF? That is impossible.

IMO, when a VHF oscillation begins, the VHF load R is high, and the VHF voltage gain is high---so little current flows initially. However, if a VHF arc occurs in the anode circuit, the load R picture changes abruptly. The impedance of a metal-vapour arc is quite low---so much VHF current could flow, and apparently does.

snip.

> 3.) How does the VHF energy excite the grid enough to "boil the gold?"

I am unable to explain it. Mr. Foote said that this was the opinion of the 8877's engineers. However, I am convinced their opinion is correct. This is why: I have seen a number of gold-sputtered 8877 grids where no gold appeared to have evaporated from the end of the grid farthest from ground. However, gold had evaporated near the grounded end of the grid. This sort of current distribution can not be explained by HF energy.
---
e-mail copy to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3781. 1.5Ghz Antenna PreAmp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: pauld@wrq.com
Message-ID: <58hpte$bg0@wrqnews.wrq.com>
Source record: 99798

I've built a "Patch" antenna for the 1545 Mhz GPS band, and so far it seems to increase the received signal strength a bit, but not to my liking.

Authors of a couple articles on the topic have referenced a "MARS6" op-amp that they've used in this application with some success. I've not been able to cross reference it or find anything close in the catalogs and data books I have.

Anyone out there who can aim me in the right direction?

Paul Dunn
WRQ Reflection Software
pauld@wrq.com

3782. Computers for Christmas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Roberts <roberts@azstarnet.com>
Message-ID: <01bbe5c8$e6fa3dc0$1706c5a9@web.azstarnet.com>
Source record: 99799

From WD9DVN

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roberts@azstarnet.com

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32MB RAM, 3.2GB Hard Drive, $2,699.00
Split System Design, Gray Color, 3-D Graphics, Total Image Video,

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Color Printers
In-Stock L1020 Lexmark Color Inkjet Printer 1020 $149.99
In-Stock L2050 Lexmark Color Inkjet Printer 2050 $249.99

--
BYTE ME

http://www.azstarnet.com/~roberts

3783. Re: Dentrol Clipperton L Amp - too much current! ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: rstevens@voicenet.com
Message-ID: <58i04j$156@news1.voicenet.com>
Source record: 99800

What, no book?

I don't know what your concern is about the arbitrary 1 amp current limit, as for example, my SB-200 (with brandy new Svetlana finals), which uses two 572-B's at about 2150 vdc fully loaded, draws maybe 575 mA at maximum output. So I would expect a quad to draw twice that. If you are unloading the final to stay under this 1 amp limit, you may tend to increase the chance of arcing, rather than eliminate it. I would just tune for maximum output, at the rated grid current limit for the four tubes, then over-couple a bit, and go. Amps, schmamps, I say. But I would probably do it all at the HV setting, rather than at LV and then flipping the switch. Not good.

Then again, I could be full of crap, or more likely, partially full of crap.

Like that Clipperton? Does it have tuned input? How can you tell (another discussion I'm having)?

73, Roger WA3FLE
Norristown, PA

In article <58ffsl$n88@news1.i1.net>, tenorman@i1.net says...
>
>Hello all: Please help. I just purchased a Dentron Clipperton Amp,
>with 4 - 572B tubes. The amp seems to require a lot of plate current
>to get going. That is, with 40 watts drive, I get 700 watts out, with
>1 Amp plate current being drawn. The high voltage is about 1500
>volts. Pretty bad efficiency at about 47%. If I push it harder, plate
>current goes beyond 1 amp, and arcing begins (arced once anyway).
>This is in "low" power mode, 1500 volts, if I kick it to high power or
>about 2200 volts, I can get almost 1000watts out, but with 2200watts
>in. I cannot drive it harder that say 50 watts or so without plate current
>going beyond 1 amp input. I can't even back it off with the load or
>tune. Is this normal for this amp? Will I blow it if I run it at 1 amp
>plate current in?
>
>Thanks in advance, 73 all, Mike... - WQ0N - email: tenorman@i1.net

--

Roger W. Stevens (rstevens@voicenet.com)
amprnet: wa3fle@wa3fle.ampr.org [44.80.12.33]
ax25: WA3FLE@WB3JOE.#EPA.PA.USA.NA
"Be a Hero--Be a Donor!"--Mickey Mantle
Visit my homepage at http://www.voicenet.com/~rstevens

3784. Question on HF mobile

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: jorgegc@lander.es
Message-ID: <32ac881f.123757@news.lander.es>
Source record: 99801
Cross-posted to: es.rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Dear friends I have one question and want you to help me. I
own a Icom 706 rig and two sticks for 20 and 40 meters. The
antennas are Valor Pro-am 3/8" conectors and they provide me
very good performance when used with a single magnet mount
on the roof of my 1990 Ford Fiesta car. The problem is that
I can not use it when moving the car because of the poor
catch of me magnet mount. I have tried several times to
mount the aerials in a hatchback mount, but performance and
SWR are very bad indeed. I donnot know how to improve it or
how to use it on the move. The aerials are almost 2 meters
long, half helicoidal half steel stick.
Also will be wellcome any mods, commnets, improvements or
anything about the ICOM 706 rig, how much power can it run,
etc.
Sorry for my English, thanks for your help.

/|\
@ @
-----oOO-(_)-OOo----------
e-mail: jorgegc@lander.es

3785. Re: Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <58i2lgINNji3@sepia.wv.tek.com>
Source record: 99802
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <1996Dec9.012624.13811@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
snip
>
>OTOH, there is 9.6 kb packet. This *can* work through some, a
>very few, voice grade radios, and many amateurs try. But most
>of the so-called "9600 baud ready" voice radios are *not* in fact
>suitable for 9600 baud operation. They have a connector labeled
>
snip

Has anyone built the Ramsey 440 MHz transciever, and used it successfully for 9600 baud packet operation? Did it work as advertised, or are there mods necessary to get it to work? Their catalog says "9600 - no problem". Does that mean "works fine, no problem" or "no problem, not a chance"? Anyone use one of these as the basis for a repeater? Can you use the Tx and Rx side at the same time? I suspect that the synthesizer can only handle one side at a time, but I've never even seen one of these rigs. Anybody?

Thanks,
Ed Burress
KC7GFX

3786. help with Weller 1001 Soldering Station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: rdewan@uhura.cc.rochester.edu
Message-ID: <1996Dec9.212216.18305@galileo.cc.rochester.edu>
Source record: 99803

I have a Weller 1001 soldering station that is acting up.
I heats up to about 120f (measured approximately by hand)
and then it cycles off. If I cool the tip by touching it
then it cycles on to about 120f or so.

Any suggestions for fixing this are appreciated.

BTW, this problem occurs regardless of the temp pot setting.

regards,
Raj n2rd

3787. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180000912962138480001@news.vcnet.com>
Source record: 99804

In article <measures-ya023180000112960924280001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) wrote:

According to Will's archive, at least six times I asked Mr. Rauch whether
or not his AL-1500 8877 amplifier design used a VHF parasitic suppressor.
Mr. Rauch did not answer the question.
This afternoon, I received a telephone call from Marvin Born, KF8XU, who
is repairing an AL-1500 for a friend. Marvin asked me if we still sell
suppressor retrofit kits. I said yes. I asked Marvin why he felt he
needed a kit. He said that the AL-1500 had an intermittent VHF
oscillation, which he could see on a spectrum analyzer, as well see as on a
Tektronix 454 oscilloscope. I asked Marvin if the AL-1500 uses a VHF
parasitic oscillation suppressor? He said that the AL-1500 does not use
one.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805-386-3734

3788. RE: FS: Realistic HTX-202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: clint.bradford@atdbbs.com
Message-ID: <9612090811072549@atdbbs.com>
Source record: 99805

>>Realistic HTX-202 2 meter handheld.
>>Excellent condition. $200.00 and i will pay shipping.

Hmmm...buy your USED one for $200.00 sight unseen...or buy a BRAND NEW
ONE WITH WARRANTY for $179.95 from my local Radio Shack dealer.

I'll let you know when I make up mu mind.

3789. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961209014000.UAA27302@ladder01.news.aol.com>
Source record: 99862

In article <measures-ya023180000812960237390001@news.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

W8JI wrote:>
>> You couple a GDO to a cold tube that appears as only reactances, when
in
>> operation each element has a very finite resistance.

Richard ans:
>While it is true that the HF tank transforms the 50 ohm load to the
anode's
>load R requirement, this is only the case at the operating frequency. At
>the anode circuit's VHF parallel-resonance, this is not the case.

You totally missed the point. The operating tube offers a load resistance
to the element even at VHF. That fact was stated several times in several
ways. Contrary to what you may think, the driving and anode impedances of
the tube are not infinite.

>Parallel
>resonant circuits exhibit high R---and the higher the Q, the higher the
R.
>. Since V gain is basicly mu multiplied by load R, the amplifier tube's
V
>gain could be high at the anode's VHF resonance---provided that its VHF Q
>is high.

You overlooked critical facts. V gain = mu * Rl is untrue in the case of :
1.) An amplifier with feedback.
2.) An amplifier with control grid current.
3.) An amplifier with shunt and series impedances.

>When a typically 1k to 4k ohm termination in placed on the anode
>by the network analyzer, this is certainly representative of the HF load
R.
>However, the actual load R at the anode's VHF resonance could be hundreds
>of k-ohms. For example, with a 2k ohm load, VHF gain might be so low
that
>oscillation could not occur.

The load Z is comprised of many things, most of which you have ignored.
The biggest flaw is you have assumed to know the impedance of the anode,
yet you only have a GDO. While the load I used is not ideal, it was
approximately correct for the steady state bias condition of the tube.
Your analysis was correct only if the tube is cut-off and lossless, a
point at which point the tube is not operating anyway. Why investigate the

cut-off impedance condition?

>However, with a 200k ohm load, V gain would
>be substantively higher and VHF oscillation might be sustainable.

I can see you haven't worked with many amplifiers. There is an optimum value of anode load resistance for maximum gain at higher frequencies, and it is considerably lower than would appear with a 200k load resistance. You can see this effect in a hi-fi amplifier, where large grid and anode resistances limit high frequency response.

You are using class A dc or very low frequency AC circuit parameters of a tube with no grid current or feedback at VHF RF.

Look closely at the self-contradiction this new Measures theory produces.

You claimed earlier, both here and in your articles, VHF current gets very large in the tube. You also claimed tank component voltage gets very large from parasitics.

Now you claim the anode has a parallel resonant circuit between the tube and the tank that makes the anode load impedance high. This brings three questions to mind.

1.) How does the tube draw large amounts of VHF current if the anode is driving a high Z parallel resonant circuit at VHF? That is impossible.

2.) How does the VHF energy at the anode make it past the high impedance circuit to the low impedance shunt C of the HF tank? The current now has to pass through a hi-z parallel resonant to reach the tank (that has a very low shunt impedance at VHF) and be able to drive the low Z HF tank to high voltages. That requires a large amount of current, but the series path, according to you, is a high Z path.

3.) How does the VHF energy excite the grid enough to "boil the gold?" You claim the VHF oscillation drives the grid into great current, yet using the mu*Rl gain calculation the presence of any grid current greatly reduces gain, feedback, and the level of any oscillation.

You are arguing against your own theories and methods again.

73 Tom

3790. Radio repair

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: dave@megalink.net
Message-ID: <58ft8p$1it@news.megalink.net>
Source record: 99863

Norway Electronics
Located in Norway Maine
Will service all brands of amateur radios.
Estimates are always free (except for return shipping).
Call (207)744-0113
Norway Electronics
260 main st.
Norway Me.
04268
webmaster@maineline.com

3791. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec9.032110.14508@ke4zv.atl.ga.us>
Source record: 99864

In article <measures-ya023180000412961119110001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>Even 6-inch wide copper ribbon has a finite amount of inductance per unit
>length. At 100MHz, roughly 30 inches of such material looks like a high-Z
>RFC.at the open end.

Right, which is why we wouldn't use a grid lead to ground of 30 inches in a GG amp. Duh!

OTOH, a direct 10 millimeter path to ground would first appear as a high Z at 7.5 GHz. With HF power tubes, we can ignore that because transit time effects won't let them be amplifiers up there.

Of course "ground" can be a nebulous thing. It is just something we arbitrarily pick to be a zero potential reference. In a GG amp, it is the grid to chassis connection point by definition. What we are really concerned about is the length of the cathode and plate return paths to that point.

In a well laid out amplifier using a compact power grid tube, the cathode return path can be less than 25 mm (though it is often longer). That's a high Z at 3 GHz. The path from the plate to the chassis/grid connection point is usually much longer, about 200 mm or even more, and that's a high Z at 325 MHz. Capacitive loading can lower that into VHF, and that's what we have to deal with via suppressors.

Gary
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Lawrenceville, GA 30244 | |

3792. Re: Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec9.012624.13811@ke4zv.atl.ga.us>
Source record: 99865
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <01bbdfad$a66e3fc0$f812a2ce@jeremy.prgone.com> "Trish Cowgar"
<trishc@prgone.com> writes:
>Does anyone have any input on the Ten-Tec 2 meter FM Transceiver that you
>assemble from a kit?

It is a good kit. If you want to build a kit radio, this is the one
to buy. But it is a pretty plain radio. If you want the most bang for
the buck, you'll go another way. There are two alternates. You can
retune commercial surplus radios. This gives you a very high performance
radio at a very low cost. Of course it will have even less features
and frills than the Ten-Tec. Or you can buy a Japanese radio. There
are several in approximately the Ten-Tec price range, and they offer
many more features and frills. A very few of them even offer better
performance than the Ten-Tec kit.

>Also, I am wanting to get into packet, and I notice that this rig has a
>1200 baud packet-ready din on the rear. Being in computers, I am use to
>28.8, 56k, etc. Is 1200 baud useable, does packet go any faster?

1200 baud is *barely* usable. It depends on your temperment and what
you want to do. For unattended Email forwarding, it is Ok. But for
many interactive uses it is intolerably slow. Unfortunately, it
represents the lowest common denominator among amateurs, so you'll
find yourself limited in the number of stations you can contact if
you get something faster. It will work through any voice grade FM
radio without modification. Having the jack on the back is a
convienence, but not a necessity. You can just hook a 1200 baud
modem to microphone and speaker connections instead.

Faster packet does exist. As a matter of fact, I was easedropping
on a couple of our 56 kb LAN users this afternoon while they were
exchanging live realtime digital video with CuCme. You can't do fast
packet with a voice grade FM radio anyway, you need a real RF modem
like the GRAPES modem, so you shouldn't let that drive your voice
radio choice.

OTOH, there is 9.6 kb packet. This *can* work through some, a
very few, voice grade radios, and many amateurs try. But most
of the so-called "9600 baud ready" voice radios are *not* in fact
suitable for 9600 baud operation. They have a connector labeled
"9600 baud", and advertising hype claiming they will work, but
they don't, and generally *can't* work properly at 9600 baud.
This is because of the way modulation is introduced into the
synthesizer loop. Again, a dedicated data radio, like the
inexpensive Tekk KS900, is the proper way to go, so don't let

this drive your voice radio choice either.

Gary
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3793. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec9.014659.13986@ke4zv.atl.ga.us>
Source record: 99866

In article <19961201225800.RAA27291@ladder01.news.aol.com> w8jitom@aol.com writes:
>Anyone thinking because they set the rig to "X" power it only outputs that
>much, or that ALC and power control reduction is a good way to eliminate
>splatter, is mistaken. The WORSE thing to do is reduce the power via those
>means. that virtually guarantees splatter, power overshoot and PA arcing.

Many amateurs tend to treat ALC as if it were a RF speech compressor.
In a sense it is, but it is generally a poor one. It is better to set
the exciter drive to the desired level and leave it that way. With some
radios, you can do that by feeding a fixed voltage to the ALC input.
With others that won't work because of the way they handle the ALC
internally. These radios require modification to reduce drive.

Rather than dissipate a 100 watts in a resistor, it often makes
sense to dissipate a fraction of a watt in the pre-driver of the
rig instead. Adding a small switched attenuator here can allow
you to set output power virtually anywhere you like, and have
confidence it will stay there. If you want speech compression,
a form of distortion, then you can add that too. For myself, I
think linear amplifiers should perform linearly, and not be
used as non-linear distortion generators.

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3794. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec9.021259.14132@ke4zv.atl.ga.us>
Source record: 99867

In article <measures-ya023180000212960523540001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>In article <19961201225800.RAA27291@ladder01.news.aol.com>, w8jitom@aol.com >wrote:
>
>snip...
>> The 3--500Z's do not saturate until they reach a peak anode current of
>> perhaps 10 amperes per tube. That means the tubes give the tank a big hard
>> "yank" and allow it to overshoot.
>
>According to Eimac Chart #4264 for the constant current characteristics for
>a 3-500Z in grounded-grid configuration, the highest anode current shown
>is 1.8 amperes. Currents above 1.2 amperes are in saturationville. The
>smallest tube I am aware of that is capable of 10 peak amperes of anode
>current in linear amplifier service is the 4CX10,000D/8171. You seem to be
>transplanting the capabilities.
>
>> Rich, I've heard you say that before. The dact is a 3-500Z can output 5-10
>> kW before saturating.
>
>I do not recall saying this, Tom.
> From personal experience, I know that a healthy 3-500Z begins to saturate
>when it driven very much above 400mA (approx. equal to 1.2 peak amps) of
>average anode current. Eimac rates the max. avg. anode current at 400mA.
>4000v at 420mA is not likely to produce 5kW to 10kW before saturation
>occurs. IMO, a 3-500Z can produce about 1100W of clean RF with a 4000v
>anode supply.

Rich, you cannot use average ratings directly to determine transient peak performance. If you look at the performance specifications for any tube in *pulse* service, you'll note that the peak pulse power is many times the average sustained power. A transient overshoot is a *pulse*. It represents an unsustainable discharge of stored energy in the tank and power supply. Even quite small tubes can have peak pulse powers in the megawatts. But of course the repetition rate has to be quite low to allow the tube cathode, and the tank and power supply, to recover, so average power remains low.

Gary
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3795. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec9.022252.14225@ke4zv.atl.ga.us>
Source record: 99868

In article <19961202155100.KAA14654@ladder01.news.aol.com> johnsonhe@aol.com writes:
>This system of stabilization is called "Huffnpuff" in Europe. It's
>basically like the old "Galloping Ghost" radio control system used years
>ago where the thing was never right on, but was always close.
>
>Basically, a PLL injects phase noise in a VCO because it's ALWAYS
>controlling not only the frequency but the phase of the VCO. Jitter,
>divide noise, propagation delay all add noise to the VCO.
>
>In the system Jake is describing, (Invented years ago by a Russian and
>developed by a PA0 in the Netherlands,) You don't control the phase. You
>don't even control CONTINUOUSLY, the frequency. Just every once in a
>while, you compare the frequency desired with the frequency you have and
>correct for the error. You're never on frequency exactly, but you stay
>close, and the only noise on the oscillator is the basic phase and
>amplitude noise of the free running oscillator. Make it as good as you
>can, and you have the quietest oscillator short of crystal control.

In control system theory, this is called a bang-bang servo. Corrections
are periodically pulsed to a storage capacitor feeding the varactor.
The storage capacitor acts as a very long time constant low pass filter.
Since it is only occasionally driven, perturbations in the oscillator's
short term output only occur occasionally as well. It isn't as clean
as a crystal or LC free running oscillator, but it isn't as constantly
noisy as an oscillator under constant proportional control either.
With a basically stable oscillator, you'll only hear a correction
"tick" once every few seconds.

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3796. Re: Ham-Homebrew Digest V96 #529

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: hamm4fun@aol.com
Message-ID: <19961209040500.XAA01174@ladder01.news.aol.com>
Source record: 99869

Unless your into nostalgia using a 304tl isn't worth the trouble.You will
be lucky
to get it to operate above 20m. they require gobs of filament current and
all I
have seen were extremely gassy. IF you are really sure you ant to build an

amplifier using a 304tl have your tube(s) checked first to make sure they
are usable.

3797. www.hamradio-online.com: most popular ham web site?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <58g5k8$8mp@kanga.accessone.com>
Source record: 99870
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

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Right now, wee have stories running on DXpeditions, African shortwave broadcasters planning to switch to digital satellites, Guatamala auctioning off the 70cm ham band to commercial users, news on AMSAT Phase 3D and AO-13's recent death, Global satellite navigation technology and so much more. We've got 20 new stories in the queue right now. Watch for them over the coming month or two.

In spite of our professional appearance, we run Ham Radio Online as a hobby. So please stop by and enjoy. If you have a story or announcement you would like to add, please pay us a visit and drop us some email to vbook@vbook.com.

Thanks and 73,

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
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http://www.hamradio-online.com

3798. HAMCOM CONVERTER PROBLEMS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: jorgenj@uddeholm.se
Message-ID: <58gd2d$c1b@Steinlager.tip.net>
Source record: 99871

Hello

Im trying to get my hamcom converter to operate proparly. I have a
Kenwood TS9130 transiver and a 686 pentium computer.
im trying to get my converter to work with the morse function
but my transiver is very high impendance on the cw key input
and when i put in the plug in the transmitter it directly starts to
send.
I have try to couple the collector of the transistor to a 10kohm
resistor and to my radio power but without results

pse need ideas or help

73 de SM4WDQ

pse mailto:jorgenj@uddeholm.se

3799. Re: Elec Workbench

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Michael Wallace <mewalla@worldnet.att.net>
Message-ID: <32ABC755.5AFC@worldnet.att.net>
Source record: 99872

Dave wrote:
>
> Can someone tell me where to find
> Electronic Workbench v3.0c For Win.
> Any info. would help
>
> Thanks
> Dave,N1IQO
>
> ka1wgn@tiac.net

I see from the version nr. you requested, that you must want an older release. I don't have that info but I can provide you with a number to the company in case you don't have it. Maybe they can be of some assistance.

Interactive Image Technologies Ltd.
1-800-263-5552

Michael
N3LFH
mewalla@worldnet.att.net

3800. Re: Radio Shack Soldering Iron Replacement????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Nicholas Bodley <nbodley@tiac.net>
Message-ID: <Pine.SUN.3.95.961209040925.26607L-100000@sunspot.tiac.net>
Source record: 99873
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.misc,sci.electronics.repair

On 7 Dec 1996, Ron Harshbarger wrote:

{Snips}

}brand the original was (Weller, Wahl, etc) and if the replacement elements are
}available anywhere? The base is about the same as a 110 VAC Christmas tree

The originals were Ungar; Cooper bought Weller, and Weller bought Ungar,
although maybe not in that order. I used the handle as a trouble light
once, but the bulbs (Xmas tree = standard candelabra screw, I believe) are
fragile!!

|* Nicholas Bodley *|* Electronic Technician {*} Autodidact & Polymath
|* Waltham, Mass. *|* ---
|* nbodley@tiac.net *|* When the year 2000 begins, we'll celebrate
|* Amateur musician *|* the 2000th anniversary of the year 1 B.C.E.

3801. M55727 Mitsubishi RF Power Module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58go6t$bhb@alpha.ftech.net>
Source record: 99874

Has anyone used the M55727 Mitsubishi RF Power Module for a
P.A. stage at 144Mhz ?

I am after the power supply, biasing and de-coupling circuit.

3802. Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58go0m$bhb@alpha.ftech.net>
Source record: 99875

Does anyone have any experience of using the M57727 Mitsubishi
RF Power Module on 2m?

I am particularly after the power supply/biasing requirements
and de-coupling arrangements.

3803. CW-N Filter Adaption ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: l38217@alfa.ist.utl.pt
Message-ID: <58h2nh$ibl@ci.ist.utl.pt>
Source record: 99876

Hello !

I just bought a CW-N filter for my Icom IC-725.
The filter recomended on the manual is the FL-101, but the
one I got is the FL-63 (used on the 735).
The socket to connect the filter are different, but I have already
made an adaptor so it can be pluged in.
The question is WILL THE FL-63 WORK AS THE FL-101 ???
They are both for the same freq and have the same caracteristics
(250Hz/-6dB).
I need to know if I can use the filter or must I get the FL-101 ??

Thanks !
VY 73 de CT1ELP

--

Pedro Pedroso	
l38217@alfa.ist.utl.pt	CT1ELP
Eng. Electrotecnica e Computadores	Founder member of GPDX
(Telecomunicacoes e electronica)	

| Address: P.O.Box 116 , 2806 Almada Codex , PORTUGAL |

3804. SSTV,FAX,RTTY,CW and more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <32AC1BA7.2D0B@concentric.net>
Source record: 99877

If your looking for a do it all multimode check out this page.

http://www.cris.com/~n9zle/hc.html

It does everything except packet and it may do that soon.

mailto:n9zle@concentric.net

3805. Re: I need a little help in designing a sequencer...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32AC2B2E.7A05@arrl.org>
Source record: 99878

N6CA has a circuit in the ARRL Handbook that provides open collector outputs. I've written up a simplified version for my that offers +12 volt outputs and reverse polarity protection for wiring up simple transverters. I think that more projects ought to incorporate reverse polarity protection, particularly those designed for operation off batteries.--Zack W1VT zlau@arrl.org

BTW, it might be a while before its actually published--I like to write an extra article or two during the winter months since my weekends aren't so busy.

3806. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Clif <avvid@onramp.net>
Message-ID: <32AC3162.1844@onramp.net>
Source record: 99879

Niels Montanana wrote:
>
> Does anyone have any experience of using the M57727 Mitsubishi
> RF Power Module on 2m?
>
> I am particularly after the power supply/biasing requirements
> and de-coupling arrangements.

RF Parts will supply a data sheet on the module for about $1.
Call them at 1-619-744-0750

Clif
AVVid is an Authorized Kenwood and Icom Service Center
http://rampages.onramp.net/~avvid

3807. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <58hfgr$hsg@canyon.sr.hp.com>
Source record: 99880

Niels Montanana (nielsm@lcpub.co.uk) wrote:
: Does anyone have any experience of using the M57727 Mitsubishi
: RF Power Module on 2m?

: I am particularly after the power supply/biasing requirements
: and de-coupling arrangements.

I've used Mitsubishi models from 2M through 27cm with very good success. There really isn't a lot special you have to do to make them work. I would probably decouple with a ferrite bead on the three Vcc lines and use normal bypassing technique out beyond them. There are builtin bypasses on all three lines. Shunting with an additional C is possible but runs the risk of a parallel resonance from the two capacitors and leads, so its probably best to use a bead inbetween.

Be sure to have a good ground at the heatsink. Make sure the module sits flat and that there isn't any anodizing on the sink surface which prevents good RF contact.

I've used three terminal regulators as bias sources and switched them on and off to enable the 9V Vbb bias line.

You should be able to transition to microstrip by placing the bias board right next to the package and under the pins.

Glenn Elmore n6gn

3808. Re: Re schematic drawing program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <58hhjm$g42$1@mhafn.production.compuserve.com>
Source record: 99881

One other program of interest is Circad. I have a special deal with them where I buy in bulk and resell to Hams. My site license is for everyone on the CDROM! Normal price is a whopping $995 but from me $295. The only difference is no direct support with Holophase (Call me instead) and updates are $50 If you have web access check out the new page they made up at www.holophase.com Drop me an E-mail or call if you want the special price ham version. (612) 492-3913
73

--
73, Jay WB0VNE - AAV5TH

3809. Re: Wanted: CAD Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <58hi0l$g42$2@mhafn.production.compuserve.com>
Source record: 99882

I would comment that using "art" type software for schematics is only good if
you don't need to go to the PCB stage. The great power of a CAD program is
that you can create a schematic that generates a netlist. This lets you
verify each connection as you design the PCB. Making it Science not art!
I can't tell you how crazy it makes me to manualy verify each connection
from a tape up vrs the schematic. A program I deal with called Circad works
from start to finish. Schematic to PCB and Gerber files and NC drill list.
Now adays you can send you Gerber files and NC drill info to places like
Alberta Printed Circuits and get double sided boards with plater through holes
for next to nothing. I dumped all my etch tanks and stinky etching chemicals
long ago. I've also got a special deal with Holophase (They make Circad)
for Hams. I did some work on the Autorouter they include and my reward was
to have a version for my fellow hams at less than 1/3rd the cost. Same software
(but from me) Support is only through my little company (Dover - 612-492-3913)
and updates are $50. Cost of the program is $295 - Shipped. EMail me if your
interested or check out the new WEB page www.holophase.com
73 and good luck on your projects!
--
73, Jay WB0VNE - AAV5TH

3810. Re: Need HF Amp Schematic(s)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: grhosler1@mmm.com
Message-ID: <58hiom$13s@dawn.mmm.com>
Source record: 99883

scott9@pipeline.com wrote:

>I need diagrams for HF amps, (20 meters), please tell me where I can
>get them.

>Thanks,
>Scott, KF6FCN

Any copy of the Radio Amateurs Handbook since the earth cooled, or any
copy of the Radio Handbook by Bill Orr.

de KN0Z Gary

Opinions expressed herein are my own and may not represent those of my employer.

3811. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <58hi66$g42$3@mhafn.production.compuserve.com>
Source record: 99884

BTW the new version of Circad has scanner input! You can read in old artwork
magazine templetes or even an old PCB. You still need to copy over it to
make editable PCB files but this is a pretty neat feature. The only other
program that does this (I think) is Scancad which is a 10K$ program.
Circad is $995 (Unless your a Ham, Ham price=$295) Drop me an E-Mail if
your interested. Or check out the WEB site www.holophase.com I'm starting
to sound like a peanut vendor but heck.... It works!
73
--
73, Jay WB0VNE - AAV5TH

3812. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <58hi8d$g42$4@mhafn.production.compuserve.com>
Source record: 99885
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

Good point Len. Most every S meter is bogus that I've checked. More of a relative signal strength.
--
73, Jay WB0VNE - AAV5TH

3813. Re: TL922 Arcing/Oscillating? Help with diagnosis?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961209174200.MAA17296@ladder01.news.aol.com>
Source record: 99886

In article <1996Dec9.014659.13986@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>
>Rather than dissipate a 100 watts in a resistor, it often makes
>sense to dissipate a fraction of a watt in the pre-driver of the
>rig instead. Adding a small switched attenuator here can allow
>you to set output power virtually anywhere you like, and have
>confidence it will stay there. If you want speech compression,
>a form of distortion, then you can add that too. For myself, I
>think linear amplifiers should perform linearly, and not be
>used as non-linear distortion generators.

Gary's idea is a good one, it satisfies the need to limit the gain when power is reduced.

There should be enough head room above the attenuator's power setting to allow good linearity, that's why I prefer external fixed ALC voltage to any attenuator if possible. Fixed external ALC reduces the chance of saturation in a low level stage, if that method can be used.

This is also why the linear amplifier driving requirement should as close to the exciters rated power as possible. Using a 150 watt capable PA with a 50 watt drive PA (or tuning your PA with 50 watts) is asking for trouble with arcs, sparks, and splatter.

73 Tom

3814. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961209174200.MAA17298@ladder01.news.aol.com>
Source record: 99887

In article <1996Dec9.032110.14508@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>In a well laid out amplifier using a compact power grid tube, the
>cathode return path can be less than 25 mm (though it is often longer).
>That's a high Z at 3 GHz. The path from the plate to the chassis/grid
>connection point is usually much longer, about 200 mm or even more,
>and that's a high Z at 325 MHz. Capacitive loading can lower that into
>VHF, and that's what we have to deal with via suppressors.
>
>Gary

Hi Gary,

Rich's examples were overexaggerated. He made the L/W ratio of the lead 5 in one case and 2 in another. When the L/W ratio is made lower and lower, the lead behaves more and more like a continuation of the groundplane. Z is relatively low regardless of lead length.

We always need to consider the L/D(eff) ratio, and the D to wavelength ratio.

73 Tom

3815. Re: Dentrol Clipperton L Amp - too much current! ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961209174300.MAA17300@ladder01.news.aol.com>
Source record: 99888

Hi Mike;
In article <58ffsl$n88@news1.i1.net>, tenorman@i1.net (Mike Kraml) writes:

>Hello all: Please help. I just purchased a Dentron Clipperton Amp,
>with 4 - 572B tubes. The amp seems to require a lot of plate current
>to get going. That is, with 40 watts drive, I get 700 watts out, with
>1 Amp plate current being drawn. The high voltage is about 1500
>volts. Pretty bad efficiency at about 47%.

That's not so bad for that layout and those tubes. Especially since you probably have no idea how accurate the meters are in the Dentron and the wattmeter.

Remember the tank is jammed into a small case in that amplifier, and 572B's are not the most efficient tubes. With an excellent layout and 572B's you will only get 60% or so efficiency. You may, if the meters are correct, be near the dissipation rating of the tubes. But remember the dissipation of the anode is given in time average power over a period of perhaps 30 seconds.

>If I push it harder, plate
>current goes beyond 1 amp, and arcing begins (arced once anyway).
>This is in "low" power mode, 1500 volts, if I kick it to high power or
>about 2200 volts, I can get almost 1000watts out, but with 2200watts
>in. I cannot drive it harder that say 50 watts or so without plate
current
>going beyond 1 amp input. I can't even back it off with the load or
>tune. Is this normal for this amp?

Never underload a grounded grid PA, always tune for maximum output power and not by watching plate current. If you have to watch current, watch grid current and keep it below 50 mA per 572. Excess grid current will destroy a tube fast, excessive plate current (if you don't actually overheat the anode) is not a problem in a throated tungsten cathode tube. Tube emission life is more a matter of filament hours and temperature than current.

>Will I blow it if I run it at 1 amp
>plate current in?

No one can answer that in absolute terms. The plate current rating is .25 amperes per tube for continious uninterupted operation, so it's doubtful you'll hurt the tubes in amateur service. Plus as I said, with thoriated tunsten tubes operation at current saturation (which is nearly .8 amperes per tube!) does little long term damage as long as the elements in the tube are not overheated. Emission life is a function of hours and filament

temperature rather than emission current.

The power supply is another story. It is impossible to accurately predict life of components that are that old when they are stressed.

The Dentron is unstable on 21 and 28 MHz, and oscillates on those bands under some tuning and load conditions. Other than that, the amp should be fairly durable IF you load the amp heavy enough. The only chronic problems are Dentron's use of carbon bleeder resistors across the caps and some small low voltage resistors across the diodes. Both of these design errors should be corrected.

The combination of 572Bs require neutralizqation on 21 and 28 MHz, and Dentron did not do that. It would be tough to add a neutralizing circuit in that case. You may find lowering circuit Q on 21 and 28 MHz helpful, but that will never be a good PA on those bands for many reasons.

Until you confirm the metering is correct, very little can be answered about efficiency.
Do NOT use the loading control to reduce plate current. That mistake can cost you tubes, bandswitch, or other component failure. Leave the loading heavy, and reduce the exciter power, or better yet add a series resistor pad between the tubes and the driver to reduce drive power.

73 Tom

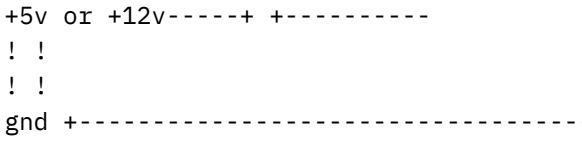
3816. I need a little help in designing a sequencer...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: morris@cogent.net
Message-ID: <morris.990.00924DEA@cogent.net>
Source record: 99806

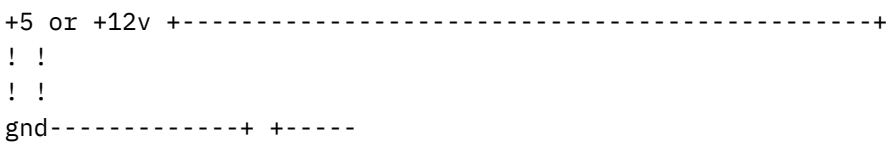
I'm trying to come up with a method of controlling the power to some equipment.
I've experimented with capacitors and relays, but can't come up with something
that is as dependable at 35 farenheit as in 120 farenheit (i.e. winter
overnight to summer mid-day) - it's for a mobile application.
I could use a 555 driving 3 "D" type flip flops, or some firmware in a
PIC processor, but I was thinking that there has to be a simple way that
I'm overlooking.... Maybe I've been mangling computer code too long...

Heres the requirements - I suggest that you use a monospaced font
(like Courier) to view this timing diagram. The timing resolution that
I need is about 1/4 to 1/2 second between signal rises and drops (it's
not that critical), and current handling of under 500ma per output. I
have circuitry that will handle everything but the actual sequencing.

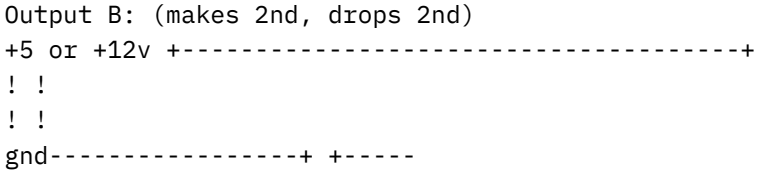
The control signal:



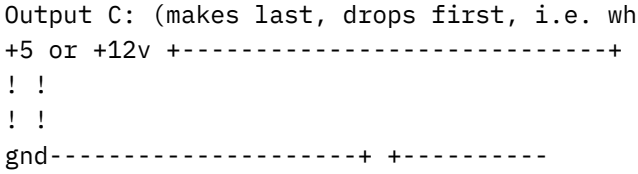
Output A: (makes first (i.e. immediately), drops last)



Output B: (makes 2nd, drops 2nd)



Output C: (makes last, drops first, i.e. when the control signal goes inactive)



Anyway, any help will be VERY much appreciated.

Mike Morris WA6ILQ

3817. Re: Mitsubishi Power Module M57727

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32aeb090.77422849@news.santafe.edu>
Source record: 99807

Niels Montanana <nielsm@lcpub.co.uk> wrote:

>If you think this should be okay I'll go ahead - the modules
>are pretty expensive so I don't want it to go up in smoke !
>
>Niels Montanana
>G8RWG
>
>nielsm@lcpub.co.uk
>
One good way to smoke them is to exceed their maximum drive power
limit. The limit is always well above what is needed for maximum
output, but if your driver stage has excess power output be careful.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

3818. Re: 1.5Ghz Antenna PreAmp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: bspeed@cyberramp.net
Message-ID: <58ih5i$6je$2@newshost.cyberramp.net>
Source record: 99808

pauld@wrq.com (Paul H. Dunn) wrote:

>I've built a "Patch" antenna for the 1545 Mhz GPS band, and so far it
>seems to increase the received signal strength a bit, but not to my liking.

>Authors of a couple articles on the topic have referenced a "MARS6" op-amp
>that they've used in this application with some success. I've not been
>able to cross reference it or find anything close in the catalogs and data
>books I have.

The MAR-6 is an RF Amplifier sold by Mini-Circuits.
It's specs are 9dB gain, DC-2Ghz, with a 3dB Noise Figure.
A MAR-6 is less than a dollar, in qty of 30.
For 30 bucks, you could get a lot of projects done...

Mini-Circuits can direct you to a distributor: (718) 934-4500

3819. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961210022400.VAA01647@ladder01.news.aol.com>
Source record: 99809

In article <measures-ya023180000912961112450001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>In a 3-500Z, during signal conditions, the instantaneous anode-current
>normally varies from 0mA to 1200mA during each 360 degree cycle. Are you
>saying that the anode R is constant over this range of currents?

No, I'm just pointing out your measurement technique is the worst of all,
because it is taken when the tube is cut off, a condition when the tube
can never oscillate. It is much better to test under average or typical
quiescent current conditions of the tube in conduction than to test in a
condition when it is impossible for oscillation.

>> The load Z is comprised of many things, most of which you have ignored.
>> The biggest flaw is you have assumed to know the impedance of the
anode,
>> yet you only have a GDO.
>
>When I use my Millen dipmeter (which is not a grid dip meter/'GDO' since
it
>uses a FET), I do not place an assumed R load on anything because I am
>looking for a resonance. The guy who placed an assumed R load on the
>anode is the guy with the sophisticted circuit-analyzer.

The very act of coupling the dipmeter to the circuit loads the circuit
with an uncontrolled and unknown load. Not only that, with such a crude
instrument you have no idea what you are measuring in a complex system.
Dip meters are fine for measuring the resonant frequency of a simple
parallel tuned circuit, but useless for analyzing complex impedances.

My point stands, you have no idea what you are measuring...except the
point where maximum energy is extracted from the dipmeter's tank.

>A VHF RL of 200k was my mistake. The VHF load presented to the anode is
>determined by the VHF Q of the anode resonant circuit, which is partly
>influenced by the Q of the VHF parasitic-oscillation suppressor. I'm
>guessing that the typical VHF load is a lot closer to 10k ohms.

Is that as good a "guess" as the guesses made about parasitics melting
glass in Chinese tubes, photons destroying tubes that are on standby, 500
watt dissipation 8877 grids, saturation of 3-500Z anode current with 150
watts of drive, and the overshoot in the tank when the PA is improperly
coupled to the load? Do you think it's a good idea to guess about things,
and then claim they are facts?

> IMO, when a VHF oscillation begins, the VHF load R is high, and the VHF
>voltage gain is high---so little current flows initially. However, if a

>VHF arc occurs in the anode circuit, the load R picture changes
abruptly.
>The impedance of a metal-vapour arc is quite low---so much VHF current
>could flow, and apparently does.

The metal vapour arc you allude to is still on the wrong side of the parallel resonant circuit, in the tank area. We already know that area has a low VHF impedance, making the tank impedance lower won't change a thing. Besides, the arc can never start from VHF signals because we still have the VHF anti-resonant circuit between the anode and the tank, and that is according to you!

In order for the tube current to be high, the arc has to be on the driven side of the parallel tuned circuit. In order for the tank current or voltage to be high, the arc has to be across the parallel resonant circuit.

You claim we have this:

tube anode>---high Z parallel resonance------low Z tank-----ground

Please explain how the tube current can be high, and the tank voltage and current high with this type of connection. Do you wish to amend your claim?

>> 3.) How does the VHF energy excite the grid enough to "boil the gold?"

>I am unable to explain it.

So you really don't know WHY it happens, you just "know it does". OK.

>Mr. Foote said that this was the opinion of the
>8877's engineers.

You claimed earlier Foote told you this verbally, in a telephone conversation. No one at Eimac has heard of this, except in one UHF triode.. as I recall that tube was a 3CX10000U7. Reid Brandon, John Button, Dave Chazen, Buzz Miklos, Bill Orr, Jim Aurand, Dave Peterson, and others all dispute this claim.

Bill Foote is retired now, but his job was to answer customer letters in the returned tubes section. He was not a design engineer, or even an engineering to customer interface person like Brandon is.

I don't fault you for hearing things the way you want to hear them, we all tend to hear what we want to hear. I'm absolutely sure that's what you "heard" during the verbal exchange with the fellow not even in the correct plant or job for direct access to the information. It is comforting to hear you admit you have no idea WHY the problem occurs.

>However, I am convinced their opinion is correct. This
>is why: I have seen a number of gold-sputtered 8877 grids where no gold
>appeared to have evaporated from the end of the grid farthest from
ground.

>However, gold had evaporated near the grounded end of the grid. This sort
>of current distribution can not be explained by HF energy.

How large was the number of tubes in you sample group?

Eimac was curious about your claim. They wonder what the tube code dates were, and how many tubes you actually looked at. They asked if you still have a tube to send to them.

Their records indicate the majority of tubes failing lose gold in the upper end of the grid structure, except for a series of tube failures caused by a heat dam problem at the base of the grid.

Are you sure the damage you saw was not related to the heat dam problem in that area of the tube? The heat dam (coated with a gettering agent) contaminated the grid and caused the gold nearest the heat dam to fail. At various periods of time, 8877's had this problem.

73 Tom

3820. Re: Dampening...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <58intk$j53@dallas1.connect.net>
Source record: 99810

In article <moorej-0512961745200001@muv62.marshall.edu>, moorej@marshall.edu (Bill Moore) says:
>
>>From the subject line in this post, I get the impression that the correction
>offered to you was, perhaps, a greater error than the original mistake.
>
>snip......
>
>To dampen is to make wet.
>To damp is to cause to die out, to reduce, attenuate, suppress.
>
>snip.....
>
>Shields up.
>
>de W5IMJ
>
My appologies to Mario and my thanks to you, Bill, for pointing out the error.

However, when I was taming a 4-1000A amp a few years ago, I actually had to "dampen" the suppressor, as it "crispy-crittered" (Texas slang for burned up) while tuning up for the first time on 10 meters!

(((73)))
Phil, K5PC

3821. 6m quad

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: hamm4fun@aol.com
Message-ID: <19961210042800.XAA05227@ladder01.news.aol.com>
Source record: 99811

Looking for proven plans for a Quad anteena for 6m(4 to 6 elements).
kd4rqe, hamm4fun@aol.com

3822. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961210050200.AAA06263@ladder01.news.aol.com>
Source record: 99812

Hi

Please tell us here on the newgroup how you get a discount
of more that $700 on this deal. Details Ok! I got time.

That type of discount assures me that the company is making a phenomonal
profit. Probably in excess of 2000%. It also alludes that you are making a
hugh profit yourself!

Carl
N9EFJ
The2x4

3823. Cable noise???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <58j61p$s2t@boursy.news.erols.com>
Source record: 99813
Cross-posted to: rec.video.cable-tv,rec.radio.amateur.homebrew

I'm looking at the video signal coming out the back of my VCR, and see the classic horizontal sync pulse, color burst and video; however, there is a faint trace, running horizontally, at the lowest point of the horizontal sync pulse. This means that unless I can clean up the signal, I can't use the pulse as a trigger. Anyone have an idea how the signal can be cleaned up? - Mike

3824. Hlp:YAESU Transceiver FT-101Z

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: Spiro Evagelakos <spiroe@nlc.net.au>
Message-ID: <01bbe67a$b8876460$688518cb@spiroe.nlc.net.au>
Source record: 99814
Cross-posted to: aus.radio.amateur.misc,aus.radio.scanner,rec.ham-radio,rec.ham-radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner

Hi,
My 20 watt transceiver has a burned out transformer . To purchase one new
it will cost me quite a few dollars.
Is there anyone in the Sydney area that could fix it for me......or is
willing to sell me a second hand cheap unit (as spares).

Please mail me at

conn@magna.com.au

Thanks in advance
--

3825. WANTED: National XR-50 coil forms, B&W coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <58jq4q$m9q@sf18.dseg.ti.com>
Source record: 99815
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

I'm looking for 3 or 4 National XR-50 coil forms, and two or more
unused B&W 3015 Miniductor coils for some transmitter projects.
Anyone have some of these they'd part with?

--
Dean W. Hemphill Email: k5dh@dlep1.itg.ti.com
211 Addison Place
PO Box 328 Home: (817) 497-5365
Lake Dallas, Texas 75065-0328 Work: (972) 462-2033
. . . . . .
Amateur radio operator K5DH, VE (ARRL/W5YI), avid QRPer and CW op
Ford Mustang enthusiast ('66 coupe, '69 GT-350, '72 conv, '95 GT conv)
Die-cast model car collector (Ford products only, in all scales)
Plastic model car builder (Ford products only, 1:24 and 1:25 scale)
Glass insulator collector (specializing in "oddball" pieces)
. . . . . .

3826. Re: 1.5Ghz Antenna PreAmp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32AD7F89.1B48@arrl.org>
Source record: 99816

bspeed@cyberramp.net wrote:
>
> pauld@wrq.com (Paul H. Dunn) wrote:
>
> >I've built a "Patch" antenna for the 1545 Mhz GPS band, and so far it
> >seems to increase the received signal strength a bit, but not to my liking.
> GaAs MMICs are worth considering.

See the technical manual at:

http://seti1.setileague.org/homepg.htm

The wideband preamp that covers the water hole
might be useful in your application.

Zack W1VT zlau@arrl.org

3827. PIC Programmer Holiday Specials until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: sales@itutech.com
Message-ID: <E27G6t.3Hw@iglou.com>
Source record: 99817
Cross-posted to: misc.industry.electronics.marketplace,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

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3828. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32AD93C3.15B9@arrl.org>
Source record: 99818

the2x4@aol.com N9EFJ wrote:
>
> Hi
>
> Please tell us here on the newgroup how you get a discount
> of more that $700 on this deal. Details Ok! I got time.
>
> That type of discount assures me that the company is making a phenomonal
> profit. Probably in excess of 2000%. It also alludes that you are making a
> hugh profit yourself!
> You seem to be ignoring a big cost factor--supporting the
software. A ham dealer might be able cut the cut these
costs by marketing to the right people and being able to
communicate effectively with his customers using jargon not
familiar to the manufacturer.--Zack W1VT.

3829. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <58k8ht$6i4@li.oro.net>
Source record: 99819

Jay Craswell <73016.27@CompuServe.COM> shared these priceless pearls of wisdom:

->Circad is $995 (Unless your a Ham, Ham price=$295) Drop me an E-Mail if
->your interested. Or check out the WEB site www.holophase.com

I downloaded the "try me" version of Circad and I'm having some trouble getting started. Like any wonderful program, it is only wonderful if you can use it. There isn't any printable documentation OR sample files to load and play with.

Also, there is supposedly an "educational" version of this program that is available to electronics teachers. How do we find out about this version?

I guess it boils down to this:

1. The sample program is crippled on the size of file you can save, but nowhere is the crippled size documented. What is the cripple limit?

2. What are the limitations on the ham and teacher versions of the software? Pins? File size?

3. What are the limitations on the full software?

4. Where can we get decent printed instructions and/or sample files?

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company -- and I'm damned proud to do so.
Grass Valley CA 95945 | Airport: O17 (Grass Valley Intentional Airpatch)
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---C-182A N73CQ
jim@rst-engr.com | Comm'l/CFI-Airplane/Glider-A&P-FAA Counselor

3830. Re: PIC Programmer Holiday Specials until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <58k9hq$g2l@hpcvsnz.cv.hp.com>
Source record: 99820
Cross-posted to: misc.industry.electronics.marketplace,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

ITU Technologies (sales@itutech.com) wrote:
: ITU'S HOLIDAY SALE!

followed by an unabashed advertisment. I'm interested in any comments folk may have on these products or other PIC programming bundles such as the ones that DigiKey offers (Microchip "Picstart" and Parallax PIC programmers). I'm especially interested in knowing which of the readily available, reasonably inexpensive ones offer the best programming environments, and which work best with the smallest available PICs. And are there smaller PICs than the 18-pin SOIC size in the DigiKey catalog? What are the best hobby-type resources for this processor line?

--
Cheers,
Tom
tomb@lsid.hp.com

3831. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001012961015100001@news.vcnet.com>
Source record: 99821

In article <n7ws.219.009FEB81@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) wrote:
snip.....

> >Whew is right, Wes. Thanks for the heads up. Sorry. I forgot that for a
> >parallel circuit, the formula is Q=R/X. So how do we figure total Q when
> >the parallel Ls contains series R of its own?
>
> First, compute the parallel equivalent of the series RL alone.
> Then add the parallel resistance using the usual formula for such things.
> This gives the new parallel equivalent R||L. Q is computed as above.
>

==========

In Mr. Rauch's post of 28 Nov. he said:

> A second factor enters the equation, and this is the critical area. Adding nichrome to the primary HF path does almost NOTHING to system Q. I have no idea what guage wire you use, but let's look at some typical suppressors when 5 ohms of ESR is added to the inductor Here are the numbers:

With your suggested values of 70 nH and 50 ohms at 100 MHz.
Q = 1.14 (par equiv values (p eq) are 50r and 70 nH
with 5 ohm esr from nichrome.
Q = 1.0 (p eq) = 44.34r and 70.9 nH

With 70 nH and 100 ohms:
Q = 2.3
with 5 ohm esr nichrome
Q = 1.8 (p eq) = 79.7 r and 70.9 nH

With 150 nH and 50 ohms:
Q = 0.53
with 5 ohms esr nichrome
Q = .5 (p eq) 48.6r and 150.4 nH
snip

==========

The First Problem : (note m.s=milli-siemens)
.....for the series of 70nH L and 5 ohms of R, at 100MHz, I calculated that XL=44 ohms. For 5 ohms of R and 44 ohms of XL, Z = 44.3 ohms at an angle of +83.5 degrees. To convert this to its parallel equivalent: Y=-1/Z = 1/44.3 ohms, or 22.6 m.s at an angle of -83.5 degrees. BL = sine of -83.5 degrees*22.6 m.s = 22.4 m.s. Using X=1/B = 44.64 ohms of XL. G = cosine of -83.5 degrees * 22.6 m.s = 2.55m/s. Using R=1/G, R=44.2 ohms. Using Wes' suggestion, 44.2 ohms in parallel with 50 ohms =23.5 ohms. Q=R/X = 23.5/44.64 = 0.52.

It looks like the relatively small amount of ESR in the nichrome Ls made the VHF parasitic-oscillation suppressor's VHF-Q decrease from 1.14 to 0.54.

Tom: please show us how you arrived at a Q of 1.0.
I certainly would not want to continue with the second and third examples you proffered if there is an error in my method of solution.
---
e-mail copy to Mr. Rauch, et al.

--
--Rich-- ag6k, 805-386-3734

3832. Re: Cable noise???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: stevem@best.com
Message-ID: <58ka1r$k4i@shellx.best.com>
Source record: 99822
Cross-posted to: rec.video.cable-tv,rec.radio.amateur.homebrew

In article <58j61p$s2t@boursy.news.erols.com>,
Michael Horowitz <mhorowit@erols.com> wrote:
>I'm looking at the video signal coming out the back of my VCR, and see
>the classic horizontal sync pulse, color burst and video; however,
>there is a faint trace, running horizontally, at the lowest point of
>the horizontal sync pulse. This means that unless I can clean up the
>signal, I can't use the pulse as a trigger. Anyone have an idea how
>the signal can be cleaned up? - Mike
>

I'm not sure what kind of noise you are seeing, but here are some
general things I've found about scope triggering on video:

The best O-scopes to use for video waveforms tend to be the Asian
imports like Hitachi, Anritsu and some of the others that appear
under domestic brand names like Sencore, B&K etc. What you will
notice about these is that they have video mode triggering
built in. These trigger modes are usually marked TV-H or TV-V
for horizontal or vertical interval triggering. These units
appear to be designed with TV service in mind and are very good
even with a lot of noise on the waveform. The drawback is that
these scopes are not the fastest in the world and don't compare
well to the better Tek scopes for high frequency measurement.

If you have a scope that does not have TV mode triggering, you
can build your own using an LM1881 (see National's web page).
The sync detected outputs from the 1881 is clean and can be used
to provide external trigger to your scope. You just need to
make sure that the video level at the input to the LM1881 is
within the device limits. If your scope has a buffered output
from one of its probe channels, this is generally the best place
to sniff out some video to drive the 1881.

Good Luck,

Steve Muther WF6R

3833. Re: 1.5Ghz Antenna PreAmp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <850246275snz@lfheller.demon.co.uk>
Source record: 99823

In article <58hpte$bg0@wrqnews.wrq.com> pauld@wrq.com "Paul H. Dunn" writes:

> I've built a "Patch" antenna for the 1545 Mhz GPS band, and so far it
> seems to increase the received signal strength a bit, but not to my liking.
>
> Authors of a couple articles on the topic have referenced a "MARS6" op-amp
> that they've used in this application with some success. I've not been
> able to cross reference it or find anything close in the catalogs and data
> books I have.
>
> Anyone out there who can aim me in the right direction?

MAR MMICs (Monolithic Microwave ICs) are made by Mini-Circuits. Their
US number is (718) 934-4500. They are quite inexpensive, and very easy to
use, having 50R input and output impedances.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)118 9471424 | many years ago in Oxford.

3834. Re: Cable noise???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: Chris Barham <Chris@cbarham.demon.co.uk>
Message-ID: <84852380wnr@cbarham.demon.co.uk>
Source record: 99824

In article: <58j61p$s2t@boursy.news.erols.com> mhorowit@erols.com
(Michael Horowitz) writes:
>
> I'm looking at the video signal coming out the back of my VCR, and see
> the classic horizontal sync pulse, color burst and video; however,
> there is a faint trace, running horizontally, at the lowest point of
> the horizontal sync pulse. This means that unless I can clean up the
> signal, I can't use the pulse as a trigger. Anyone have an idea how
> the signal can be cleaned up? - Mike

If you're triggering your scope at line rate I'd guess you're seeing the
broads (UK-speak for vertical sync) running through at field rate.
These would be fairly faint as they're not there all the time :-)
As it's of very low frequency, compared to the horiz sync, it shouldn't
be a problem...
However you might find the output from your VCR is pretty unstable.
What device are you trying to trigger?

--
Chris Barham, G4MYB@GB7ODM :
Video editor, Manchester UK. :
PGP key available :
Chris@cbarham.demon.co.uk :

3835. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32ADBD52.4057@mail.teclink.net>
Source record: 99825

Tom,

Concerning the data you have been posting..... were you measuring this stuff by connecting your instruments to a commercially made amp, just as I might buy off the shelf? Or, were you using a test circuit strictly designed to determine the operating characteristics of a tube?

Thanks.

Tom KJ5IE

3836. 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: mikegem@aol.com
Message-ID: <mikegem-1012961154270001@cox10.batnet.com>
Source record: 99826

Can anyone recommend a construction article for an antenna tuner/matching network
for use at 144 MHz, 1kw cw? Thanks.

Michael

3837. Capacitance triggered iambic key

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: rdtalbert@aol.com
Message-ID: <19961210204900.PAA27727@ladder01.news.aol.com>
Source record: 99827

Several years ago I built (from a magazine article, as I recall) an iambic hand key that was triggered by body capacitance. This was the slickest, most simple and easy to operate key I have ever used.

Unfortunately, my key was demolished (almost beyond recognition) when I moved several years ago. Now that I am becoming active in radio again, I would like to build another.

The circuit seems to consist of 3 unidentifiable transistors (small d-shaped plastic case type), 2 small electrolitic caps, and maybe 3 or 4 resistors.

Could anyone help me out with the schematic and parts list for this little jewel? I don't have an extensive library of past issues of amateur radio magazines but reference to a past article would certainly be better than nothing.

Thanks and 73

Roy K9ER

3838. RF Mirror for 2.4 GHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: bohigas@aol.com
Message-ID: <19961210212500.QAA28438@ladder01.news.aol.com>
Source record: 99828

Dear Forum Members:

I am looking for some materials which could be suitable
to build a RF mirror suitable for 2.4 GHz, would you
have any recommendations.

Thank you for your interest and time.

Alberto

3839. Re: AM 6154 Amp input coupling

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <58kk5g$5t4@news1.mnsinc.com>
Source record: 99829

mottrd@usit.net whistled a happy tune like:

|>Does anyone out there have any experience convering a AM 6154(Fair
|>Radio Sales) amplifier to two meters. I am interested in the changes
|>to theamp input coupling for more output power.
|>Tnx
|>Ron
|>mottrd@usit.net

Hi there Ron - I used one for a while and loved it!
I got 200-400 watts out with no modification, and I think I only used like
10 watts of drive.
They are a GREAT amp. I wish I was still on 2m and had it!

73 from Bry (((Amateur Radio G3XLQ / AF4K)))
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, SWL info. etc. etc.

3840. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <58kopi$l0o@lace.colorado.edu>
Source record: 99830

In article <mikegem-1012961154270001@cox10.batnet.com>,
Michael Pinneo <mikegem@aol.com> wrote:
>Can anyone recommend a construction article for an antenna tuner/matching
>network
>for use at 144 MHz, 1kw cw? Thanks.
>
>Michael

Bad idea... Unless the line is EXTREMELY low loss, you will lose most of your power anyway. A vastly better idea is to match the *antenna* to the line, by fussing with the gamma match, element lengths, or whatever. Then the SWR on the line is low, and there's no need to have a tuner at all. The reason people use tuners at HF is that there, coax, and especially open wire line, do have low loss, and so can run at high SWR without causing excessive losses. Not so up at VHF or higher.

Bruce
N6URH

3841. Re: Where Hi Voltage Zeners?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: macino@ibm.net
Message-ID: <58ks77$1br0$2@news-s01.ca.us.ibm.net>
Source record: 99831

In <58esuq$4dm@news.icanect.net>, fsimonds@icanect.net (Terry Simonds) writes:
>
>I have a Heathkit scope (IO-104) that has managed to eat a string of
>275V 3-mA Zeners. Anybody out there have a source for such a beast?
>
>Thanks
>
>
> Hi Terry,

Try a place called either Surplus Salvage or Surplus Supply a call. They are in Benton Harbor, Michigan. They have/had a lot of the old Heath parts. I don't have their number, but 1-616-555-1212 outta get you close. Good Luck

Jim W9LZ

3842. Stancor Poly-Pedance Mod Xfmr taps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: Peter Lascell <plascell@inmind.com>
Message-ID: <32AE39C4.20B3@inmind.com>
Source record: 99832

Does anyone have an instruction sheet for a Stancor A-3893 (1960 vintage) or other "Poly-Pedance" modulation transformer of the A-389x series. Need the taps and jumper connection chart to match impedances.

These transformers were for a multitude of impedances as reported in their catalogs and were used in the ARRL Handbook for one or more modulators around 1960-1965. But the construction articles never specifically identified the taps to be used, rather refered the user to the instruction sheet packed with transformers to determine which taps are shorted and which ones are used for the plate connections. The operating current & voltage determined the impedance and tap adjustments were required to get the ratios right.

To be sure I get your response if you can help, please copy to:

w4wwq@juno.com

73 Pete

3843. Mitsubishi M57727 Power Module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: "D. H. Frank" <dfrank@worldnet.att.net>
Message-ID: <32AE2E51.317B@worldnet.att.net>
Source record: 99833

If anyone needs a new, in the box, never used module, I have one I will send you via USMail for $40. That's about $20 below what you would pay at RF Parts.
If interested contact Don, W9SL, via email or at 303/741-1503, anytime.

3844. Re: PIC Programmer Holiday Specials

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: gspencer@stim.stim.tec.tn.us
Message-ID: <1996Dec10.220832.1@stim.stim.tec.tn.us>
Source record: 99834

Microchip has introduced an 8-pin microcontroller. Check out these
PIC-related web pages.

www.microchip.com
www.parallaxinc.com
www.melabs.com

Regards,
Garry Spencer (gspencer@stim.tec.tn.us)

P.S. I know this is a bit off-topic for this newsgroup, but microcontrollers
are used in some ham gear.

3845. Re: WTB: S meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-10 00:00:00 UTC
From: ken@g4mpq.avel.co.uk
Message-ID: <32ad22cf.5235090@news.avel.net>
Source record: 99835
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

January edition of 'Hamradio Today Mag' has a simple homebuild kit -
looks quite nice! de ken/G4MPQ
The can be reached on Internet :-
http://www.netlink.co.uk/users/hrt

On Mon, 02 Dec 1996 08:19:28 -0800, Lennart Nilsson
<ln@hagagymnasiet.norrkoping.se> wrote:

>Phil Heaton wrote:
>>
>> I need an S meter for my homebrew rig. Does anyone
>> have one they'd like to sell?
>
>Whatever you buy it won't give a true reading. Use any small meter and
>mark the dial with the help of a calibrated signal generator connected to
>the antenna input.
>73 de Len SM5DFF

3846. Re: Need a Relay & a Pllace 2 Get 1 !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32AE99F0.7026@worldnet.att.net>
Source record: 99689

Bad Dog wrote:
>
> Help I need a Relay !!! ...snip...

A hamfest is the most eonomical, but you might try Newark Electronics,
Chicago, IL or Allied Electronics @ 800 433-5003 (www site:
allied.avnet.com)
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3847. Re: Source for rectangular chassis punch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32AE9C01.3A55@worldnet.att.net>
Source record: 99690

scott wrote:
> I expect Greenlee makes a punch that will work but don't know if the specific sizes you need are "stock". You could try Newark Electronics or Allied Electronics for one, but first visit your local electrical contractor supply supply house. Greenlee punches are commonly used by electricians and even if the store dosen't have what you need, they may be able to order it for you. Woody

> Anybody know where to buy a rectangular punch for an aluminum chassis
> box? Small, hand operated with a couple of wrenches. Need rectangular
> holes for mounting Waldom/molex connectors. Cut-out size of
> approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to be
> making 100-150 of these so don't suggest drilling/filing/nibbling. Any
> other ideas? Tnx, 73, Scott, N0EDV.
>
> --
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3848. Re: PIC Programmer Holiday Specials until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istE28H0B.18B@netcom.com>
Source record: 99691
Cross-posted to: misc.industry.electronics.marketplace,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

In article <58k9hq$g2l@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
-I'm interested in any comments
-folk may have on these products or other PIC programming bundles
-especially interested in knowing which of the
-readily available, reasonably inexpensive ones offer the best
-programming environments, and which work best with the smallest
-available PICs.

I have the ITU programmer, and other than an intermittant caused by ao
open in a too-thin trace on the PCB, it works fine. Cheapest is
the programmer for the 16C84 in the apps note (AN589?) driven by a
parallel port. Do an AltaVista search for "pic near micro" or "microchip" -
there's lots of stuff out there...

-And are there smaller PICs than the 18-pin SOIC size

They just announced one in an 8-pin DIP or SOIC package, similar to the
16C84... Not sure who sells that one yet.

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@majordomonetcom.com /|\

3849. Re: Microwave Antenna Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <32AE5331.2DC0@cam.org>
Source record: 99692

James Mills wrote:
>
> Hello Everybody,
>
> Does anybody know of some good software / shareware for microwave
> antenna and circuit design for microstrip work.
>
> Regards

Try PCAAD21, the URL is:

http://search.shareware.com/code/engine/File?archive=sim-msdos&file=electrcl%2fpcaad21%2ezip&size=164726

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

3850. Ramsey kit.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: thora@online.NO
Message-ID: <1.5.4.16.19961211062251.3b6f26d8@online.no>
Source record: 99693

Hello.

I have build two Ramsey FR-146 2 meter FM receiver kits. They are working ok on receving, but the squelch is not working ok. Is there a modification for this fault?

73's Thor LA2DAA in Drammen, Norway.

3851. Frontier Electric Digital 500.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: thora@online.NO
Message-ID: <1.5.4.16.19961211061903.3b6f0ce8@online.no>
Source record: 99694

Hello.

I have an old Frontier Electric Co. Digital 500. It has digital display, using old tubes for the display. The freq. readout is not working, I get digits on the display, but they are not correct. It's displaying the right band, but not the right freq.

Another problem with the rig is that it does only deliver a few watts on the 10 meter band.

All suggestions are welcome!

73's Thor LA2DAA in Drammen, Norway.

3852. Regency Handheld 2m for Trade for homebrew parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <58lou5$192@dfw-ixnews9.ix.netcom.com>
Source record: 99695
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I have a Regency Micro Com PH-251A handheld 2m rig
I'd like to trade. It's only a single channel, and not
even on a ham channel! Currently crystalled for
151.805, xmt and rcv. Has slots in PCB for a number of
additional xtals if you felt like putting them in.
This is the standard Regency handheld of old.

With leather case, and Wilson BC-2C charger base. NiCad
in good shape, radio works very well. With 'duckie' antenna.
Tuned it in on my scanner and it sounds great. 1 watt or
5 watts switchable. External mike/spkr jack in top. Very
good physical and electrical shape

Just needs xmt and rcv rocks for a repeater or simplex pair.

What do I want? $30 plus shipping :(or homebrew parts.

Here's what I'm after:

Vernier dials - the kind you can put a label behind
like the old Johnson series

3-section 1100pf Variable caps

Stripped SB-xxx Heathkit chassis (no parts) - want for
homebrew project

SB-430 Station Console (thingy with the clock, timer, and SWR meter)

500-0-500v 100ma range power transformers - anything close

Coil stock of any airwound flavor

Little unfinished RF / Ham projects that got started and never
finished that have nifty parts inside

Any combinations of the above.

You get the picture....I do alot of homebrewing these days, and my junk box is
as empty as my wallet!

Email to: Dave gekko95@ix.netcom.com

(To those who know me, yes I was gekko@nwlink.com - changed ISP's)

3853. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961211083200.DAA17203@ladder01.news.aol.com>
Source record: 99696

In article <32AD93C3.15B9@arrl.org>, Zack Lau <zlau@arrl.org> writes:

>> hugh profit yourself!
>> You seem to be ignoring a big cost factor--supporting the
>software. A ham dealer might be able cut the cut these
>costs by marketing to the right people and being able to
>communicate effectively with his customers using jargon not
>familiar to the manufacturer.--Zack W1VT.
>
>
CirCad software -$995.00

This huge support factor was created by the manufacturer to justify the $995 cost I quess. The support was equal to more that $700 of the cost of the program. ...more that $700? You are getting it for less that $295? Right? Per program I should say. Right again? Where could I find an organization that spends 70% of its income from a product to pay for support. That only leaves 30% for rent, utilites, return on R&D...you know what I mean.

Not my concern really just curious but will you explain this lack of support the ham version provides?

Carl

3854. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961211083200.DAA17199@ladder01.news.aol.com>
Source record: 99697

Since you chose not to answer my question let me say:

I have tried CirCad.
The shareware version I tried had crude menus in the manner that a beginner
would make. As if there was no attempt to take the look of the system beyond essential stuff that was available 10 or more years ago. I would think
a program that costly would upgrade to a stylish version like the rest have.

YOU are correct. No support.

The documentation available was really no documentation compared to any other
CAD programs.

Many other CAD programs, shareware that is, and one in particular- DraftCHoice -
makes CirCad look childish.

Hell, Easytrax, can be made to draw schematics, does all the CNC Gerber stuff and it is freeeeeeeeeeee.

If Harvard Garphics 3.0 for DOS would allow .025 inch snap spacing on 8.5 x 11, I wouldn't need anything else. Not even AutoCad.

CirCad, the version I tried, has a value of less than $50. The best version
of DraftChoice is $99. There are many better deals.

Schematic capture? Can't draw the schematic if you can't understand the program.Net list? Bus? Come onnnn.

Carl

3855. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <rffnuKAgImryEwMj@ifwtech.demon.co.uk>
Source record: 99698

Michael Pinneo wrote:
>Can anyone recommend a construction article for an antenna tuner/matching
>network
>for use at 144 MHz, 1kw cw? Thanks.

In one word, DON'T.

In a few more words: match the impedance correctly at the antenna itself
and operate the feedline at low VSWR to reduce losses. If your antenna
is not matched correctly, it would be bad engineering to build an ATU to
hide the problem - fix the antenna.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3856. Re: Parasitic Suppressor Q

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001112960212100001@news.vcnet.com>
Source record: 99699

In article <n7ws.217.004121D0@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) wrote:

> I have tried to follow the raging discussion over the merits (or
> non-merits)of parasitic suppressors constructed with nichrome wire. Frankly, it
> has been tough to follow at times because the discussion has been cluttered
> with other topics. So, a new thread, dedicated to a single topic. (We live
> in hope)
>
snip
>
> One problem with nichrome (computationally speaking) is that it is a magnetic
> material. In my limited searching of references, I haven't found a good value
> for the relative permeability, which along with the resistivity affects
> the skin effect losses of the wire. However, unless this is non-linear (could
> be), there is still seems to be no magic involved.

IMO, the magnetic characteristic is probably a factor at VHF. By adding a small amount of iron to the basic nickle-chromium 4 to 1 ratio, the hysterisis-loss increases noticably at 50MHz. It will be interesting to see what happens above this frequency on your Boonton 250, Wes.
Another issue is that there are two, different, anode VHF resonant frequencies whenever a VHF parasitic suppressor is used. The higher resonant frequency is through the suppressor resistor, Rs (the lowest L path through the suppressor). The lower resonant frequency is through the more-inductive suppressor inductor, Ls. (Note: Rs and Ls act independantly because the magnetic field from Ls is at a right angle to the magnetic field from Rs, Thus, a stagger-tuning effect is produced.)

> The higher resistivity and permeability of nichrome (whatever the values)
> simply increase the skin effect losses in the same fashion as in copper or any
> other conductor.
>
> An inductor wound with nichrome has higher loss (lower Q) than a similar
> inductor wound with copper, but in the parasitic suppressor, the parallel
> resistor has the exact effect. In other words, the series equivalent R+jX has
> an equivalent parallel G-jB which can be made to look the same by addition
> of external parallel conductance (resistor) to a higher Q copper wire
> inductor.
>
> The only positive effect I can imagine arising from the use of nichrome

> suppressors would be due to some non-linear phenomenon that increases VHF loss
> while not affecting HF loss. If someone can point us to a reference which
> describes this behavior it would be appreciated and might settle the arguement.

A nichrome Ls does increase HF loss by roughly one percent on the 28MHz band. Unsurprisingly, nichrome does exhibit heating during operation at 28MHz. I would be concerned if this were NOT the case.
About 30 years ago, an old timer told me that he built a ten meter antenna with stainless steel screws, and that during operation the stainless steel screws became so hot they melted the plexiglass insulators they were screwed to. (Most types of stainless steel are a mix of nickle, chromium, and iron.)

--
--Rich-- ag6k, 805-386-3734

3857. Subscribing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: kc8ckz@aa8ag.ampr.ORG
Message-ID: <683@aa8ag.ampr.org>
Source record: 99700

Howdy there, I was telneting via 2 meter's to Moscow earlier this morning
and seen they carried Ham Homebrew. If you possibly have time, could you
please forward me info on how to subscribe?
Thanks & 73's
Victor, KC8CKZ, located in Dorr, MI.
KC8CKZ%W8USA@W8DC.AMPR.ORG

3858. Returned mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: Mailer-Daemon@mailbox.enel.IT
Message-ID: <9612111853.AA6350@mail.ctir.enel.it>
Source record: 99701

---- message ----

Errore trasferimento a NRMINTGW/RM/ENEL/IT mail.box; Superato massimo numero del contatore a breve distanza. Il messaggio probabilmente in un ciclo di loop.

---- message ----
Content-Type: Message/rfc822
Content-Description: RFC822

To: Ham-Homebrew <Ham-Homebrew@UCSD.EDU>
bcc: 630777 bassano alessandro <630777_bassano_alessandro.na
@mail.ctir.enel.it>
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Date: 11 Dec 96 4:30:37
Subject: Ham-Homebrew Digest V96 #568
MIME-Version: 1.0
Content-Type: Text/Plain

Ham-Homebrew Digest Wed, 11 Dec 96 Volume 96 : Issue 568

Today's Topics:
Frontier Electric Digital 500.
Microwave Antenna Design
Mitsubishi M57727 Power Module
Need a Relay & a Pllace 2 Get 1 ! (2 msgs)
Parasitic Suppressor Q
PIC Programmer Holiday Specials
PLL's
Ramsey kit.
Regency Handheld 2m for Trade for homebrew parts
Schematic Drawing Software For Ham Use? (2 msgs)
Source for rectangular chassis punch? (2 msgs)
Stancor Poly-Pedance Mod Xfmr taps
Where Hi Voltage Zeners?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 11 Dec 96 05:21:56 GMT
From: thora@online.NO (Thor Andersen)
Subject: Frontier Electric Digital 500.

Hello.

I have an old Frontier Electric Co. Digital 500. It has digital display,
using old tubes for the display. The freq. readout is not working, I get
digits on the display, but they are not correct. It's displaying the right
band, but not the right freq.

Another problem with the rig is that it does only deliver a few watts on the
10 meter band.

All suggestions are welcome!

73's Thor LA2DAA in Drammen, Norway.

Date: Wed, 11 Dec 1996 01:22:41 -0500
From: Madjid <mboukri@cam.org>
Subject: Microwave Antenna Design

James Mills wrote:
>
> Hello Everybody,
>
> Does anybody know of some good software / shareware for microwave
> antenna and circuit design for microstrip work.
>
> Regards

Try PCAAD21, the URL is:

http://search.shareware.com/code/engine/File?archive=sim-msdos&file=electrcl%2fpcaad21%2ezip&size=164726

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

Date: Tue, 10 Dec 1996 20:45:21 -0700
From: "D. H. Frank" <dfrank@worldnet.att.net>
Subject: Mitsubishi M57727 Power Module

If anyone needs a new, in the box, never used module, I have one I will
send you via USMail for $40. That's about $20 below what you would pay
at RF Parts.
If interested contact Don, W9SL, via email or at 303/741-1503, anytime.

Date: 11 Dec 1996 01:57:46 GMT
From: thebaddog@freemark.com (Bad Dog)
Subject: Need a Relay & a Pllace 2 Get 1 !

Help I need a Relay !!! I own this older 10 meter/6 meter amplifier
(AfterBurner Model# 403) and it has been in the closet for a few years
so I
took it apart and thought I should clean the relay (it looked kinda
dirty)
Well, after the file treatment things don't seem to be as flat as they
should and now the realy shoots sparks when you key up. So know I went
on
this search in the net and can't find nothing about a Relay. I even
check
all the parts catalogs I have and nobody has a simple Relay. Can
Anybody out
there help me find the right parts people? If so please help me I need
a
Relay and I need a new parts catalog Thanx :)

Date: Wed, 11 Dec 1996 03:24:32 -0800
From: woody white <woody.white@worldnet.att.net>
Subject: Need a Relay & a Pllace 2 Get 1 !

Bad Dog wrote:
>
> Help I need a Relay !!! ...snip...

A hamfest is the most eonomical, but you might try Newark Electronics,
Chicago, IL or Allied Electronics @ 800 433-5003 (www site:
allied.avnet.com)
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

Date: Wed, 11 Dec 1996 02:12:10 -0800
From: measures@mail.vcnet.com (R. L. Measures)
Subject: Parasitic Suppressor Q

In article <n7ws.217.004121D0@azstarnet.com>, n7ws@azstarnet.com (Wes
Stewart) wrote:

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> non-merits)of parasitic suppressors constructed with nichrome wire.
Frankly, it
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with stainless steel screws, and that during operation the stainless steel
screws became so hot they melted the plexiglass insulators they were
screwed to. (Most types of stainless steel are a mix of nickle, chromium,

and iron.)

--
--Rich-- ag6k, 805-386-3734

Date: 10 Dec 96 22:08:32 -0600
From: gspencer@stim.stim.tec.tn.us
Subject: PIC Programmer Holiday Specials

Microchip has introduced an 8-pin microcontroller. Check out these
PIC-related web pages.

www.microchip.com
www.parallaxinc.com
www.melabs.com

Regards,
Garry Spencer (gspencer@stim.tec.tn.us)

P.S. I know this is a bit off-topic for this newsgroup, but microcontrollers
are used in some ham gear.

Date: 11 Dec 1996 02:58:32 GMT
From: Larry Martin <larrym@wco.com>
Subject: PLL's

bspeed@cyberramp.net () wrote:
>zclobes@southwind.net (Zack Clobes) wrote:
>
>>I was reading an article in the latest copy of QST covering the
>>theory/construction of a temp compensated VFO. The schematic reminded me of
a
>>PLL with a feedback loop tied to a crystal oscilator. In his article, he
made
>>the statment that his VFO wouldn't have the extra phase noise that a
>>traditional PLL has because of the loop. Can anyone explain this? I didn't
>>think that the VCO wouldn't be effected by the locking loop.
>>Thanks
>>73s de Zack, W0ZC
>Within the loop bandwidth of the PLL, the phase noise at the output,
>is equal to the reference osc. noise multiplied by the total division
>factor, N. The phase noise outside of the Loop bandwidth is that of
>the VCO.
>Reference: PLL Primer, by Andrzej Przedpelski
>
>ie, you will decrease phase noise within the loop bandwidth of the
>PLL.
>
Gross oversimplification! :)

Larry

Date: 11 Dec 96 05:25:44 GMT
From: thora@online.NO (Thor Andersen)
Subject: Ramsey kit.

Hello.

I have build two Ramsey FR-146 2 meter FM receiver kits. They are working ok on receving, but the squelch is not working ok. Is there a modification for this fault?

73's Thor LA2DAA in Drammen, Norway.

Date: 11 Dec 1996 07:47:17 GMT
From: gekko95@ix.netcom.com (Dave)
Subject: Regency Handheld 2m for Trade for homebrew parts

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I'd like to trade. It's only a single channel, and not
even on a ham channel! Currently crystalled for
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This is the standard Regency handheld of old.

With leather case, and Wilson BC-2C charger base. NiCad
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Just needs xmt and rcv rocks for a repeater or simplex pair.

What do I want? $30 plus shipping :(or homebrew parts.

Here's what I'm after:

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3-section 1100pf Variable caps

Stripped SB-xxx Heathkit chassis (no parts) - want for
homebrew project

SB-430 Station Console (thingy with the clock, timer, and SWR meter)

500-0-500v 100ma range power transformers - anything close

Coil stock of any airwound flavor

Little unfinished RF / Ham projects that got started and never
finished that have nifty parts inside

Any combinations of the above.

You get the picture....I do alot of homebrewing these days, and my junk box is
as empty as my wallet!

Email to: Dave gekko95@ix.netcom.com

(To those who know me, yes I was gekko@nwlink.com - changed ISP's)

Date: 11 Dec 1996 08:32:21 GMT
From: the2x4@aol.com
Subject: Schematic Drawing Software For Ham Use?

Since you chose not to answer my question let me say:

I have tried CirCad.
The shareware version I tried had crude menus in the manner that a
beginner
would make. As if there was no attempt to take the look of the system
beyond essential stuff that was available 10 or more years ago. I would
think
a program that costly would upgrade to a stylish version like the rest
have.

YOU are correct. No support.

The documentation available was really no documentation compared to any
other
CAD programs.

Many other CAD programs, shareware that is, and one in particular-
DraftCHoice -
makes CirCad look childish.

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x 11, I wouldn't need anything else. Not even AutoCad.

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version
of DraftChoice is $99. There are many better deals.

Schematic capture? Can't draw the schematic if you can't understand the
program.Net list? Bus? Come onnnn.

Carl

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Subject: Schematic Drawing Software For Ham Use?

In article <32AD93C3.15B9@arrl.org>, Zack Lau <zlau@arrl.org> writes:

>> hugh profit yourself!
>> You seem to be ignoring a big cost factor--supporting the
>software. A ham dealer might be able cut the cut these
>costs by marketing to the right people and being able to
>communicate effectively with his customers using jargon not
>familiar to the manufacturer.--Zack W1VT.
>
>
CirCad software -$995.00

This huge support factor was created by the manufacturer to justify the $995 cost I quess. The support was equal to more that $700 of the cost of the program. ...more that $700? You are getting it for less that $295? Right? Per program I should say. Right again? Where could I find an organization that spends 70% of its income from a product to pay for support. That only leaves 30% for rent, utilites, return on R&D...you know what I mean.

Not my concern really just curious but will you explain this lack of support the ham version provides?

Carl

Date: Wed, 11 Dec 1996 02:32:14 -0800
From: scott <acepilot@mwt.net>
Subject: Source for rectangular chassis punch?

Anybody know where to buy a rectangular punch for an aluminum chassis box? Small, hand operated with a couple of wrenches. Need rectangular holes for mounting Waldom/molex connectors. Cut-out size of approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to be making 100-150 of these so don't suggest drilling/filing/nibbling. Any other ideas? Tnx, 73, Scott, N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

Date: Wed, 11 Dec 1996 03:33:21 -0800
From: woody white <woody.white@worldnet.att.net>
Subject: Source for rectangular chassis punch?

scott wrote:
> I expect Greenlee makes a punch that will work but don't know if the

specific sizes you need are "stock". You could try Newark Electronics or Allied Electronics for one, but first visit your local electrical contractor supply supply house. Greenlee punches are commonly used by electricians and even if the store dosen't have what you need, they may be able to order it for you. Woody

> Anybody know where to buy a rectangular punch for an aluminum chassis
> box? Small, hand operated with a couple of wrenches. Need rectangular
> holes for mounting Waldom/molex connectors. Cut-out size of
> approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to be
> making 100-150 of these so don't suggest drilling/filing/nibbling. Any
> other ideas? Tnx, 73, Scott, N0EDV.
>
> --
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

Date: Tue, 10 Dec 1996 20:34:12 -0800
From: Peter Lascell <plascell@inmind.com>
Subject: Stancor Poly-Pedance Mod Xfmr taps

Does anyone have an instruction sheet for a Stancor A-3893 (1960 vintage) or other "Poly-Pedance" modulation transformer of the A-389x series. Need the taps and jumper connection chart to match impedances.

These transformers were for a multitude of impedances as reported in their catalogs and were used in the ARRL Handbook for one or more modulators around 1960-1965. But the construction articles never specifically identified the taps to be used, rather refered the user to the instruction sheet packed with transformers to determine which taps are shorted and which ones are used for the plate connections. The operating current & voltage determined the impedance and tap adjustments were required to get the ratios right.

To be sure I get your response if you can help, please copy to:

w4wwq@juno.com

73 Pete

Date: 10 Dec 1996 23:37:11 GMT
From: macino@ibm.net
Subject: Where Hi Voltage Zeners?

In <58esuq$4dm@news.icanect.net>, fsimonds@icanect.net (Terry Simonds) writes:
>
>I have a Heathkit scope (IO-104) that has managed to eat a string of
>275V 3-mA Zeners. Anybody out there have a source for such a beast?
>
>Thanks
>
>
> Hi Terry,

Try a place called either Surplus Salvage or Surplus Supply a call. They are
in Benton Harbor, Michigan. They have/had a lot of the old Heath parts. I
don't have their number, but 1-616-555-1212 outta get you close. Good Luck

Jim W9LZ

End of Ham-Homebrew Digest V96 #568
****

---- message ------

3859. Re: Cable noise???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: gfiber@cmc.net
Message-ID: <58mdfp$qnd@news.cmc.net>
Source record: 99702
Cross-posted to: rec.video.cable-tv,rec.radio.amateur.homebrew

>The best O-scopes to use for video waveforms tend to be the Asian
>imports like Hitachi, Anritsu and some of the others that appear
>under domestic brand names like Sencore, B&K etc.

KENWOOD actually made the B&K scopes for sometime, not sue if they still do
though.

Gary.

3860. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961211142000.JAA23283@ladder01.news.aol.com>
Source record: 99703

In article <32ADBD52.4057@mail.teclink.net>, "Tom C. Brown, Jr."
<madison@mail.teclink.net> writes:

>Concerning the data you have been posting..... were you measuring this
>stuff by connecting your instruments to a commercially made amp, just as
>I might buy off the shelf?

Yes

> Or, were you using a test circuit strictly
>designed to determine the operating characteristics of a tube?

You could call it that, since I changed the grid and other components to
conform with the changes being discussed.

3861. Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: a176185@msp.sc.ti.COM
Message-ID: <199612111635.KAA26843@escher.msp.sc.ti.com>
Source record: 99704

Hi,
I have a dumb question I hope someone will help me with. I have some
coax connectors I bought to use on a homebrew antenna. I don't know
now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
I bought them and they aren't marked.) Is there an easy way to tell?
Would 50 ohm connectors have some physical telling difference or can
I measure them with me ohm meter to tell?

Thanks for your help.

--
Regards,
Jeanne
+--+
|Jeanne Pitz, Ph.D. Mixed Signal Design Department |
|jpitz@ti.com Texas Instruments, Inc. |
|MSGid JKP MS 8213 PO BOX 655303 |
|972-997-3759 Dallas, TX 75265 |
| |
| Do not go where the path may lead, go instead where there is no path |
| and leave a trail. -Ralph Waldo Emerson |
+--+

3862. Need Yig Oscillator, Xband

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: viny Coppola <76103.723@CompuServe.COM>
Message-ID: <58mrdp$4hs$1@mhade.production.compuserve.com>
Source record: 99705
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics.design

Looking for a Yig Oscillator to cover around 9 to 12 ghz, for
building a homebrew sweeper.

Thanks,
VINY N1VC

3863. WTB:US TOWER HDX589

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: N6TT@gnn.com
Message-ID: <58ms24$9q0@news-c1.gnn.com>
Source record: 99706

```
WANTED US TOWER HDX589,SKY NEEDLE,ETC
N6TT@gnn.com STEVE 310-3186990
MANHATTAN BEACH,CA.
```

3864. Re: Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec11.191539.26480@ke4zv.atl.ga.us>
Source record: 99707
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <58i2lgINNji3@sepia.wv.tek.com> edbu@sepia.wv.tek.com (Ed Burress) writes:
>In article <1996Dec9.012624.13811@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>snip
>>
>>OTOH, there is 9.6 kb packet. This *can* work through some, a
>>very few, voice grade radios, and many amateurs try. But most
>>of the so-called "9600 baud ready" voice radios are *not* in fact
>>suitable for 9600 baud operation. They have a connector labeled
>>
>snip
>
>Has anyone built the Ramsey 440 MHz transciever, and used it successfully
>for 9600 baud packet operation? Did it work as advertised, or are there
>mods necessary to get it to work? Their catalog says "9600 - no problem".
>Does that mean "works fine, no problem" or "no problem, not a chance"?
>Anyone use one of these as the basis for a repeater? Can you use the
>Tx and Rx side at the same time? I suspect that the synthesizer can only
>handle one side at a time, but I've never even seen one of these rigs.
>Anybody?

I haven't built the 440 rig, but I did build the 2m rig. The modulation is just summed into the PLL error loop, and if you've been following the 9600 baud threads, you know that's not going to work correctly.

The radio sweeps the VCO to the various receive and transmit offsets by mixing offset reference crystal oscillators with a sample of the VCO in the PLL mixer and feeding that to the PLL chip to generate the loop error voltage to steer the VCO to the proper frequency. You can't use it duplex or split it.

The 2m radio had a *number* of design flaws (I can't claim the inability to do 9600 properly is a design flaw since most other synthesized radios share it, and it doesn't affect ordinary voice use). But for example, it will transmit with the PLL out of lock, a definite no-no. And receive sensitivity was much worse than specified unless modified from the way the instructions tell you to build it. And the PA would go spurious if you tuned it according to the instructions in the manual (you can tune it clean with the aid of a spectrum analyzer, though you might have to settle for about 3 watts out). There were a number of fixes to its various problems which were posted here when it first came out.

I understand that the design has been revised since the first release. I can't say if any or all of the problems noted in the first units

have been resolved because I haven't seen one of the new units. But unless they have been, you don't want this radio except as a learning experience on how *not* to design a radio. There were also problems with component quality. The first radios were sent out with reference crystals which would not net onto frequency. You had to modify the reference oscillators to get them on frequency. Now some of this may be attributed to teething problems of a new product, but most of it is just typical Ramsey.

If you want a transmitter and receiver you can build from kits which will work for 9600 baud, buy the Hamtronics kits. Their quality isn't wonderful either, but at least the design is sound, and they will usually work as advertised after a bit of debugging.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3865. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: hanavin@stimpy.eecis.udel.edu
Message-ID: <58n6pu$263@dewey.udel.edu>
Source record: 99708

In article <199612111635.KAA26843@escher.msp.sc.ti.com>,
Jeanne Pitz <jpitz@ti.com> wrote:
>Hi,
>I have a dumb question I hope someone will help me with. I have some
>coax connectors I bought to use on a homebrew antenna. I don't know
>now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
>I bought them and they aren't marked.) Is there an easy way to tell?
>Would 50 ohm connectors have some physical telling difference or can
>I measure them with me ohm meter to tell?
>
>Thanks for your help.
>
>--
>Regards,
>Jeanne
>+---+
>|Jeanne Pitz, Ph.D. Mixed Signal Design Department |
>|jpitz@ti.com Texas Instruments, Inc. |
>|MSGid JKP MS 8213 PO BOX 655303 |
>|972-997-3759 Dallas, TX 75265 |
>| |
>| Do not go where the path may lead, go instead where there is no path |
>| and leave a trail. -Ralph Waldo Emerson |
>+---+

I'm no expert, and I'm not so sure if connectors are actually designed
to have a certain impeadance. I've seen BNC connectors that were
designed for 50 ohm cable and 75 ohm cable, The end of the cable is
the same. Unless you're doing microwave stuff, it probally doesn't
matter. I am sure of one thing, though, you're not going
to measure the impeadnace with an ohm meter!

3866. Re: Need HF Amp Schematic(s)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <32AF0E21.1770@wco.com>
Source record: 99709

scott9@pipeline.com wrote:
>
> I need diagrams for HF amps, (20 meters), please tell me where I can
> get them.
>
> Thanks,
> Scott, KF6FCN

I don't have their number handy but try Communication Concepts Inc. CCI has loads of HF amp plans
and kits.

Jim.. KB6ZOP

3867. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961211204501.PAA04629@ladder01.news.aol.com>
Source record: 99710

In article <measures-ya023180001012961015100001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>To convert this to its parallel equivalent:
> Y=-1/Z = 1/44.3 ohms, or 22.6 m.s at an angle of -83.5 degrees. BL =
sine
>of -83.5 degrees*22.6 m.s = 22.4 m.s. Using X=1/B = 44.64 ohms of XL. G
=
>cosine of -83.5 degrees * 22.6 m.s = 2.55m/s. Using R=1/G, R=44.2 ohms.

Nope. The parallel inductor equivilent is really 43.98 ohms in parallel
with 386.89 ohms. You need to check your math at the G=cos -83.5*22.6ms =
2.55ms area

Let me do it in decimals instead of confusing milli's this and thats.
Using your numbers as the starting point cos -83.5 is .1132032138 multiply
that times .0226 is .0025584 s. That is about 2.55 m/S. The 1/X of that
number is 390.87 ohms, not 44.2 ohms.

I have no idea where your answer of 1 / 2.55 m/s = 44.2 ohms came from,
since 1/ 2.55 m/s is 392.2 ohms.

So the correct par R answer is 390.87 ohms using your figures (it is
really 386.89, but close enough).

>Using Wes' suggestion, 44.2 ohms in parallel with 50 ohms =23.5 ohms.
>Q=R/X = 23.5/44.64 = 0.52.

Woops again Rich, there must have been a parasitic oscillation in your
calculator, hi.

1/R = 1/50 plus 1/390.87 = 44.329 ohms 44.329 / 44.64 = .993

so Q = .993

By your method Q=.993 with nichrome, not a big drop from 1.14 with a
LOSSLESS suppressor inductor. This is of course different than my posted
value from rounding.

>It looks like the relatively small amount of ESR in the nichrome Ls made
>the VHF parasitic-oscillation suppressor's VHF-Q decrease from 1.14 to
>0.54.

Even if I approximate it a 5 ohm series resistance change from a 50 ohm
suppressor is only 10%. 10% of 1.14 is .114. 1.14 minus .114 is about
1.026. The equiv series inductance also changes slightly so the Q change
will be a little more than that. With my toes and fingers and common sense
I get Q about 1 with the added resistance.

Adding nichrome lowers the HF Q, slightly reducing effects of excessive drive, exciter transcients, and improper tuning. It does NOTHING for VHF stability.

73 Tom

3868. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: Larry Robison <robison@amnorth.com>
Message-ID: <32AF3100.6DFE@amnorth.com>
Source record: 99711

Hi Jeanne:

Connector impedance isn't as confusing as it may seems. The only connectors that are true 50 ohm connectors are "N" and "BNC" connectors. The thing that establishes them as constant impedance connectors is the dimensions of the center conductor pins and the interior dimension of the shell. As in a piece of coax this is the primary thing that determines impedance. The impedance of the connector is really only important in feedlines that are used on frequencies above 30 Mhz. It used to be that only the purists were concerned with 50 ohm connectors because they were always somewhat more difficult to install and were more expensive than their counterpart the PL259.

The PL259 is the old standard for most amateur work because they were readily available, cheap, and fairly easy to install. They will handle the power that most amateur equipment produces, all the way up to a couple of kilowatts without too much trouble. Since their design is not such that they qualify for being a "constant impedance connector" they are used in either 75 ohm cable or 50 ohm cable with equal success.

The PL259 adapters that state that they are for RG58 cable or RG59 cable has nothing to do with impedance. It more has to do with how snugly they fit around the cable, thus preventing physical movement from destroying the integrity of the connection.

I hope this helps.

Larry W9MDX

3869. SOURCE FOR RECTANGULAR CH

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: fred.vobbe@wlio.com
Message-ID: <9612111533.0LULT00@wlio.com>
Source record: 99712

Ne> box? Small, hand operated with a couple of wrenches. Need
Ne> rectangular holes for mounting Waldom/molex connectors. Cut-out size
Ne> of approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to
Ne> be making 100-150 of these so don't suggest drilling/filing/nibbling.
Ne> Any other ideas? Tnx, 73, Scott, N0EDV.

Check out Greenlee punches, or just browse the Mouser catalog
for one in there. That's where I got mine for doing Molex connectors.

... W8HDU@WLIO.COM (alternate address: gnbc@alpha.wcoil.com)
___ Blue Wave/QWK v2.12

3870. Classic Vacuum Tube / Radio Books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: John McGowan <jem@actel.com>
Message-ID: <32AF3C1B.59E2B600@actel.com>
Source record: 99713
Cross-posted to: ba.forsale,fj.rec.radio,rec.antiques.radio+phono,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap,ba.marketplace

I have three classic texts, all in excellent condition,
which I am looking to unload as I will have no need for them.
I hope to find them a good home.

1. RCA, _Receiving Tube Manual_, 1947.

2. RCA, _Radiotron Designer's Handbook, 3d Ed._, 1942.

3. Reich, _Theory and Application of Electron Tubes_, 1939.

I request at a minimum that one pay postage, if
applicable. I live in the San Francisco Bay Area. What are these
worth? Please contact me if interested.

Happy Holidays,

John

jem@actel.com
jemejm@ix.netcom.com

3871. Re: Schematic Drawing Software For Ham Use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: Peter Lascell <plascell@inmind.com>
Message-ID: <32AF9673.5DF8@inmind.com>
Source record: 99714

I missed the original posting on this, but...

I receive a demo copy of MicroSim software that does neat drawings.
Look at www.microsim.com and then select DOWNLOAD for free CD-ROM
offer.

w4wwq@juno.com

3872. Re: PIC Programmer Holiday Specials until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: khorton@iquest.net
Message-ID: <58i75i$bj0_001@ind-0003-9.iquest.net>
Source record: 99715
Cross-posted to: misc.industry.electronics.marketplace,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

In article <58k9hq$g2l@hpcvsnz.cv.hp.com>,
tomb@lsid.hp.com (Tom Bruhns) wrote:
>ITU Technologies (sales@itutech.com) wrote:
>: ITU'S HOLIDAY SALE!
>
>followed by an unabashed advertisment. I'm interested in any comments
>folk may have on these products or other PIC programming bundles such
>as the ones that DigiKey offers (Microchip "Picstart" and Parallax
>PIC programmers). I'm especially interested in knowing which of the
>readily available, reasonably inexpensive ones offer the best
>programming environments, and which work best with the smallest
>available PICs. And are there smaller PICs than the 18-pin SOIC
>size in the DigiKey catalog? What are the best hobby-type resources
>for this processor line?
>
OK, I've been using the PIC for quite awhile now, and at work we got a
Picstart 16B-1 I think it is. It does the 16C5x, 16C7x, and 16C8x series.
We paid $200 for it, but they included 4 samples and gave us *lots* of
literature. A few months ago, I picked up a Picstart Plus at one of their
seminars. It was $150, but it does all chips up to 40 pins. Both plug into
the PC via a serial port.

As yo your other question- you can get 8-pin PICs! These have internal
4Mhz oscillators, or can use an external one. You can have up to 6 I/O
lines, but less if you use an external osc. This chip has to rate high on the
'coolness' scale, IMHO. The only problem with it is it's only in OTP, tho
they're going to try and put it in like an 18-pin windowed DIP, according to the
guy I talked to at the seminar. They also have a 64-pin PIC that can control an LCD
display or you can configure it up for *alot* of I/Os, tho I cannot remember how
many.

As to the software, you can get it free from Microchip, and it's pretty darned
good. You can also get things like a 'C' compiler, but I think for a chip with
512 words of space that's way over-kill. (IMHO) PIC ASM isn't too hard to learn-
it's just diffrent. I was saying 'oh, I can do that?' for awhile when I was
programming it. :-)

Also, I find Digi-key's prices to be kinda high for some of the parts, but where
else can you get one of 'em at a shot?

3873. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.221.00E15945@azstarnet.com>
Source record: 99716

In article <32AF52D5.277F@compulink.gr> Apostolos Bouroussis <mak@compulink.gr> writes:
>From: Apostolos Bouroussis <mak@compulink.gr>
>Subject: Coils wire diameter
>Date: Thu, 12 Dec 1996 02:33:25 +0200

>I decide to build a Qrp swr meter but in the article the wire for coils
>is coded with a number such N.24 or N.26 e.t.c.
>I go to the local electronics store But they told me this code number
>mean nothing and they ask me what is the diameter of the wire
>Please where i find a list that explain the diameter of the wires that
>is coded by numbers.

>
>Thank's
>
>mak@compulink.gr

I believe, that the numbering system stated probably is AWG (American Wire Guage).

There is an approximate formula for comverting these numbers to diameter, but I don't have it at hand.

For the guages you mention, the following might help you:

AWG 28 .0321 cm
AWG 26 .0405 cm
AWG 24 .0511 cm
AWG 22 .0644 cm
AWG 20 .0812 cm

There are also British (NBS) guages which are slightly larger for the same guage. I don't believe that for your application, the size will be too critical. If you need other sizes, email and I can send them to you.

Regards, Wes Stewart - N7WS

3874. Help requested in receiving 92 KHz on FM radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: akachhy@hogpb.ho.att.com
Message-ID: <58mljp$90i@newsa.netnews.att.com>
Source record: 99717

Hello

I recently bought a radio to listen to an ethnic radio broadcast
in the NYC area. The broadcast is at 92KHz freq.

The radio is a regular AM/FM radio converted to receive this freq. on the
FM dial around the 92 Mhz mark.

I wonder if anyone can tell me how this can be done, hopefully inexpensivly.
The reason I want to do it myself is to have more radios of this type
without paying a lot of money for (2 times) for each radio.

Thanks in advance.

Avinash Kachhy

--
Avinash Kachhy
avinash.kachhy@att.com

3875. Need a Relay & a Pllace 2 Get 1 !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: thebaddog@freemark.com
Message-ID: <58l4eq$r32@faile.nidlink.com>
Source record: 99836

Help I need a Relay !!! I own this older 10 meter/6 meter amplifier (AfterBurner Model# 403) and it has been in the closet for a few years so I
took it apart and thought I should clean the relay (it looked kinda dirty)
Well, after the file treatment things don't seem to be as flat as they should and now the realy shoots sparks when you key up. So know I went on
this search in the net and can't find nothing about a Relay. I even check
all the parts catalogs I have and nobody has a simple Relay. Can Anybody out
there help me find the right parts people? If so please help me I need a
Relay and I need a new parts catalog Thanx :)

3876. Source for rectangular chassis punch?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <32AE8DAD.3379@mwt.net>
Source record: 99837

Anybody know where to buy a rectangular punch for an aluminum chassis box? Small, hand operated with a couple of wrenches. Need rectangular holes for mounting Waldom/molex connectors. Cut-out size of approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to be making 100-150 of these so don't suggest drilling/filing/nibbling. Any other ideas? Tnx, 73, Scott, N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

3877. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-11 00:00:00 UTC
From: Larry Martin <larrym@wco.com>
Message-ID: <58l80o$3lp@news.wco.com>
Source record: 99838

bspeed@cyberramp.net () wrote:
>zclobes@southwind.net (Zack Clobes) wrote:
>
>>I was reading an article in the latest copy of QST covering the
>>theory/construction of a temp compensated VFO. The schematic reminded me of a
>>PLL with a feedback loop tied to a crystal oscilator. In his article, he made
>>the statment that his VFO wouldn't have the extra phase noise that a
>>traditional PLL has because of the loop. Can anyone explain this? I didn't
>>think that the VCO wouldn't be effected by the locking loop.
>>Thanks
>>73s de Zack, W0ZC
>Within the loop bandwidth of the PLL, the phase noise at the output,
>is equal to the reference osc. noise multiplied by the total division
>factor, N. The phase noise outside of the Loop bandwidth is that of
>the VCO.
>Reference: PLL Primer, by Andrzej Przedpelski
>
>ie, you will decrease phase noise within the loop bandwidth of the
>PLL.
>
Gross oversimplification! :)
Larry

3878. Re: Cable noise???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <58njbe$7u@hpcvsnz.cv.hp.com>
Source record: 99718
Cross-posted to: rec.video.cable-tv,rec.radio.amateur.homebrew

Stephen Muther (stevem@best.com) wrote:

: The best O-scopes to use for video waveforms tend to be the Asian
: imports like Hitachi, Anritsu and some of the others that appear
: under domestic brand names like Sencore, B&K etc. What you will
: notice about these is that they have video mode triggering
: built in. These trigger modes are usually marked TV-H or TV-V
: for horizontal or vertical interval triggering. These units
: appear to be designed with TV service in mind and are very good
: even with a lot of noise on the waveform. The drawback is that
: these scopes are not the fastest in the world and don't compare
: well to the better Tek scopes for high frequency measurement.

Gee, what's wrong with a Tek scope?? Mine (a T932) has TV triggering
modes. And my HP54542A at work also has TV triggering modes (selectable
among NTSC and PAL and user defined rates).

: If you have a scope that does not have TV mode triggering, you
: can build your own using an LM1881 (see National's web page).

Good advice. You can even add a counter to the LM1881 (or LM1882--
more modern. I think National is discouraging use of the LM1881 now.)
which counts H-sync and is reset by V-sync, to trigger on a particular
line in each field (or even each frame). Not a bad accessory to have
for your scope if you do much video work.

--
Cheers,
Tom
tomb@lsid.hp.com

3879. Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Apostolos Bouroussis <mak@compulink.gr>
Message-ID: <32AF52D5.277F@compulink.gr>
Source record: 99719

I decide to build a Qrp swr meter but in the article the wire for coils
is coded with a number such N.24 or N.26 e.t.c.
I go to the local electronics store But they told me this code number
mean nothing and they ask me what is the diameter of the wire
Please where i find a list that explain the diameter of the wires that
is coded by numbers.

Thank's
mak@compulink.gr

3880. List Of Stamp Applications [961212]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: cj@hth.com
Message-ID: <32af550a.18711132@news.buller.se>
Source record: 99720
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
Since the L.O.S.A is getting bigger I only post the index of
applications to the newsgroups and you can download the complete
L.O.S.A from the following places...

WWW:

http://www.hth.com/losa.htm

FTP:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

1.0 Whats is L.O.S.A all about ?
--------------------------------

I started to compile L.O.S.A because I know there are lots of great
ideas and many problems that are solved with the BASIC Stamp and the
main purpose of this list is to get an idea of what other people are
using their BASIC Stamps for and maybe get some inspiration or hints.

1.1 How can I contribute to this list ?
---------------------------------------

If you have done something (big or small) with the BASIC Stamp that
you are willing to tell others please use the form given below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Visit the following Web site and fill in the contribution form...

http://www.hth.com/losa.htm

1.2 List of contributions
-------------------------

> = Indicates a new or updated application since last time.

# 001 Robo-Cat
# 002 Logic Rudder
# 003 Interfacing MAX186 8 channel 12bit A/D
# 004 Scrolling LED Sign
# 005 Tone Decoder
# 006 Pager
# 007 HexWalker Mobile Robot
# 008 Robo Bug
# 009 EXPBOT Robot controlled by Stamp
```

010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
025 Sculpture control
026 Commercial clothes dryer controler
027 Morse Code Keyer
028 Traffic Light Controller
029 Automotive Lamp Control
030 Single Switch Scanning Device for Disabled
031 Bell timer for school bell control
032 RIMS controller for beer making
033 Stamp 1 and ISD 25XX Sound Chip Application
034 Camera Wireless Controller
035 Simple Battery Check using the BS2-IC
036 Photocell MIDI Controller
037 DCF-Clock
038 Radio-controlled Digital Clock
039 Weather Station I
040 Private Aid To Navigation
041 Stamp II in Space
042 MAT32 long integer math routines
043 Distinctive Ring Detector
044 Extended Stamp Memory
045 Debate Stoplite
046 Digital nametag
047 ST506 Disk Seeking Demo Controller
048 Robot: Multi-Stamps Communicate via Shared Memory
049 NiMH Battery Charger/Conditioner
050 555 Timer as A/D Converter
051 Bits of Light
052 Process Control
>
>
>

Regards,

/Christer

-=-=-=

3881. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32AFCC27.A34@worldnet.att.net>
Source record: 99721

Hello....
You didn't mention which type of connector you have, but... In general
the previous post about BNC and type N is true. Ther ARE other 50 ohm
connectors, but less common: SMC, Microdot, HN, etc... I have
observed that BNC and N connectors do come in other than 50 ohm. The
higher impedance connectors usually have a smaller diameter center pin
for the same size finger stock shield connection (plug). Beware that the
higher Z plugs will mate to a 50 ohm receptacle, but the center contact
is very unreliable - a loose fit. For non-critical applications, I have
made them work by carefully increasing the pin diameter using silver
bearing solder. [| = pin; () = solder: (|)]. I don't think I would
do this if the connection was crucial or difficult to access for
repair/replacement.
Woody

Jeanne Pitz wrote:
>
> Hi,
> I have a dumb question I hope someone will help me with. I have some
> coax connectors I bought to use on a homebrew antenna. I don't know
> now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
> I bought them and they aren't marked.) Is there an easy way to tell?
> Would 50 ohm connectors have some physical telling difference or can
> I measure them with me ohm meter to tell?
>
> Thanks for your help.
>
> --
> Regards,
> Jeanne
> +---+
> |Jeanne Pitz, Ph.D. Mixed Signal Design Department |
> |jpitz@ti.com Texas Instruments, Inc. |
> |MSGid JKP MS 8213 PO BOX 655303 |
> |972-997-3759 Dallas, TX 75265 |
> | |
> | Do not go where the path may lead, go instead where there is no path |
> | and leave a trail. -Ralph Waldo Emerson |
> +---+

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!

http://www.geocities.com/capecanaveral/3722
.

3882. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Bob Morris K2RK <robrk@fyi.net>
Message-ID: <32AF9CE1.6272@fyi.net>
Source record: 99722

Jeanne Pitz wrote:
>
> Hi,
> I have a dumb question I hope someone will help me with. I have some
> coax connectors I bought to use on a homebrew antenna. I don't know
> now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
> I bought them and they aren't marked.) Is there an easy way to tell?
> Would 50 ohm connectors have some physical telling difference or can
> I measure them with me ohm meter to tell?
>
> Thanks for your help.
>
> --
> Regards,
> Jeanne
> +---+
> |Jeanne Pitz, Ph.D. Mixed Signal Design Department |
> |jpitz@ti.com Texas Instruments, Inc. |
> |MSGid JKP MS 8213 PO BOX 655303 |
> |972-997-3759 Dallas, TX 75265 |
> | |
> | Do not go where the path may lead, go instead where there is no path |
> | and leave a trail. -Ralph Waldo Emerson |
> +---+

I shouldn't do this, I really should not do this....I'm sorry....
I don't want to do this.....but ???

-- Ph.D.
-- Mixed Signal Design Department
-- Texas Instruments, Inc.

"can I measure them (coax connector impedence)with me ohm meter to
tell?"

What's wrong with this picture ?

I said I was sorry....

3883. HAMS AND HALE-BOPP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: thomil@infocom.com
Message-ID: <58nr08$m2m@mips.infocom.com>
Source record: 99723

Recently on the Art Bell show, Art and Whitley Strieber discussed the possibility of amateur astronomers and amateur radio operators conducting a project to monitor the Hale-Bopp comet. I've devoted a page on my web site THE MARTIAN ARCHIVES to the comet, and have posted an article with "brainstorming" ideas on modifying and/or building equipment for the project. Any suggestions will be appriciated! The URL is:
http://www.infocom.com/~thomil/

-Thomas M. Miller (Mike)
WA8YKN

3884. Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961211.220346.4383.0.d.nordquest@juno.com>
Source record: 99724

In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as 50-ohm types. Could someone more knowledgeable tell us how to distinguish them?
Dave KE9ED

3885. DXER.COM Website Update

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: kb7ub@dxer.com
Message-ID: <32af9f89.12997801@news.pacbell.net>
Source record: 99725

Stop by and check out the additions to "dxer.com"
30 pages,over 400 links. Mew additions to 12 of the
indexes..Check out the BBS and leave your comments
or suggestions to improve the site to better serve the
amateur community..

CallBooks (4)
Contest Calendar (2)
DX Clubs (3)
Ham Radio Clubs (3)
Ham Radio Info (3)
Logging Software (3)
Manufacturers (4)
Packet Radio (5)
QRP (6)
Propagation (3)
Radio Mods (2)
Satellites (4)
SoCal Rptrs (New)

If you have a site you would like to see added or a
subject covered, send us the URL and we will create a
new index. Radio related sites only

"http://www.dxer.com"

3886. Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbe7f2$107ab640$30229bcf@kn6dv.qnet.com>
Source record: 99726

For all who interested in this on going discussion, I have uploaded part 9
(from 12-05-96 to 12-11-96):

http://www.av.qnet.com/~kn6dv
Thanks 73 Will, KN6DV

REFORM
Unless the reformer can invent something which substisutes attractive
virtues for atractive vices, he will fail.
(Walter Lippmann)

kn6dv@contesting.com

3887. 1000 old radio tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961212055900.AAA21417@ladder01.news.aol.com>
Source record: 99727

I have five large boxes full of vintage radio tubes (mostly pre 1950s for sale. There are at least 1300 or 1400 tubes in this lot -- I don't have the time to count or sort so I am guaranteeing 1000 tubes!!
tubes are mostly boxed -- maybe some loose ones due to boxes falling apart from age. Some tubes maybe used or retests. There are no modern TV tubes or compactron garbage in this lot!

I am asking a firm 300 dollars. I prefer to have the buyer pickup so the tubes can be examined before purchase. I will ship -- but only on an "as-is basis," you buy'em, you own them. Please note there are no 45s or 50s included! Treasure hunters take note! They were never there, or are long gone!

I live in northcentral Connecticut, town of Somers. Near I-91

call 860 749-7186 for info, ask for Peter, or email me.

3888. Q: good 6m xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: christer.jogenborn@era.ericsson.se
Message-ID: <58otvu$kvs@newstoo.ericsson.se>
Source record: 99728

Have plans to buy a 6m transverter-kit, 10 or 2 to 6m
type, and would like to hear some experiences on the issue?
Are Ten_tec OK - what about Downeast etc...

DYI all the way ? I have at least 5, 6m xvtr projects from
various ham-magz. but seen to little of 6m xvtr kits.
--
Chris

3889. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <32B006F0.32FB@staffnet.com>
Source record: 99729

d.NOrdquest@juno.COM wrote:
>
> In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> 50-ohm types. Could someone more knowledgeable tell us how to
> distinguish them?
> Dave KE9ED

As far as I know the only difference is the size of the hole through
which the outer insulation passes (the 75 ohm RG59 cable is larger
diameter). Since both sizes of connectors mate with each other I doubt
that there is any real impedance difference.

3890. Re: PIC Programmer Holiday Specials until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: mcv@ix.netcom.com
Message-ID: <58p1s0$akl@dfw-ixnews2.ix.netcom.com>
Source record: 99730
Cross-posted to: misc.industry.electronics.marketplace,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

In article <58i75i$bj0_001@ind-0003-9.iquest.net>, khorton@iquest.net says...
>
>In article <58k9hq$g2l@hpcvsnz.cv.hp.com>,
> tomb@lsid.hp.com (Tom Bruhns) wrote:
>>ITU Technologies (sales@itutech.com) wrote:
>>: ITU'S HOLIDAY SALE!
>>
>As yo your other question- you can get 8-pin PICs! These have internal
>4Mhz oscillators, or can use an external one. You can have up to 6 I/O
>lines, but less if you use an external osc. This chip has to rate high on
>the 'coolness' scale, IMHO. The only problem with it is it's only in OTP,
>tho they're going to try and put it in like an 18-pin windowed DIP, according
>to the guy I talked to at the seminar. They also have a 64-pin PIC that can
>control an LCD display or you can configure it up for *alot* of I/Os, tho I
>cannot remember how many.

Just to let you know...there are windowed versions of the 12C50x (8-pin) parts
available. Limited quantities right now, but they do exist.

-c

3891. Your GOD Loves You - YES YOU!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Someone <Someone@home.thinking.about.you.com>
Message-ID: <12121996091103166661333284999 8Someone@home.thinking.about.you.com>
Source record: 99731

I hope that you know your GOD loves you, no matter what GOD you believe in. Thank your GOD for life and ask your GOD to let you live as your GOD would want you to. When we look closely at GOD we begin to realize that we all believe in the same GOD, we may see GOD in different ways, but GOD will always be GOD. There can only be one GOD, and that one GOD loves us all, and wants nothing but the best for us. If your in doubt, just remember GOD works in mysterious ways, there is a reason for everything...

God thank you.

Someone

3892. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <F58MXKAwmAsyEwS1@ifwtech.demon.co.uk>
Source record: 99732

Wes Stewart wrote:

>There are also British (NBS) gauges...

That should be "SWG", meaning "(British) Standard Wire Gauge",
not "NBS".

Between about 14 and 30 gauge, subtract 2 from the SWG to find the
nearest US gauge.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3893. RF Transistor data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: md13042@dredd.swipnet.SE
Message-ID: <199612121544.QAA02153@dredd.swip.net>
Source record: 99733

Anyone got the data's on a PT8750 from TRW?
Have found a amp. with this trans, and wonder about the freq, and
powerating.
73 de SM5NPV/Tobbe

3894. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <58p9ae$gim@newsgate.sps.mot.com>
Source record: 99734

For solenoid-wound, air-core coils, the diameter of the wire
has relatively little effect on the inductance of the coil,
compared to the effect of the number of turns, the diameter
of the coil, and the turn spacing.

This tends to hold true for core-wound inductors as well.

For non-precision applications (such as yours) choose a wire size
that fits the size core you are using, is easy to wind, and will
handle the expected power level.

Jim N6OTQ
P.S. Before you flame me, use the equation for solenoid-wound coils
in the ARRL handbook, and play with the variables first. And take a
look at the effect of _total wire length_ on inductance while you're
at it.

3895. Re: PIC Programmer Holiday Specials until 12/31/96!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: preston <prestong@mdhost.cse.tek.com>
Message-ID: <32B0323E.2D7A@mdhost.cse.tek.com>
Source record: 99735
Cross-posted to: misc.industry.electronics.marketplace,comp.robotics.misc,sci.electronics.design,sci.electronics.equipment,sci.electronics.misc,sci.electronics.basics,rec.radio.amateur.homebrew

Tom Bruhns wrote:
>
> ITU Technologies (sales@itutech.com) wrote:
> : ITU'S HOLIDAY SALE!
>
> followed by an unabashed advertisment. I'm interested in any comments
> folk may have on these products or other PIC programming bundles such
> as the ones that DigiKey offers (Microchip "Picstart" and Parallax
> PIC programmers).

Tom,

I bought ITU's PIC-1 programmer a little better than a year ago and have had no problems with the device. The kit was easy to assemble and resonably well documented. It has performed flawlessly for the past year on my personal hobby projects.

On the downside: When I purchased the kit from ITU, they indicated that new software implementing some features found in higher priced programmers was "in the works" and should be released "in the spring". Unfortunately, this has not happened. Furthermore, Microchip has released several new uP's which would be fun to work with. I have emailed ITU a couple times asking about the long awaited software release and have received no response. Since the time of my purchase, ITU has brought on several new products which they appear to be pushing rather than their own designs. There appears to be no long term commitment either to maintain their own designs or support their previous customers.

If I were to do it over now, I believe I would get a programmer (such as the PIC Start-Plus) from a company I know will support their product long term. I believe the differance in price between the low end programmers Microchip sells and the smaller guys can largely be attributed to support. This support means your hardware will not be outdated in less than a year!

Just my $.02

Regards,

Preston Gabel

Preston Gabel Email: Preston.S.Gabel@Tek.Com
Tektronix, Inc

PO Box 500 (m/s 50-744) Voice: 503 627-4605
Beaverton, OR 97077-0001 FAX: 503 627-1388

The views expressed herein are the personal responsibility of
the author, and may or may not be in agreement with those of
Tektronix, Inc.

3896. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961212155000.KAA05565@ladder01.news.aol.com>
Source record: 99736

Yes, 50 ohm BNC's have rounded tip on inner conductor. 75 ohm have sharp point on end of inner conductor. If you'll look at the hole in the back of the tip, where the coax inner conductor is soldered, the one for 75 ohm coax is too small by a whole lot to accept 50 ohm coax.

W4ZCB

3897. Re: Q: good 6m xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@LaRC.NASA.gov>
Message-ID: <32B03812.5A3A@LaRC.NASA.gov>
Source record: 99737

christer.jogenborn@era.ericsson.se wrote:
>
> Have plans to buy a 6m transverter-kit, 10 or 2 to 6m
> type, and would like to hear some experiences on the issue?
> Are Ten_tec OK - what about Downeast etc...

I built the TenTec 1209 2m to 6m transverter. All in all a very
nice kit and a pleasure to build. The only thing I changed was
to add external keying of the T/R switching since the RF sense
switching circuit did not work well on SSB. Easy enough to do
though.

73 & CUon6

KO4LW
--
Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

3898. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001212960919590001@news.vcnet.com>
Source record: 99738

In article <19961211204501.PAA04629@ladder01.news.aol.com>, w8jitom@aol.com wrote:

> In article <measures-ya023180001012961015100001@news.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >To convert this to its parallel equivalent:
> > Y=-1/Z = 1/44.3 ohms, or 22.6 m.s at an angle of -83.5 degrees. BL =
> sine
> >of -83.5 degrees*22.6 m.s = 22.4 m.s. Using X=1/B = 44.64 ohms of XL. G
> =
> >cosine of -83.5 degrees * 22.6 m.s = 2.55m/s. Using R=1/G, R=44.2 ohms.
>
> Nope. The parallel inductor equivilent is really 43.98 ohms in parallel
> with 386.89 ohms. You need to check your math at the G=cos -83.5*22.6ms =
> 2.55ms area
>
> Let me do it in decimals instead of confusing milli's this and thats.
> Using your numbers as the starting point cos -83.5 is .1132032138 multiply
> that times .0226 is .0025584 s. That is about 2.55 m/S. The 1/X of that
> number is 390.87 ohms, not 44.2 ohms.

Yes indeed. I got the same answer on the second trip. Congrats, Tom. You seem to be batting 0.333 t this point in the season.

> I have no idea where your answer of 1 / 2.55 m/s = 44.2 ohms came from,
> since 1/ 2.55 m/s is 392.2 ohms.

It was yet another big mistake.

snip,,,
> By your method Q=.993 with nichrome, not a big drop from 1.14 with a
> LOSSLESS suppressor inductor. This is of course different than my posted
> value from rounding.

Agreed.

> Even if I approximate it a 5 ohm series resistance change from a 50 ohm
> suppressor is only 10%. 10% of 1.14 is .114. 1.14 minus .114 is about
> 1.026. The equiv series inductance also changes slightly so the Q change
> will be a little more than that. With my toes and fingers and common sense
> I get Q about 1 with the added resistance.

The fly in the ointment is that we don't yet know what the series R of a 70nH ni-cr-fe alloy Ls is at VHF. Another complication is that the (VHF) resonant frequency through the suppressor resistor, Rs, is not the same as the resonant frequency through the (more-inductive) suppressor inductor,

Ls. Yet another complication, is that a "low VHF-Q suppressor retrofit kit" consists of more than a lossier Ls/Rs suppressor. Virtually all silver and copper conductors in the amplifier's anode resonant circuit (longer that about an inch) are replaced with ni-cr-fe double-wire conductors, spaced about 1cm apart. Since one of these wires is longer than the other, a staggered VHF resonance is created, like that from a VHF suppressor. Thus, virtually all conductors between the anode and the tune capacitor become more resistive to the flow of VHF currents. . This in turn reduces the VHF voltage gain of the amplifier tube. The before and after difference in the anode resonance dip is readily observeable on a dipmeter.

> Adding nichrome lowers the HF Q, slightly reducing effects of excessive
> drive, exciter transcients, and improper tuning. It does NOTHING for VHF
> stability.
>
Is this a recording? ---something like no significant VHF current flows in Ls?

Tom: How about doing the calculations to show us how much such a suppressor lowers Q in an AL-80?

I do not understand how a reduction in HF tank Q could ameliorate the effects of excessive drive. Please explain. // In the September issue of QST magazine, there is a photograph on page 17 of the innards of an 8873 that was removed from a Henry Radio Co. 2K-Ultra amplifier. The drive level was reportedly over triple Eimac's recommendation. Both 8873s failed. As can be seen from the photograph, the cathode's emissive-coating has been extensively stripped away from the cathode. However, there is no apparent evidence of sputtered gold. When I viewed this 8873 through a 50 power microscope, the gold plating on the grid cage appeared to be undamaged. I saw zero gold melt balls on the cathode. However, when I looked at the tube on page 16 through the microscope I saw numerous gold melt balls on the cathode---yet the cathode damage was minimal. Any comments?

Tom: Have you ever looked through a microscope at the cathode and grid of one of the 3CX800A7s which you claim failed from excessive drive? If you will donate such a tube to me, in the interest of science, I will open it, photograph the innards, and post the photograph on my Home Page at: http://www.vcnet.com/measures/
---
e-mail copies to Mr. Rauch, et al..

--
--Rich-- ag6k, 805-386-3734

3899. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Tom McDermott <mcdermot@aud.alcatel.com>
Message-ID: <32B02D16.41C67EA6@aud.alcatel.com>
Source record: 99739

> Jeanne Pitz wrote:
> >
> > Hi,
> > I have a dumb question I hope someone will help me with. I have some
> > coax connectors I bought to use on a homebrew antenna. I don't know
> > now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
> > I bought them and they aren't marked.) Is there an easy way to tell?
> > Would 50 ohm connectors have some physical telling difference or can
> > I measure them with me ohm meter to tell?
> >
> > Thanks for your help.
> >
> > --
> > Regards,
> > Jeanne
> >

If you have BNC connectors, then the 50-ohm and 75-ohm
version have two differences:

1) the center pin in the 50-ohm connector is larger diameter
than the 75-ohm connector,

2) the female 75-ohm BNC contains just the female metal contact in the
center of the connector, while the 50-ohm BNC has a plastic
shroud surrounding the female metal contact in the center of the
connector.

If you try to fit a 50-ohm male BNC into a 75-ohm female BNC, you
will deform the metal contact, making it intermittant, or in the
worst case, breaking it.

The plastic shroud of the 50-ohm female BNC makes it more difficult
to mangle or deform the metal contact compared to the 75-ohm female
BNC connector which offers no protection to the metal contact.

Tom McDermott
mcdermot@aud.alcatel.com

3900. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec12.171444.859@ke4zv.atl.ga.us>
Source record: 99740

In article <measures-ya023180000312960347540001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>(Note: parallel circuits have susceptance (Y). Series
>circuits have impedance (Z).

Actually, either circuit can be represented in either form. It is just a matter of applying the transform equations in either case to get the other representation. The main reason to choose a particular representation over the other is that one may be easier to work with on a Smith Chart than the other in a particular mesh.

>For any parallel circuit there is a series
>equivalent circuit. For any series circuit, there is an parallel
>equivalent circuit)

Read those last two sentences over and over again until their meaning sinks in, Rich. Adding series resistance to the suppressor coil is equivalent to using a resistor of lower value in *parallel* with a nearly lossless coil. *Exactly* the same with regard to suppressor Q. Thus there is no advantage to using coils made of resistance wire instead of using a slightly lower value parallel resistor to acheive exactly the same suppressor Q at VHF.

Q = X/Rs or equivalently Rp/X

So to achieve low Q, you can either increase series resistance *or* lower parallel resistance. The actions are equivalent with regard to suppressor Q.

At HF, however, the series resistance increases circuit losses over those of the paralleled lossless inductor and low value resistor because part of the HF current flows through the lossless reactance in the parallel case (and part through the low value resistor) while having part flow through the lossy series resistance plus lossless reactance (and part through the higher valued parallel resistor) in the other case. In this latter case, losses are greater at HF than at VHF, which is exactly *backwards* of the behavior we want from a VHF suppressor. These extra losses are unnecessary and unwanted. So use of a lossy coil in a VHF suppressor for an HF amp should be avoided. It offers no benefit in VHF Q reduction over the lossless coil paralleled by a low value resistor, but does increase HF losses.

All this should be immediately apparent when you graph the S12 parameters of the two circuits. And indeed I used ARRL Radio Designer to do just that. At 112.25 MHz, the two suppressors (both designed for a Q = 1 at that frequency) had essentially

the same loss, but at 18.75 MHz the one with the lossy coil (5 ohms ESR) had twice as much loss as the one with the lossless coil. As X declines with declining frequency more current is hogged through the series resistance where it is dissipated. With the lossless coil, as X declines with frequency, more current hogs through the lossless reactance and *isn't* dissipated. Fascinating how that works.

Now, however, if the instability is *really* at HF (or below) and not at VHF, then the lossy coil and higher valued parallel resistor become an advantage because both paths offer increased damping losses at HF (and below) over the lossless coil design. But you insist the problem is *VHF* instability instead of HF instability (or flashovers). Yet the extra losses of your suppressor design all occur at HF (and below), not at VHF. So if they offer any net benefit over conventional suppressors, it must be because of their extra HF damping. Thus you should call them "low *HF* Q" suppressors instead of "low *VHF* Q" suppressors, and revise your theories of the mechanics of the failures to match the observed results.

Of course operators *could* just increase the loading on the amp when they tune it, and acheive the same lowered HF Q, but then I guess you wouldn't sell any suppressor kits.

On my GG amps, I've always advanced loading a bit *past* the point of maximum output when tuning up. I was taught that overcoupling makes them a bit more linear at a slight cost in efficiency. It would also tend to make them a bit more stable (if they had a tendency to be unstable in the first place), but I hadn't considered that before starting to analyze this thread.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3901. Re: Need a Relay & a Pllace 2 Get 1 !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: dat0297@iperbole.bologna.it
Message-ID: <58pitb$9qd@qualcuno.nettuno.it>
Source record: 99741

thebaddog@freemark.com (Bad Dog) wrote:

>Help I need a Relay !!! I own this older 10 meter/6 meter amplifier
>there help me find the right parts people? If so please help me I need
>a
>Relay and I need a new parts catalog Thanx :)

Have you tried DigiKEY? http://www.digikey.com, with online catalogs &
searching...
You could try also NTE Inc. http://www.nteinc.com/index.html
and TECCOR http://www.teccor.com

See you,

Ciao,
Fabio
IZ4AFW
--
CallSign IZ4AFW
EMail dat0297@iperbole.bologna.it
manto@geocities.com
FidoNet 2:332/413.15
Home Page http://www.geocities.com/SiliconValley/Park/2219

3902. 1000 early tubes SOLD!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961212201900.PAA12954@ladder01.news.aol.com>
Source record: 99742

Please, no more calls or email, the 1000 early radios tubes
have a new home!
Thank you to all who wrote or called!

Peter

3903. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec12.201013.1791@ke4zv.atl.ga.us>
Source record: 99743

In article <measures-ya023180000812960024010001@news.west.net> measures@mail.vcnet.com (R.L. Measures) writes:
[Tom wrote]
>> Hi Richard,
>>
>> Instead of more RM style personal attacks and non-technical comments about
>> the other Richard we all know of, I'd like to see you answer questions
>> about Q.
>
>??? // RE: Q: On 6 Dec. I answered your Nov. 28 post about Q .
>
>> I think your parasitic theories are absolutely wrong. VHF Q does NOT
>> change significantly with the addition of nichrome, and that is a fact you
>> are trying to avoid. As a matter of fact, a small adjustment in the
>> suppressor resistance and inductance makes a larger change than the
>> addition of "nichrome".
>
>Since 1990, I have been aware that you have a different opinion, Tom.
>However, you appear to base your opinion on the assumption that
>insignificant VHF current flows in the suppressor inductor, Ls. When
>presented with the calculations (from the very problem you proposed) which
>showed that similar VHF currents flow in both Rs and Ls, you proffered
>unplausible arguments to the contrary.

You keep dancing with that straw dog, Rich, but it won't hunt.
You *cannot* treat the L branch as separate from the R branch
of the suppressor. Their currents are combined in and out of
the suppressor according to the phase angle between R and L,
and they must be treated that way in order to understand the
suppressor's effect on the external circuit.

As even you have now admitted, the circuits are series and
parallel equivalents. If I give you two suppressors, each
concealed in a cardboard tube, and you cannot tell them
apart by measurements at a VHF frequency, would you concede
that they are functionally identical? Because if you will,
I can make two suppressors, one using a coil wound of silver
plated wire and the other wound with nichrome wire, and
you won't be able to distinguish which is which by measuring
them at the VHF frequency marked on the cardboard tubes.

The parameter of interest for the suppressor is Q, and measured
at the suppressor's terminals, Q at some selected freqency can be
the same for a suppressor made with nichrome wire or silver wire,
as long as Rp is adjusted appropriately for the equivalent of the

Rs in the lossy case. And I'll certainly do that. How the currents divide *internal* to the suppressor are irrelevant. You can't measure them because I've put the suppressor in a sealed cardboard tube, and there's no way you can tell by measuring at the external terminals of the suppressor at the marked VHF frequency.

Now if I allowed you to take a *HF* Q reading, however, you would be able to tell them apart. The suppressor with the lossy inductor will have lower Q at *HF* than the one with the lossless inductor. Thus the things you build are low *HF* Q suppressors, not low *VHF* Q as you tout them.

>> You realize if the nichrome in the suppressor's winding of wire does not
>> significantly lower VHF Q, then everything you attribute to VHF
>> oscillation must be a product of vivid imaginations, or directly
>> attributed to MY claim that HF Q and mistuning / overdriving are the major
>> causes of arcs and sparks in the tank.
>
>I do not realize that resistance wire (nichrome) has no effect on VHF-Q. I
>have observed that the VHF dip in amplifier anode circuits is rather
>different when silver-plated strap suppressor inductors (Ls) are replaced
>with a resistance wire Ls. With silver (and copper), the dip is sharper
>and deeper. With the resistance wire, the dip is broader and shallower.
>With roughly equal currents flowing in Ls and Rs, why not?

Wrong reasoning. A deep dip means the GDO coil is being heavily loaded. The external circuit is presenting such a low impedance that it is actually sapping measurable current from the oscillator. A shallow dip indicates the GDO coil is being loaded by a higher impedance, which is sapping much less current from the GDO oscillator.

For an LC circuit *in isolation*, the lowest impedance point is the resonant point. But you aren't measuring an LC circuit in isolation, and a low impedance may not be what you need to make the circuit oscillate.

Now, if the anode of a tube is presented with a high impedance at some frequency, how will that affect voltage gain at that frequency? Voltage gain is the product of the tube gm and the anode load impedance, so a higher impedance at the anode represents a higher voltage gain, and a low impedance at the anode represents a low voltage gain. So the frequencies where you see deep dips are the frequencies where the circuit has the *least* voltage gain.

Now certainly phase shift is involved too in the making of an oscillator, but frequencies where the circuit has high gain are more likely to be candidates for oscillation than frequencies where the circuit has the least gain. So frequencies where your GDO indicates deep dips measured at the tube anode aren't likely to be frequencies where the amplifier may break into oscillation.

That's why the frequencies you measure with your GDO don't match
with the ones Tom measures with his network analyzer. He's actually
able to measure S21 (the output to input feedback parameter) of the
operating amplifier with his tool, you can't. And he can resolve
the complex phase of that path, so he can know where the feedback
is positive and where it is negative. You can't do that either.
But I hope you understand that a frequency where feedback is
negative *won't* be a frequency of oscillation no matter how
deeply it dips your GDO.

The GDO is simply the wrong tool for this task.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3904. sig gen and rf millivoltmeter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961212204200.PAA14058@ladder01.news.aol.com>
Source record: 99744

Selling;
Clemens SG83C solid state signal generator. With manual, clean and working. Calibrated to my HP counter and Boonton 92. 1960's vintage, uses common semiconductors, easily repaired. Covers 50kc to 54mc in six ranges. will run on 117 AC, or from internal 9 volt battery. Calibrated output to over 100k. fairly stable. AM modulation. Selling only because I have three and need only two. $100.00 firm.

Also, clean Boonton 91 RF millivoltmeter. Tube version. Have the 50 ohm termination for the probe for DBM measurements. Don't have the probe tip, but easily made. Have a newer 92AS2 -- need two like a hole in the head. asking $90.00, but will dicker on this unit.

Peter

3905. Re: Help requested in receiving 92 KHz on FM radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: stevem@best.com
Message-ID: <58ps69$s7i@shellx.best.com>
Source record: 99745

In article <58mljp$90i@newsa.netnews.att.com>,
-A.KACHHY <akachhy@hogpb.ho.att.com> wrote:
>Hello
>
>I recently bought a radio to listen to an ethnic radio broadcast
>in the NYC area. The broadcast is at 92KHz freq.
>
>The radio is a regular AM/FM radio converted to receive this freq. on the
>FM dial around the 92 Mhz mark.
>
>I wonder if anyone can tell me how this can be done, hopefully inexpensivly.
>The reason I want to do it myself is to have more radios of this type
>without paying a lot of money for (2 times) for each radio.
>
>Thanks in advance.
>
>Avinash Kachhy
>
>
>
>--
>Avinash Kachhy
>avinash.kachhy@att.com

Since no broadcasting of the type you mention is permitted in the
US on 92KHz, I can only assume that what you are talking about is
an FM broadcast receiver with a built in SCA (subcarrier)
demodulator.

SCA is a fm modulated subcarrier (typically at 67KHz but can
be higher) which rides on the baseband of a conventional FM
broadcast station. This is similar to the SAP channel on
modern televisions. You would need to build an SCA demodulator
and retrofit a standard FM receiver with it. You can make your
own using an NE565 IC from Philips (National also has something
similar but I don't remember the part number). Also Ramsey
Electronics sells a kit. Either method requires a reasonably
good understanding of electronics since you will have to
modify the original FM receiver, usually with no schematic.
You would need to consider the time and expertise involved
with the cost of the "special" receiver.

Good Luck

Steve M. WF6R

3906. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Philip Peake <philip@vogon.rain.com>
Message-ID: <32B06DED.2468@vogon.rain.com>
Source record: 99746

d.NOrdquest@juno.COM wrote:
>
> In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> 50-ohm types. Could someone more knowledgeable tell us how to
> distinguish them?
> Dave KE9ED

Its easy if you have the two together. The only difference is the
pin diameter (and, of course, the insulator which holds the pin
in place).

The thicker pin is the 50 ohm one.

Putting a 75 ohm BNC plug onto a 75 ohm socket may or may not work,
depending upon if the pin touches or not - it certainly won't be
a reliable connection. Putting a 50 ohm plug onto a 75 ohm socket will
destroy it - one half of the center connector on the socket will
break off - I have seen this happen too many times. And guess
how easy it is to find 75 ohm BNC sockets ?

Philip

3907. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <58q0dl$lrr@dfw-ixnews6.ix.netcom.com>
Source record: 99747

In <32B02D16.41C67EA6@aud.alcatel.com> Tom McDermott
<mcdermot@aud.alcatel.com> writes:
>
> If you have BNC connectors, then the 50-ohm and 75-ohm
>version have two differences:
>
>1) the center pin in the 50-ohm connector is larger diameter
> than the 75-ohm connector,
>
>2) the female 75-ohm BNC contains just the female metal contact in the
>center of the connector, while the 50-ohm BNC has a plastic
>shroud surrounding the female metal contact in the center of the
>connector.
>
>If you try to fit a 50-ohm male BNC into a 75-ohm female BNC, you
>will deform the metal contact, making it intermittant, or in the
>worst case, breaking it.
>
>The plastic shroud of the 50-ohm female BNC makes it more difficult
>to mangle or deform the metal contact compared to the 75-ohm female
>BNC connector which offers no protection to the metal contact.
>
>
>Tom McDermott
>mcdermot@aud.alcatel.com

Tom,

My documentation states that 50 ohm and 75 ohm BNC connectors are intermatable. That is, there should be no destructive metal deformation when mating a 50 ohm male BNC to a 75 ohm female BNC. In fact, in the only data book that I could find that has dimensions for both series (Kings RF Coaxial Connectors), the diameter of the inner pin is the same for both the 75 and 50 ohm male connectors (0.052-0.054 inches). And all of the databooks that I have (Kings, AMP, and Berg) state that they intermate.

If there is documentation that states otherwise, I'd be grateful if you could point me to it.

Generally, for many applications it will not matter which type of connector one uses. I just checked both a 50 ohm and a 75 ohm version of an HP 3570A Network Analyzer that I have here, and both use the same style female BNC. Ditto for my Tek Vectorscope and Waveform monitor. At the low frequencies in which these are used, given that the BNC's

are near either the source or the termination impedance, the flavor of BNC doesn't matter.

Hmmm...does anyone know at what frequencies the selection really starts to matter? Suppose I have two 40 foot pieces of 50 ohm coax to connect between my 50 ohm generator and a 50 ohm load that's 80 feet away. If I use a 75 ohm barrel instead of a 50 ohm barrel, at what frequencies will I start to see an appreciable difference in performance?

I suspect it's when the barrel length becomes an appreciable fraction of the wavelength of the signal.

- Jeff, WA6AHL

3908. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <32B07BE9.984@lanl.gov>
Source record: 99748

Michael Pinneo wrote:
>
> Can anyone recommend a construction article for an antenna tuner/matching
> network
> for use at 144 MHz, 1kw cw? Thanks.
>
> Michael

Heh, as you see the usual ham reaction to this is "HORRORS!" There is a
circuit for a 2 meter transmatch circuit in the old ARRL VHF Manual.
I built one years ago (it will only handle 100 Watts or so max) and
found it quite useful for coupling power to all sorts of things:
*Horizontal and Vertical Beams tied together with T fitting
(very useful for VHF nets where horiz. polarization is used by some
checkins and vertical by others)
*TV and other off frequency VHF antennas
*Long wires, HF beams and other non-VHF antennas
And, yes, none of these work as well as a resonant antenna and matched
feed system without additional matching circuitry on the wrong (radio)
end of the coax. They do provide experimentation and some utility
though.

--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
http://nis-www.lanl.gov/~jdport/

3909. F.S. - Tubes, radios, books and much more...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: rog42@aol.com
Message-ID: <19961212230000.SAA18413@ladder01.news.aol.com>
Source record: 99749

FOR SALE: Tubes, test equipment, radios including Hallicrafters, Hammarlund, and Philco. Other older tube type radios and radio related publications. Schematics for many radios just $1. Tube Manuals, Tube Substitution books, Service Manuals, QST magazines, much more from the 30's, 40's, 50's, 60's. Now over 1500 different tube types in stock - E-mail Rog42@aol.com and ask for my latest RADIO list - #1123-T.

3910. radio mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: "D. F. Cimperman, Jr." <cimperman@tusco.net>
Message-ID: <01bbe898$f0cd9ae0$79271fce@dcimp>
Source record: 99750

anyone have the mods needed to make a 150-162 split micor work on the ham band?
--
D. F. Cimperman, Jr.
Pager Central
116 North Broadway
New Philadelphia, Ohio. 44663
KB8QHU

3911. Re: Q: good 6m xvtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961212233100.SAA19329@ladder01.news.aol.com>
Source record: 99751

Hi Chris--

My understanding is that the Ten-Tec and Downeast units are both good. I have worked several of each on the air, and the owners I've asked seem happy with them. As I recall, the Downeast unit runs a bit more power which is helpful for driving 25-W input amplifiers.

--Rick K1BQT

3912. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: stevem@best.com
Message-ID: <58q44j$ivm@shellx.best.com>
Source record: 99752

In article <32B06DED.2468@vogon.rain.com>,
Philip Peake <philip@vogon.rain.com> wrote:
>d.NOrdquest@juno.COM wrote:
>>
>> In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
>> 50-ohm types. Could someone more knowledgeable tell us how to
>> distinguish them?
>> Dave KE9ED
>
>Its easy if you have the two together. The only difference is the
>pin diameter (and, of course, the insulator which holds the pin
>in place).
>
>The thicker pin is the 50 ohm one.
>
>Putting a 75 ohm BNC plug onto a 75 ohm socket may or may not work,
>depending upon if the pin touches or not - it certainly won't be
>a reliable connection. Putting a 50 ohm plug onto a 75 ohm socket will
>destroy it - one half of the center connector on the socket will
>break off - I have seen this happen too many times. And guess
>how easy it is to find 75 ohm BNC sockets ?
>
>Philip

I've noticed that even on the finest of video equipment, the
manufacturers use 50 ohm BNC connectors in a 75 ohm system.
The difference is probably not worthy of thought at baseband
video frequencies but might be at higher RF.

Steve M. WF6R

3913. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Philip Peake <philip@vogon.rain.com>
Message-ID: <32B09D29.25B7@vogon.rain.com>
Source record: 99753

Jeff Anderson wrote:
>
> In <32B02D16.41C67EA6@aud.alcatel.com> Tom McDermott
> <mcdermot@aud.alcatel.com> writes:
> >
> > If you have BNC connectors, then the 50-ohm and 75-ohm
> >version have two differences:
> >
> >1) the center pin in the 50-ohm connector is larger diameter
> > than the 75-ohm connector,
> >
> >2) the female 75-ohm BNC contains just the female metal contact in the
> >center of the connector, while the 50-ohm BNC has a plastic
> >shroud surrounding the female metal contact in the center of the
> >connector.
> >
> >If you try to fit a 50-ohm male BNC into a 75-ohm female BNC, you
> >will deform the metal contact, making it intermittant, or in the
> >worst case, breaking it.
> >
> >The plastic shroud of the 50-ohm female BNC makes it more difficult
> >to mangle or deform the metal contact compared to the 75-ohm female
> >BNC connector which offers no protection to the metal contact.
> >
> >
> >Tom McDermott
> >mcdermot@aud.alcatel.com
>
> Tom,
>
> My documentation states that 50 ohm and 75 ohm BNC connectors are
> intermatable. That is, there should be no destructive metal
> deformation when mating a 50 ohm male BNC to a 75 ohm female BNC. In
> fact, in the only data book that I could find that has dimensions for
> both series (Kings RF Coaxial Connectors), the diameter of the inner
> pin is the same for both the 75 and 50 ohm male connectors (0.052-0.054
> inches). And all of the databooks that I have (Kings, AMP, and Berg)
> state that they intermate.

Hmm - I have worked with both and have seena *distinct* difference.
I have also had to replace more than one 75 ohm socket destroyed by some
moron
forcing a 50 ohm connector onto it.

I have also traced inrermittent problems to a different moron using
75 ohm plugs to fit 50 ohm sockets, and the pin sitting nicely in the
middle
of the 50 ohm socket without touching the sides, until a tiny amount
of force is applied to the cable.

Differences *do* exist, I have seen them, I have suffered from them.

Philip

3914. Re: M55727 Mitsubishi RF Power Module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: rob@pe1chl
Message-ID: <E2Br76.KLp@pe1chl>
Source record: 99754

In <58go6t$bhb@alpha.ftech.net> Niels Montanana <nielsm@lcpub.co.uk> writes:

>Has anyone used the M55727 Mitsubishi RF Power Module for a
>P.A. stage at 144Mhz ?

I have. It has always worked well.
I even have a spare should you (or anyone) need it :-)

>I am after the power supply, biasing and de-coupling circuit.

Simple. Just apply 9V to the bias pin (switch it with the TX/RX switch).
This is easily made using a 7809.

I made a simple board by cutting out some areas on a small piece of PCB
material. All supply pins are decoupled close to the device, using a
ceramic cap and a tantalium cap in parallel, and fed via ferrite bead
chokes.
I don't think this was actually in the datasheet, but it "it never hurts".

The piece of PCB is bolted to the heatsink, and two strips of copper are
used to connect the ground area to the mounting flange.

Rob
--
+-----------------------------------+--------------------------------------+
| Rob Janssen pe1chl@amsat.org | WWWhome: http://www.pe1chl.demon.nl/ |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+--------------------------------------+

3915. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.223.0052C8E5@azstarnet.com>
Source record: 99755

In article <F58MXKAwmAsyEwS1@ifwtech.demon.co.uk> "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:
>From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
>Subject: Re: Coils wire diameter
>Date: Thu, 12 Dec 1996 13:33:36 +0000

>Wes Stewart wrote:

>>There are also British (NBS) gauges...

>That should be "SWG", meaning "(British) Standard Wire Gauge",
>not "NBS".

>Between about 14 and 30 gauge, subtract 2 from the SWG to find the
>nearest US gauge.

>73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)

Greetings Ian,

Gosh, I was just using the tables and designator in my 1956 issue of the
Reference Data for Radio Engineers where it clearly shows "NBS".

73, Wes
>Professionally:
>IFW Technical Services Clear technical English - world-wide.

3916. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32B02868.71FC@arrl.org>
Source record: 99756

Chuck Hanavin wrote:

> I'm no expert, and I'm not so sure if connectors are actually designed
> to have a certain impeadance. I've seen BNC connectors that were
> designed for 50 ohm cable and 75 ohm cable, The end of the cable is
> the same. Unless you're doing microwave stuff, it probally doesn't
> matter. I am sure of one thing, though, you're not going
> to measure the impeadnace with an ohm meter!

According to G3OSS in the out-of-print RSGB Buyer's guide,
a 50 ohm BNC plug fitted into a 75 ohm socket can cause the metal
fingers to splay out, damaging the socket. Conversely, the 75 ohm
plug fitted into a 50 ohm socket may be intermittant.

OTOH, Amphenol claims to make a line of 75 ohm connectors
with the feature of intermateability with standard 50 ohm BNCs.
Looking at an old 75 ohm Amphenol coax switch, the female center
pins are a little smaller.--Zack W1VT

3917. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec12.182757.1323@ke4zv.atl.ga.us>
Source record: 99757

In article <measures-ya023180000612961027090001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>In article <19961205040201.XAA18379@ladder01.news.aol.com>, w8jitom@aol.com
>wrote:
>>Hi Rich,
>
>>... ... Could you look this over an comment. It
>>seems to indicate you do not understand Q. Could you tell me if I did
>>something wrong?
>snip
>
>Ok, Tom.. Sorry for the delay, but there were some other issues that didn't
>appear to wash, which I dealt with first.
>>snip,,,
>
>With 70 nH and 100 ohms:
>Q = 2.3
>...snip...
>
>........Does Q = 2.3?
>
>This is a parallel circuit, so most things are inverted. (Standing on head
>may be useful.) Instead of calculating reactance (X), as would be the case
>for a series circuit, we must instead calculate susceptance (B). . In a
>parallel circuit, we graph B (with the + and - signs inverted) and
>conductance (G), (G=1/R), to calculate admittance (Y) instead of graphing R
>and X to calculate impedance (Y). R is in ohms and G is in siemens.
>(archaic: mhos) . Using Y=1/Z and Z=1/Y, we can convert a parallel circuit
>to a series equivalent circuit, or we can convert a series circuit to a
>parallel equivalent circuit.
>
> In order to be able to use the formula Q=X/R, we must first convert the
>parallel 70nH/50 ohm circuit (Y) to an equivalent series circuit (Z) by
>using Z=1/Y. To do this, most everything inverts. BL @100MHz, is
>-1/(2*Pi*100^6 Hz*70^-9 H) = -22.7 milli-siemens. The G of the 50 ohm R is
>1/50 = 20 milli-siemens.
>
> To graph this, the -22.7 milli-siemen BL vector heads down and the 10
>milli-siemen G vector heads to the right. The resulting vector forms a
>right triangle whose tangent is -22.7/10 = -2.27, = -66.22 degrees. The
>hypotenuse, Y, can be solved with the square root of the sum of the
>squares. Thus, Y = 24.8 siemens@-66.22 degrees
> Using Z=1/Y, , we convert this to an equivalent series circuit whose Z
>vector can be resolved into its X and R components---the very things we

>need to solve Q=X/R. Solving for Z = 1/(24.8 millisiemens @-66.22
>degrees), Z = 40.3 ohms @+66.22 degrees. The X vector is sin 66.22 degrees
>(0.915) * 40.3 ohms = 36.9 ohms. The R vector is cos 66.22 degrees (0.403)
>* 40.3 ohms = 16.2 ohms.
>
>Finally, using Q=X/R, Q = 36.9/16.2 = 2.28. Thus, your answer of Q = 2.3
>looks good to me, Tom.

Or you can skip all that monkey motion and simply use Q=Rp/X.
For Tom's example, 70nH at 100 MHz is 43.98 ohms and R is stated
as 100 ohms (not 50 as you mistakenly use above). Dividing

100/43.98 = 2.27, or rounded, Q = 2.3.

I'll leave it as an exercise for you to discover your error(s) in the
above gyrations that allowed you to come up with the right answer after
starting with the wrong value for R.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3918. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: Andy Heninger <andy@barbwired.com>
Message-ID: <32B10284.5CAA@barbwired.com>
Source record: 99758

R. L. Measures wrote:
>
> Yet another complication, is that a "low VHF-Q suppressor retrofit
> kit" consists of more than a lossier Ls/Rs suppressor. Virtually all
> silver and copper conductors in the amplifier's anode resonant circuit
> (longer that about an inch) are replaced with ni-cr-fe double-wire
> conductors, spaced about 1cm apart. Since one of these wires is longer
> than the other, a staggered VHF resonance is created, like that from a VHF
> suppressor. Thus, virtually all conductors between the anode and the tune
> capacitor become more resistive to the flow of VHF currents. . This in
> turn reduces the VHF voltage gain of the amplifier tube. The before and
> after difference in the anode resonance dip is readily observeable on a
> dipmeter.
>

Rich,

Maybe its time to ditch these interminable Q calculations, and actually
meaaure the VHF response of an amplifier with and without your
suppressors.
It shouldn't be that hard to hack a VHF input circuit onto an HF amp,
drive it with some low-level VHF source, and see what shows up at the
anode.

The purpose of theory, after all, is to model reality. It's
time for a reality check.

While you are at it, you could also check on what fraction of the total
anode VHF voltage appears at the HF tuning cap and band switch.
Conventional
wisdom says not much; you say enough to be a source of failures.

The best way to have your claims taken seriously is to demonstrate the
existance of the proposed effects in some repeatable, analyzable way.

-- Andy Heninger WB6MPT andy@barbwired.com

3919. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec12.174024.1075@ke4zv.atl.ga.us>
Source record: 99759

In article <measures-ya023180000312960347540001@news.vcnet.com> measures@mail.vcnet.com (R. L. Measures) writes:
>> - A neutralization circuit that is effective at VHF (reduce the
>> feedback).
>
>Ah yes, but the fly in the ointment is that neutralization neutralizes the
>amplifier at the operating frequency---but NOT at the anode circuit's
>resonance frequency.

Neutralization is a technique which can be used at any single frequency where instability may be a problem. It is not limited to the operating frequency.

A related concept, called unilateralization, attempts to neutralize the amplifier at *every* frequency for which the amplifier has gain. This can require a much more complicated network than is needed to just neutralize at a single frequency of course.

Better is to just design the amplifier from scratch to be unconditionally stable. That's the way the solid state PAs in most exciters are designed. And Tom would like to tell us that it is the way a good GG tube PA is designed too. Dissipative suppressors can play a role in achieving unconditional stability, of course, but they aren't the only way to achieve it.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3920. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-12 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <32B0C765.696C@magg.net>
Source record: 99760

d.NOrdquest@juno.COM wrote:
>
> In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> 50-ohm types. Could someone more knowledgeable tell us how to
> distinguish them?
> Dave KE9ED

The center pins are considerably smaller in diameter as are the female
mating center sockets.

Dale W4OP

3921. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <850505838snz@lfheller.demon.co.uk>
Source record: 99639

In article <32B07BE9.984@lanl.gov> jdevenport@lanl.gov "Jim Devenport" writes:

> Michael Pinneo wrote:
> >
> > Can anyone recommend a construction article for an antenna tuner/matching
> > network
> > for use at 144 MHz, 1kw cw? Thanks.
> >
> > Michael
>
> Heh, as you see the usual ham reaction to this is "HORRORS!" There is a
> circuit for a 2 meter transmatch circuit in the old ARRL VHF Manual.
> I built one years ago (it will only handle 100 Watts or so max) and
> found it quite useful for coupling power to all sorts of things:
> *Horizontal and Vertical Beams tied together with T fitting
> (very useful for VHF nets where horiz. polarization is used by some
> checkins and vertical by others)
> *TV and other off frequency VHF antennas
> *Long wires, HF beams and other non-VHF antennas
> And, yes, none of these work as well as a resonant antenna and matched
> feed system without additional matching circuitry on the wrong (radio)
> end of the coax. They do provide experimentation and some utility
> though.

I remember reading a review of a VHF matching unit in Radcom a few years
ago, which successfully matched the Tx to a steel dustbin. 8-)

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)118 9471424 | many years ago in Oxford.

3922. Build your own junk

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: John Fleenor <johnf@mailhost.cyberramp.net>
Message-ID: <32B22838.622@mailhost.cyberramp.net>
Source record: 99640

http://www.cyberramp.net/~johnf

3923. Yaesu FT-227R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: mdonohue@renc.igs.net
Message-ID: <32b3edbd.17872300@news.igs.net>
Source record: 99641

Hi:
Does anyone happen to have the schematic for this radio. All I
have is the manual and it only list the block diagrams. What I need is
the pinouts for the Accessory plug. I would like to use this radio for
packet and from the manual the mic plug alone will not work as it does
in more recent radio. Any help on the pinouts for this radio would be
gratly appreciated. Tnx

73 Mike
VE3DMJ

3924. For Sale: Inexpensive PC Interface IC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: Todd Peterson <elab@netins.net>
Message-ID: <32B23E7A.14BB@netins.net>
Source record: 99642

Been looking for an easy, inexpensive ($13.90 single quantity) way to connect your hobby to your

PC? Then please read on!

E-LAB Digital Engineering, Inc. announces the release of their new

EDE300 Interface IC. It allows for convenient flow of data either from a

PC ot too a PC via the serial port. Our datasheet even provides

software examples for use with a PC. NOW IS THE PERFECT OPPORTUNITY TO INTEGRATE YOUR PC INTO YOUR ELECTRONICS PROJECTS!

Our datasheet is available in electronic format via our webpage at

http://www.netins.net/showcase/elab or contact us directly at

elab@netins.net and include your postal mailing address.

In addition, we will do our best to get you up and running when using

the EDE300, even if your electronics experience is limited.

Todd Peterson

E-LAB Digital Engineering, Inc.

(712) 944-5344

Serious dealer inquiries are welcomed as well.

3925. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <ZE8bYGAy5dsyEwiH@ifwtech.demon.co.uk>
Source record: 99643

Wes Stewart wrote:
>
>>>There are also British (NBS) gauges...
>
>>That should be "SWG", meaning "(British) Standard Wire Gauge",
>>not "NBS".
>
>Gosh, I was just using the tables and designator in my 1956 issue of the
>Reference Data for Radio Engineers where it clearly shows "NBS".
>

Sorry, Wes, you're right after all... well, kind of.

None of my British handbooks mentions NBS, and neither did US sources such as the 1950 ARRL Handbook or the 1959/60 and 1977/78 editions of the Handbook of Chemistry and Physics.

I finally found it in the 1941 edition of Machinery's Handbook:

"This Standard Wire Gage (also known as the Imperial Wire Gage and the English Legal Standard) is used in England for all wires. The abbreviation S.W.G. is sometimes used for Standard Wire Gage, also the abbreviation N.B.S. for New British Standard Wire Gage. This gage was legalized in Great Britain in 1883."

It seems that Reference Data for Radio Engineers uses wire tables that date back to the days when NBS really was "New"!

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3926. Re: 28Mhz to 144Mhz Transverter using M55727 Mitsubishi RF Power Module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: Niels Montanana <nielsm@lcpub.co.uk>
Message-ID: <58s55a$tni@alpha.ftech.net>
Source record: 99644

I put the PA stage together using the M55727 module and
everything works great.

I have a small pcb, 100mm * 25mm, parallel to the module and
bolted to the heatsink on a couple of spacers so that the
module pins lie flat on the PCB.

I put ferrite beads on all the power leads + decoupling caps
and feed the bias in via a 7809 regulator.

The PA stage forms the 'final' of my homebrew 28Mhz to 144Mhz
transverter which makes a lot use of MMIC's and Toko helicals
with an MGF1302 RX front-end.

Power output is variable from 0 to 20W with 28Mhz drive from a
Yaesu FT100MP.

If anyone would like circuit details please send requests via
eMail to nielsm@lcpub.co.uk

Niels Montanana
G8RWG

3927. Re: Where Hi Voltage Zeners?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: mgkepner@facstaff.wisc.edu
Message-ID: <58q6oh$h4o@news.doit.wisc.edu>
Source record: 99761

macino@ibm.net wrote:

>In <58esuq$4dm@news.icanect.net>, fsimonds@icanect.net (Terry Simonds) writes:
>>
>>I have a Heathkit scope (IO-104) that has managed to eat a string of
>>275V 3-mA Zeners. Anybody out there have a source for such a beast?
>>
>>Thanks
>>
>>
>> Hi Terry,
>
> Try a place called either Surplus Salvage or Surplus Supply a call. They are
> in Benton Harbor, Michigan. They have/had a lot of the old Heath parts. I
> don't have their number, but 1-616-555-1212 outta get you close. Good Luck

I had just such a repair on a Heath scope years ago and spent quite a
while looking for alternate sources of HV diodes. In the end I could
find nothing except for Heath above 200 V. Keep in mind that it is
perfectly legitimate to add a few more diodes to your string and use
smaller values.

BTW, the problem with my old scope was that the Zener voltage varied
considerably with temperature on SOME of the Heath Zeners. I bought
extras and selected ones that were stable. This corrected the dimming
as it warmed up problem that it had always had! Using more standard
diodes might also be more reliable in this way.

Jim

Melissa Kepner Jim Adney
mgkepner@facstaff.wisc.edu jim.adney@mpcug.com
Laura Kepner-Adney
Madison, Wisconsin

3928. Returned mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: Mailer-Daemon@mailbox.enel.IT
Message-ID: <9612130638.AA8219@mail.ctir.enel.it>
Source record: 99762

```
---- message ----

Router: Impossibile aprire il file posta NNAMSR01/NA/ENEL/IT mail.box: Il
server non risponde

---- message ----
Content-Type: Message/rfc822
Content-Description: RFC822

To: Ham-Homebrew <Ham-Homebrew@UCSD.EDU>
bcc: 630777 bassano alessandro <630777_bassano_alessandro.na
@mail.ctir.enel.it>
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Date: 11 Dec 96 14:36:33
Subject: Ham-Homebrew Digest V96 #569
MIME-Version: 1.0
Content-Type: Text/Plain

Ham-Homebrew Digest Wed, 11 Dec 96 Volume 96 : Issue 569

Today's Topics:
2m antenna tuner
Cable noise???
Coax connectors impedence (2 msgs)
Cu-Seeme Video conferencing
Good source for amplifier tips
Need Yig Oscillator, Xband
Returned mail
Subscribing
Ten-Tec 2 meter FM transceiver
WTB:US TOWER HDX589

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: Wed, 11 Dec 1996 07:26:24 +0000
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Subject: 2m antenna tuner
```

Michael Pinneo wrote:
>Can anyone recommend a construction article for an antenna tuner/matching
>network
>for use at 144 MHz, 1kw cw? Thanks.

In one word, DON'T.

In a few more words: match the impedance correctly at the antenna itself
and operate the feedline at low VSWR to reduce losses. If your antenna
is not matched correctly, it would be bad engineering to build an ATU to
hide the problem - fix the antenna.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

Date: Wed, 11 Dec 1996 13:35:31 GMT
From: gfiber@cmc.net (Gary Fiber)
Subject: Cable noise???

>The best O-scopes to use for video waveforms tend to be the Asian
>imports like Hitachi, Anritsu and some of the others that appear
>under domestic brand names like Sencore, B&K etc.

KENWOOD actually made the B&K scopes for sometime, not sue if they still do
though.

Gary.

Date: 11 Dec 96 16:35:50 GMT
From: a176185@msp.sc.ti.COM (Jeanne Pitz)
Subject: Coax connectors impedence

Hi,
I have a dumb question I hope someone will help me with. I have some
coax connectors I bought to use on a homebrew antenna. I don't know
now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
I bought them and they aren't marked.) Is there an easy way to tell?
Would 50 ohm connectors have some physical telling difference or can
I measure them with me ohm meter to tell?

Thanks for your help.

--
Regards,
Jeanne
+---+
|Jeanne Pitz, Ph.D. Mixed Signal Design Department |
|jpitz@ti.com Texas Instruments, Inc. |
|MSGid JKP MS 8213 PO BOX 655303 |

|972-997-3759 Dallas, TX 75265 |
| |
| Do not go where the path may lead, go instead where there is no path |
| and leave a trail. -Ralph Waldo Emerson |
+--+

Date: Wed, 11 Dec 1996 17:09:04 -0500
From: Larry Robison <robison@amnorth.com>
Subject: Coax connectors impedence

Hi Jeanne:

Connector impedance isn't as confusing as it may seems. The only connectors that are true 50 ohm connectors are "N" and "BNC" connectors. The thing that establishes them as constant impedance connectors is the dimensions of the center conductor pins and the interior dimension of the shell. As in a piece of coax this is the primary thing that determines impedance. The impedance of the connector is really only important in feedlines that are used on frequencies above 30 Mhz. It used to be that only the purists were concerned with 50 ohm connectors because they were always somewhat more difficult to install and were more expensive than their counterpart the PL259.

The PL259 is the old standard for most amateur work because they were readily available, cheap, and fairly easy to install. They will handle the power that most amateur equipment produces, all the way up to a couple of kilowatts without too much trouble. Since their design is not such that they qualify for being a "constant impedance connector" they are used in either 75 ohm cable or 50 ohm cable with equal success.

The PL259 adapters that state that they are for RG58 cable or RG59 cable has nothing to do with impedance. It more has to do with how snugly they fit around the cable, thus preventing physical movement from destroying the integrity of the connection.

I hope this helps.

Larry W9MDX

Date: Fri, 06 Dec 1996 16:32:30 GMT
From: wa4twa@versoft.com
Subject: Cu-Seeme Video conferencing

Does anyone know of anyone using Video Conferencing on computer/internet in conjunction with amateur redio? I have been in contact with hundreds of people from around the world on Cu-Seeme and have run into only one ham. Is there a freq. HF or VHF where hams may hang out that use both modes..computer and radio. I believe this would be a natural progression from Slow Scan. We now can SEE the people we are in QSO with.

If you are interested in setting up a sched. and have Video
COnferencing capabilities or are just interested drop me an e-mail,

73's
Charlie

wa4twa@versoft.com

Date: 11 Dec 1996 14:21:07 GMT
From: w8jitom@aol.com
Subject: Good source for amplifier tips

In article <32ADBD52.4057@mail.teclink.net>, "Tom C. Brown, Jr."
<madison@mail.teclink.net> writes:

>Concerning the data you have been posting..... were you measuring this
>stuff by connecting your instruments to a commercially made amp, just as
>I might buy off the shelf?

Yes

> Or, were you using a test circuit strictly
>designed to determine the operating characteristics of a tube?

You could call it that, since I changed the grid and other components to
conform with the changes being discussed.

Date: 11 Dec 1996 17:35:53 GMT
From: viny Coppola <76103.723@CompuServe.COM>
Subject: Need Yig Oscillator, Xband

Looking for a Yig Oscillator to cover around 9 to 12 ghz, for
building a homebrew sweeper.

Thanks,
VINY N1VC

Date: 11 Dec 96 21:53:02 GMT
From: Mailer-Daemon@mailbox.enel.IT
Subject: Returned mail

---- message ----

Errore trasferimento a NRMINTGW/RM/ENEL/IT mail.box; Superato massimo numero del contatore a breve distanza. Il messaggio probabilmente in un ciclo di loop.

---- message ----
Content-Type: Message/rfc822
Content-Description: RFC822

To: Ham-Homebrew <Ham-Homebrew@UCSD.EDU>
bcc: 630777 bassano alessandro <630777_bassano_alessandro.na
@mail.ctir.enel.it>
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Date: 11 Dec 96 4:30:37
Subject: Ham-Homebrew Digest V96 #568
MIME-Version: 1.0
Content-Type: Text/Plain

Ham-Homebrew Digest Wed, 11 Dec 96 Volume 96 : Issue 568

Today's Topics:
Frontier Electric Digital 500.
Microwave Antenna Design
Mitsubishi M57727 Power Module
Need a Relay & a Pllace 2 Get 1 ! (2 msgs)
Parasitic Suppressor Q
PIC Programmer Holiday Specials
PLL's
Ramsey kit.
Regency Handheld 2m for Trade for homebrew parts
Schematic Drawing Software For Ham Use? (2 msgs)
Source for rectangular chassis punch? (2 msgs)
Stancor Poly-Pedance Mod Xfmr taps
Where Hi Voltage Zeners?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 11 Dec 96 05:21:56 GMT
From: thora@online.NO (Thor Andersen)
Subject: Frontier Electric Digital 500.

Hello.

I have an old Frontier Electric Co. Digital 500. It has digital display,
using old tubes for the display. The freq. readout is not working, I get
digits on the display, but they are not correct. It's displaying the right
band, but not the right freq.

Another problem with the rig is that it does only deliver a few watts on the
10 meter band.

All suggestions are welcome!

73's Thor LA2DAA in Drammen, Norway.

Date: Wed, 11 Dec 1996 01:22:41 -0500
From: Madjid <mboukri@cam.org>
Subject: Microwave Antenna Design

James Mills wrote:
>
> Hello Everybody,
>
> Does anybody know of some good software / shareware for microwave
> antenna and circuit design for microstrip work.
>
> Regards

Try PCAAD21, the URL is:

http://search.shareware.com/code/engine/File?archive=sim-msdos&file=electrcl%2fpcaad21%2ezip&size=164726

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

Date: Tue, 10 Dec 1996 20:45:21 -0700
From: "D. H. Frank" <dfrank@worldnet.att.net>
Subject: Mitsubishi M57727 Power Module

If anyone needs a new, in the box, never used module, I have one I will
send you via USMail for $40. That's about $20 below what you would pay
at RF Parts.
If interested contact Don, W9SL, via email or at 303/741-1503, anytime.

Date: 11 Dec 1996 01:57:46 GMT
From: thebaddog@freemark.com (Bad Dog)
Subject: Need a Relay & a Pllace 2 Get 1 !

Help I need a Relay !!! I own this older 10 meter/6 meter amplifier
(AfterBurner Model# 403) and it has been in the closet for a few years
so I
took it apart and thought I should clean the relay (it looked kinda
dirty)
Well, after the file treatment things don't seem to be as flat as they
should and now the realy shoots sparks when you key up. So know I went
on
this search in the net and can't find nothing about a Relay. I even
check
all the parts catalogs I have and nobody has a simple Relay. Can
Anybody out
there help me find the right parts people? If so please help me I need
a

Relay and I need a new parts catalog Thanx :)

Date: Wed, 11 Dec 1996 03:24:32 -0800
From: woody white <woody.white@worldnet.att.net>
Subject: Need a Relay & a Pllace 2 Get 1 !

Bad Dog wrote:
>
> Help I need a Relay !!! ...snip...

A hamfest is the most eonomical, but you might try Newark Electronics,
Chicago, IL or Allied Electronics @ 800 433-5003 (www site:
allied.avnet.com)
--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

Date: Wed, 11 Dec 1996 02:12:10 -0800
From: measures@mail.vcnet.com (R. L. Measures)
Subject: Parasitic Suppressor Q

In article <n7ws.217.004121D0@azstarnet.com>, n7ws@azstarnet.com (Wes
Stewart) wrote:

> I have tried to follow the raging discussion over the merits (or
> non-merits)of parasitic suppressors constructed with nichrome wire.
Frankly, it
> has been tough to follow at times because the discussion has been cluttered
> with other topics. So, a new thread, dedicated to a single topic. (We live
> in hope)
>
snip
>
> One problem with nichrome (computationally speaking) is that it is a magnetic
> material. In my limited searching of references, I haven't found a good value
> for the relative permeability, which along with the resistivity affects
> the skin effect losses of the wire. However, unless this is non-linear
(could
> be), there is still seems to be no magic involved.

IMO, the magnetic characteristic is probably a factor at VHF. By adding a
small amount of iron to the basic nickle-chromium 4 to 1 ratio, the
hysterisis-loss increases noticably at 50MHz. It will be interesting to
see what happens above this frequency on your Boonton 250, Wes.
Another issue is that there are two, different, anode VHF resonant

frequencies whenever a VHF parasitic suppressor is used. The higher resonant frequency is through the suppressor resistor, Rs (the lowest L path through the suppressor). The lower resonant frequency is through the more-inductive suppressor inductor, Ls. (Note: Rs and Ls act independantly because the magnetic field from Ls is at a right angle to the magnetic field from Rs, Thus, a stagger-tuning effect is produced.)

> The higher resistivity and permeability of nichrome (whatever the values)
> simply increase the skin effect losses in the same fashion as in copper or any
> other conductor.
>
> An inductor wound with nichrome has higher loss (lower Q) than a similar
> inductor wound with copper, but in the parasitic suppressor, the parallel
> resistor has the exact effect. In other words, the series equivalent R+jX has
> an equivalent parallel G-jB which can be made to look the same by addition
> of external parallel conductance (resistor) to a higher Q copper wire
> inductor.
>
> The only positive effect I can imagine arising from the use of nichrome
> suppressors would be due to some non-linear phenomenon that increases VHF loss
> while not affecting HF loss. If someone can point us to a reference which
> describes this behavior it would be appreciated and might settle the arguement.

A nichrome Ls does increase HF loss by roughly one percent on the 28MHz band. Unsurprisingly, nichrome does exhibit heating during operation at 28MHz. I would be concerned if this were NOT the case.
About 30 years ago, an old timer told me that he built a ten meter antenna with stainless steel screws, and that during operation the stainless steel screws became so hot they melted the plexiglass insulators they were screwed to. (Most types of stainless steel are a mix of nickle, chromium, and iron.)

--
--Rich-- ag6k, 805-386-3734

Date: 10 Dec 96 22:08:32 -0600
From: gspencer@stim.stim.tec.tn.us
Subject: PIC Programmer Holiday Specials

Microchip has introduced an 8-pin microcontroller. Check out these PIC-related web pages.

www.microchip.com
www.parallaxinc.com
www.melabs.com

Regards,
Garry Spencer (gspencer@stim.tec.tn.us)

P.S. I know this is a bit off-topic for this newsgroup, but microcontrollers are used in some ham gear.

Date: 11 Dec 1996 02:58:32 GMT
From: Larry Martin <larrym@wco.com>
Subject: PLL's

bspeed@cyberramp.net () wrote:
>zclobes@southwind.net (Zack Clobes) wrote:
>
>>I was reading an article in the latest copy of QST covering the
>>theory/construction of a temp compensated VFO. The schematic reminded me of
a
>>PLL with a feedback loop tied to a crystal oscilator. In his article, he
made
>>the statment that his VFO wouldn't have the extra phase noise that a
>>traditional PLL has because of the loop. Can anyone explain this? I didn't
>>think that the VCO wouldn't be effected by the locking loop.
>>Thanks
>>73s de Zack, W0ZC
>Within the loop bandwidth of the PLL, the phase noise at the output,
>is equal to the reference osc. noise multiplied by the total division
>factor, N. The phase noise outside of the Loop bandwidth is that of
>the VCO.
>Reference: PLL Primer, by Andrzej Przedpelski
>
>ie, you will decrease phase noise within the loop bandwidth of the
>PLL.
>
Gross oversimplification! :)
Larry

Date: 11 Dec 96 05:25:44 GMT
From: thora@online.NO (Thor Andersen)
Subject: Ramsey kit.

Hello.

I have build two Ramsey FR-146 2 meter FM receiver kits. They are working ok on receving, but the squelch is not working ok. Is there a modification for this fault?

73's Thor LA2DAA in Drammen, Norway.

Date: 11 Dec 1996 07:47:17 GMT
From: gekko95@ix.netcom.com (Dave)

Subject: Regency Handheld 2m for Trade for homebrew parts

I have a Regency Micro Com PH-251A handheld 2m rig
I'd like to trade. It's only a single channel, and not
even on a ham channel! Currently crystalled for
151.805, xmt and rcv. Has slots in PCB for a number of
additional xtals if you felt like putting them in.
This is the standard Regency handheld of old.

With leather case, and Wilson BC-2C charger base. NiCad
in good shape, radio works very well. With 'duckie' antenna.
Tuned it in on my scanner and it sounds great. 1 watt or
5 watts switchable. External mike/spkr jack in top. Very
good physical and electrical shape

Just needs xmt and rcv rocks for a repeater or simplex pair.

What do I want? $30 plus shipping :(or homebrew parts.

Here's what I'm after:

Vernier dials - the kind you can put a label behind
like the old Johnson series

3-section 1100pf Variable caps

Stripped SB-xxx Heathkit chassis (no parts) - want for
homebrew project

SB-430 Station Console (thingy with the clock, timer, and SWR meter)

500-0-500v 100ma range power transformers - anything close

Coil stock of any airwound flavor

Little unfinished RF / Ham projects that got started and never
finished that have nifty parts inside

Any combinations of the above.

You get the picture....I do alot of homebrewing these days, and my junk box is
as empty as my wallet!

Email to: Dave gekko95@ix.netcom.com

(To those who know me, yes I was gekko@nwlink.com - changed ISP's)

Date: 11 Dec 1996 08:32:21 GMT
From: the2x4@aol.com
Subject: Schematic Drawing Software For Ham Use?

Since you chose not to answer my question let me say:

I have tried CirCad.
The shareware version I tried had crude menus in the manner that a beginner
would make. As if there was no attempt to take the look of the system beyond essential stuff that was available 10 or more years ago. I would think
a program that costly would upgrade to a stylish version like the rest have.

YOU are correct. No support.

The documentation available was really no documentation compared to any other
CAD programs.

Many other CAD programs, shareware that is, and one in particular- DraftCHoice -
makes CirCad look childish.

Hell, Easytrax, can be made to draw schematics, does all the CNC Gerber stuff and it is freeeeeeeeeeee.

If Harvard Garphics 3.0 for DOS would allow .025 inch snap spacing on 8.5 x 11, I wouldn't need anything else. Not even AutoCad.

CirCad, the version I tried, has a value of less than $50. The best version
of DraftChoice is $99. There are many better deals.

Schematic capture? Can't draw the schematic if you can't understand the program.Net list? Bus? Come onnnn.

Carl

Date: 11 Dec 1996 08:32:23 GMT
From: the2x4@aol.com
Subject: Schematic Drawing Software For Ham Use?

In article <32AD93C3.15B9@arrl.org>, Zack Lau <zlau@arrl.org> writes:

>> hugh profit yourself!
>> You seem to be ignoring a big cost factor--supporting the
>software. A ham dealer might be able cut the cut these
>costs by marketing to the right people and being able to
>communicate effectively with his customers using jargon not
>familiar to the manufacturer.--Zack W1VT.
>
>
CirCad software -$995.00

This huge support factor was created by the manufacturer to justify the $995 cost I quess. The support was equal to more that $700 of the cost of the program. ...more that $700? You are getting it for less

that $295? Right? Per program I should say. Right again? Where could I find an organization that spends 70% of its income from a product to pay for support. That only leaves 30% for rent, utilites, return on R&D...you know what I mean.

Not my concern really just curious but will you explain this lack of support the ham version provides?

Carl

Date: Wed, 11 Dec 1996 02:32:14 -0800
From: scott <acepilot@mwt.net>
Subject: Source for rectangular chassis punch?

Anybody know where to buy a rectangular punch for an aluminum chassis box? Small, hand operated with a couple of wrenches. Need rectangular holes for mounting Waldom/molex connectors. Cut-out size of approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to be making 100-150 of these so don't suggest drilling/filing/nibbling. Any other ideas? Tnx, 73, Scott, N0EDV.

--
Gotta FLY or gonna Die !
Ask me about my
Aeronca Super Chief !

Date: Wed, 11 Dec 1996 03:33:21 -0800
From: woody white <woody.white@worldnet.att.net>
Subject: Source for rectangular chassis punch?

scott wrote:
> I expect Greenlee makes a punch that will work but don't know if the specific sizes you need are "stock". You could try Newark Electronics or Allied Electronics for one, but first visit your local electrical contractor supply supply house. Greenlee punches are commonly used by electricians and even if the store dosen't have what you need, they may be able to order it for you. Woody

> Anybody know where to buy a rectangular punch for an aluminum chassis
> box? Small, hand operated with a couple of wrenches. Need rectangular
> holes for mounting Waldom/molex connectors. Cut-out size of
> approximately 1.094" X 0.850" and 0.948" X 0.850". We're going to be
> making 100-150 of these so don't suggest drilling/filing/nibbling. Any
> other ideas? Tnx, 73, Scott, N0EDV.
>
> --
> Gotta FLY or gonna Die !
> Ask me about my
> Aeronca Super Chief !

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

Date: Tue, 10 Dec 1996 20:34:12 -0800
From: Peter Lascell <plascell@inmind.com>
Subject: Stancor Poly-Pedance Mod Xfmr taps

Does anyone have an instruction sheet for a Stancor A-3893 (1960 vintage) or other "Poly-Pedance" modulation transformer of the A-389x series. Need the taps and jumper connection chart to match impedances.

These transformers were for a multitude of impedances as reported in their catalogs and were used in the ARRL Handbook for one or more modulators around 1960-1965. But the construction articles never specifically identified the taps to be used, rather refered the user to the instruction sheet packed with transformers to determine which taps are shorted and which ones are used for the plate connections. The operating current & voltage determined the impedance and tap adjustments were required to get the ratios right.

To be sure I get your response if you can help, please copy to:

w4wwq@juno.com

73 Pete

Date: 10 Dec 1996 23:37:11 GMT
From: macino@ibm.net
Subject: Where Hi Voltage Zeners?

In <58esuq$4dm@news.icanect.net>, fsimonds@icanect.net (Terry Simonds) writes:
>
>I have a Heathkit scope (IO-104) that has managed to eat a string of
>275V 3-mA Zeners. Anybody out there have a source for such a beast?
>
>Thanks
>
>
> Hi Terry,

Try a place called either Surplus Salvage or Surplus Supply a call. They are in Benton Harbor, Michigan. They have/had a lot of the old Heath parts. I don't have their number, but 1-616-555-1212 outta get you close. Good Luck

Jim W9LZ

End of Ham-Homebrew Digest V96 #568
****

---- message ------

Date: 11 Dec 96 12:45:34 GMT
From: kc8ckz@aa8ag.ampr.ORG
Subject: Subscribing

Howdy there, I was telneting via 2 meter's to Moscow earlier this morning
and seen they carried Ham Homebrew. If you possibly have time, could you
please forward me info on how to subscribe?
Thanks & 73's
Victor, KC8CKZ, located in Dorr, MI.
KC8CKZ%W8USA@W8DC.AMPR.ORG

Date: Wed, 11 Dec 1996 19:15:39 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Ten-Tec 2 meter FM transceiver

In article <58i2lgINNji3@sepia.wv.tek.com> edbu@sepia.wv.tek.com (Ed Burress)
writes:
>In article <1996Dec9.012624.13811@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary
Coffman) writes:
>snip
>>
>>OTOH, there is 9.6 kb packet. This *can* work through some, a
>>very few, voice grade radios, and many amateurs try. But most
>>of the so-called "9600 baud ready" voice radios are *not* in fact
>>suitable for 9600 baud operation. They have a connector labeled
>>
>snip
>
>Has anyone built the Ramsey 440 MHz transciever, and used it successfully
>for 9600 baud packet operation? Did it work as advertised, or are there
>mods necessary to get it to work? Their catalog says "9600 - no problem".
>Does that mean "works fine, no problem" or "no problem, not a chance"?
>Anyone use one of these as the basis for a repeater? Can you use the
>Tx and Rx side at the same time? I suspect that the synthesizer can only
>handle one side at a time, but I've never even seen one of these rigs.
>Anybody?

I haven't built the 440 rig, but I did build the 2m rig. The modulation
is just summed into the PLL error loop, and if you've been following the
9600 baud threads, you know that's not going to work correctly.

The radio sweeps the VCO to the various receive and transmit offsets
by mixing offset reference crystal oscillators with a sample of the

VCO in the PLL mixer and feeding that to the PLL chip to generate the loop error voltage to steer the VCO to the proper frequency. You can't use it duplex or split it.

The 2m radio had a *number* of design flaws (I can't claim the inability to do 9600 properly is a design flaw since most other synthesized radios share it, and it doesn't affect ordinary voice use). But for example, it will transmit with the PLL out of lock, a definite no-no. And receive sensitivity was much worse than specified unless modified from the way the instructions tell you to build it. And the PA would go spurious if you tuned it according to the instructions in the manual (you can tune it clean with the aid of a spectrum analyzer, though you might have to settle for about 3 watts out). There were a number of fixes to its various problems which were posted here when it first came out.

I understand that the design has been revised since the first release. I can't say if any or all of the problems noted in the first units have been resolved because I haven't seen one of the new units. But unless they have been, you don't want this radio except as a learning experience on how *not* to design a radio. There were also problems with component quality. The first radios were sent out with reference crystals which would not net onto frequency. You had to modify the reference oscillators to get them on frequency. Now some of this may be attributed to teething problems of a new product, but most of it is just typical Ramsey.

If you want a transmitter and receiver you can build from kits which will work for 9600 baud, buy the Hamtronics kits. Their quality isn't wonderful either, but at least the design is sound, and they will usually work as advertised after a bit of debugging.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

Date: Wed, 11 Dec 1996 09:44:07
From: N6TT@gnn.com ()
Subject: WTB:US TOWER HDX589

WANTED US TOWER HDX589,SKY NEEDLE,ETC
N6TT@gnn.com STEVE 310-3186990
MANHATTAN BEACH,CA.

End of Ham-Homebrew Digest V96 #569
****

---- message ------

3929. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: aiken <aiken@acc-net.com>
Message-ID: <58qe85$pi3@stud.megalinx.net>
Source record: 99763

a176185@msp.sc.ti.COM (Jeanne Pitz) writes: > Hi,
> I have a dumb question I hope someone will help me with. I have some
> coax connectors I bought to use on a homebrew antenna. I don't know
> now if they are 50 ohm or 75 ohm impedence. (I didn't realize it when
> I bought them and they aren't marked.) Is there an easy way to tell?
> Would 50 ohm connectors have some physical telling difference or can
> I measure them with me ohm meter to tell?
>
> Thanks for your help.
>
> --
> Regards,
> Jeanne
> +---+
> |Jeanne Pitz, Ph.D. Mixed Signal Design Department |
> |jpitz@ti.com Texas Instruments, Inc. |
> |MSGid JKP MS 8213 PO BOX 655303 |
> |972-997-3759 Dallas, TX 75265 |
> | |
> | Do not go where the path may lead, go instead where there is no path |
> | and leave a trail. -Ralph Waldo Emerson |
> +---+

Jeanne;

If they are N connectors, there is a difference. The 50 Ohm N connector has a much fatter pin than the 75 ohm connector. I learned this lesson the hard way. I had a 75 ohm connector mounted on a receive antenna located on a tower at 174 feet. We used a 50 ohm connector and ruined the female connector on the antenna. I had to have a tower crew take the antenna down and repair it.

David Aiken
Station Manager
TV-39
Marion, Ohio

3930. Re: M55727 Mitsubishi RF Power Module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32B12DA4.10A9@worldnet.att.net>
Source record: 99764

If stability becomes a problem, a copper foil "strap" over the top of the
brick, connected to ground on each end by the mounting screws can help.
Woody

Rob Janssen wrote:
>
> In <58go6t$bhb@alpha.ftech.net> Niels Montanana <nielsm@lcpub.co.uk> writes:
>
> >Has anyone used the M55727 Mitsubishi RF Power Module for a
> >P.A. stage at 144Mhz ?
>
> I have. It has always worked well.
> I even have a spare should you (or anyone) need it :-)
>
> >I am after the power supply, biasing and de-coupling circuit.
>
> Simple. Just apply 9V to the bias pin (switch it with the TX/RX switch).
> This is easily made using a 7809.
>
> I made a simple board by cutting out some areas on a small piece of PCB
> material. All supply pins are decoupled close to the device, using a
> ceramic cap and a tantalium cap in parallel, and fed via ferrite bead
> chokes.
> I don't think this was actually in the datasheet, but it "it never hurts".
>
> The piece of PCB is bolted to the heatsink, and two strips of copper are
> used to connect the ground area to the mounting flange.
>
> Rob
> --
> +-----------------------------------+--------------------------------------+
> | Rob Janssen pe1chl@amsat.org | WWWhome: http://www.pe1chl.demon.nl/ |
> | AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
> +-----------------------------------+--------------------------------------+

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3931. Re: Ten-Tec 2 meter FM transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: akent@bga.com
Message-ID: <58qgsq$k6g@news3.realtime.net>
Source record: 99765
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hello:
I missed the first of this thread, but here goes.

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <01bbdfad$a66e3fc0$f812a2ce@jeremy.prgone.com> "Trish Cowgar"
<trishc@prgone.com> writes:
>>Does anyone have any input on the Ten-Tec 2 meter FM Transceiver that you
>>assemble from a kit?

You will really like building this kit. It should not be your first
kit, as the unit is fairly complex.

I love my TT 2 meter. I always get good reports on sound quality, and
the 15 memories are enough for me. I only talk on three anyway.

The major problem in my book is the lack of scanning capability. I
talked to Ten Tech, and asked them for the processor code, so I could
implement scanning. They refused, but promised that they are working
on an upgrade to allow scanning. I am impressed! This feature alone
will make their radios in the very nice catagory. I have other
Japanese radios with so many features that you can't use, unless you
have the manual in your lap. The Ten Tech units are nice, simple, and
well designed.

The audio of my TT 2m rig is equal to or better than any other radio
on the market.

The tuneup process is critical to the proper input sensitivity of the
unit. If you buy one, I would recommend borrowing, or renting a signal
generator, unless you have a very good busy repeater nearby. I got the
sensitivety down to .18uv by using a signal generator to tweak the
coils.

Have fun!

Kent - de KC5WPW

3932. FS EIMAC 4-1000-A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: rweaver@sedona.net
Message-ID: <58qiei$rlp@news3.texas.net>
Source record: 99766

```
for sale, eimac 4-1000-A, best offer
```

3933. MRF-247 at 6 meters problem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: akent@bga.com
Message-ID: <58qllq$smc@news3.realtime.net>
Source record: 99767

I have built a 6 meter amp that is using the MRF-247 transistor, and am having trouble with the output. I used the computations in the RF book for the filters and impedence matching networks, but the output is flaky.

The input impedence looks ok, as my 6m meter rig sees about 2 watts of power with a 1.2 SWR. The output swings around with major harmonics on my spectrum analyzer, and changes with time.

I used the Motorola AN791 in the RF applications reports book page 156. I computed the difference in the frequencies from the formulas in the book. Are they correct? I had to modify the input values to get a good input SWR. The output is not what I would expect.

I am currently seeing about 15w output from 2W input, which again changes with time.

I know that this transistor is designed for 2m, but I can't believe that it is not usefull at a lower frequency.

Thank you for you help.

Kent - de KC5WPW

3934. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <58qrl5$fiv@li.oro.net>
Source record: 99768

d.NOrdquest@juno.COM shared these priceless pearls of wisdom:

->In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
->50-ohm types. Could someone more knowledgeable tell us how to
->distinguish them?

Pink and blue booties??

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company -- and I'm damned proud to do so.
Grass Valley CA 95945 | Airport: O17 (Grass Valley Intentional Airpatch)
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---C-182A N73CQ
jim@rst-engr.com | Comm'l/CFI-Airplane/Glider-A&P-FAA Counselor

3935. WANTED TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: ke4ejq@melb.mindspring.com
Message-ID: <58qt61$jiv@camel0.mindspring.com>
Source record: 99769

Looking for tubes, especially 8908. Does anyone know where to find
them ?

3936. 2M amp plans wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: SDCN22E@prodigy.com
Message-ID: <58qt29$i62@usenetp1.news.prodigy.com>
Source record: 99770

If you know of any easy to build (or cheap) 2 meter amplifire plans could you pass them on to me? Thanks. clint sdcn22e@prodigy.com

3937. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <58r8dr$4o3@maureen.teleport.com>
Source record: 99771

In article <58q0dl$lrr@dfw-ixnews6.ix.netcom.com>,
jeffa@ix.netcom.com(Jeff Anderson) wrote:

>. . .

>Hmmm...does anyone know at what frequencies the selection really starts
>to matter? Suppose I have two 40 foot pieces of 50 ohm coax to connect
>between my 50 ohm generator and a 50 ohm load that's 80 feet away. If
>I use a 75 ohm barrel instead of a 50 ohm barrel, at what frequencies
>will I start to see an appreciable difference in performance?
>
>I suspect it's when the barrel length becomes an appreciable fraction
>of the wavelength of the signal.

It's tough to give a general answer to that question. All that happens is
that you get an impedance transformation from the connector. It will have
the same effect as an inch or two of transmission line of that Z0 inserted
in the system. Of course, the amount of transformation will increase as the
connector gets longer in terms of wavelength (until it reaches 90 degrees
then will decrease, becoming zero at 180 degrees, etc.). I'd expect the
effect to be negligible for most purposes at least through UHF. In the
microwave region, the seriousness of the effect would depend on where it is
in the system and how matching is accomplished. For a transmitting antenna,
a connector near the source would transform the Z seen by the transmitter,
which might be correctable with a matching network. It wouldn't have any
impact on the SWR on the cable beyond it, so wouldn't increase cable loss.
A connector of the wrong Z at the far end of the cable would increase
cable SWR (assuming the antenna is matched without the errant connector)
and would therefore increase cable loss. In a receiving system, the effects
of placement are reversed.

Roy Lewallen, W7EL

3938. stuff FS/trade.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: k6ls@amsat.ORG
Message-ID: <32B114FA.211A@amsat.org>
Source record: 99772

here is a list of things I have for sale/trade.
I will list them to keep this short. If you are interested
please mail direct :-)

Ten Tec 6M transverter #1209 (2m-6m)

A&A Engineering WEFAX w/tuning aid

MFJ 1270CQ 1200,9600b tnc

PacComm PSK-1T (PSK modem w/TNC)

Thanks 73 de Phil K6LS k6ls@amsat.org

3939. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <Il4UbDAiERsyEwF2@ifwtech.demon.co.uk>
Source record: 99773

Jeff Anderson wrote about 50 and 75 ohm BNC connectors:

> And all of the databooks that I have (Kings, AMP, and Berg)
>state that they intermate.
>
>If there is documentation that states otherwise, I'd be grateful if you
>could point me to it.

I ran this topic several months ago in my magazine column, and it generated some useful some follow-up mail.

Yes, in the ideal world of the connector catalog - top-quality, brand-new connectors, perfectly assembled - they do intermate.

But the story can be very different in amateur practice, where we re-use old connectors and assemble them without the benefit of professional jigs and tooling.

A 50R plug will mate with a 75R socket; but if the plug is assembled off-center, the socket may be damaged and become unreliable in the long term. It's quite easy to damage a 75R socket because the end of the inner connector is unsupported. Also, a 75R socket that has been opened out by frequent use with 50R plugs can become unreliable with the more tapered center pin of the 75R plug.

Older-style BNC connectors do not have a captive center pin, and it is very easy for amateurs to assemble them with the center pin "short" or "long". This is more likely to lead to problems when the connectors are not of the same impedance. The more tapered center pin of the 75R plug can be an intermittent contact in a 50R socket if the pin is assembled short... unless of course the pin is also assembled off-center!

What convinced me was someone's experience with a large number of new 75R plugs (ordered by mistake) in a computer network that used new 50R sockets. The network suffered considerable problems with intermittent connections. When all the 75R plugs were replaced by 50R plugs, the problems disappeared completely.

I do agree that the impedance 'bump' within intermated connectors is negligible, up to and including the 2m band at least, but that still leaves the reliability problems and the problem of incompatible cable diameters - 75R cable will not fit into a 50R plug, and 50R cable is not anchored securely in a 75R plug.

Bottom line: I don't buy 75R BNCs any more, or even keep the ones I've been given for nothing, and I'm gradually weeding 75R BNCs out of existing equipment.

The same applies to the older patterns of connectors with non-captive center pins. I wouldn't buy BNC (or N) connectors with non-captive center pins any more, not even at surplus or giveaway prices. The more modern versions have captive center pins which are self-locating and much more tolerant of amateur assembly methods. They also have improved braid and cable clamping, and are much easier to re-use.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

3940. help sb-101 switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: kb5yia@ix.netcom.com
Message-ID: <58riq4$5hl@dfw-ixnews12.ix.netcom.com>
Source record: 99774

Can anyone tell me where to get the power / function switch for a heathkit sb-101 xceiver. Any help would be great!!

73 kb5yia (Phillip)

3941. T-44 ATV Retrofit Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: adatghc@aol.com
Message-ID: <19961213142100.JAA12642@ladder01.news.aol.com>
Source record: 99775

I am working on a T-44 TV Transmitter. I understand that this was quite popular in 70's. I have been told that there are articles in QST and information in an earlier ARRL Handbook. I would also like to get copy of the schematic. I would welcome any comments and discussion on the T-44 and video modulators.

Thanks,

Andrew KB3APR

3942. Re: soldering home brew boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec13.142800.5140@ke4zv.atl.ga.us>
Source record: 99776

In article <32A8E359.69CE@telis.org> "K.R.Burtchaell" <kburt@telis.org> writes:
>
>I am looking for suggestion s on soldering homebrew pcbs.Usually just a
>couple of ICs chip caps and resistors.Is solder paste the way to go?If
>so how to solder?Heat gn or reflow?Looking for suggestions that are
>easily done in the homeworkshop. 73 Ken W6GHV

Solder paste and a static hot air source are the ideal way to deal with SMD. A Weller Pyropen Jr makes an excellent static hot air source with the appropriate shroud, and it is inexpensive. But the problem is with the solder paste. It doesn't store well. The brands I've tried need to be stored in a refrigerator if they are to keep for any reasonable length of time. So the home constructor tends to buy just a tiny bit at a time and use it up rapidly. That is inconvienent, and more expensive than buying in larger quantity.

The technique is pretty simple. Put a tiny dab of solder paste on each pad (I use a toothpick for this). Place the component on the board (tweezers are good for this). And give it a shot from the static hot air source. When the solder melts, its surface tension will pull the component into alignment with the pads. Remove the hot air and let cool.

Note that the hot air source needs to be static. An electric heat gun blows too hard. It'll blow the parts right off the board. And hot air is corrosive if it retains a high oxygen content. The combustion products from the Pyropen are depleted in oxygen, so are much less corrosive.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3943. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961213151600.KAA14061@ladder01.news.aol.com>
Source record: 99777

Rich,

Read what Gary said carefully. It is exactly correct.

In article <1996Dec12.201013.1791@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>As even you have now admitted, the circuits are series and
>parallel equivalents. If I give you two suppressors, each
>concealed in a cardboard tube, and you cannot tell them
>apart by measurements at a VHF frequency, would you concede
>that they are functionally identical?

It does not matter if Rich concedes this or not, it is a fact.

>Now if I allowed you to take a *HF* Q reading, however, you would
>be able to tell them apart. The suppressor with the lossy inductor
>will have lower Q at *HF* than the one with the lossless inductor.
>Thus the things you build are low *HF* Q suppressors, not low *VHF*
>Q as you tout them.

I've said the same thing in almost the same words.

>Wrong reasoning. A deep dip means the GDO coil is being heavily
>loaded. The external circuit is presenting such a low impedance
>that it is actually sapping measurable current from the oscillator.
>A shallow dip indicates the GDO coil is being loaded by a higher
>impedance, which is sapping much less current from the GDO oscillator.

As Gary, Wes, and I are trying to tell you...the GDO (or dipmeter, as your gadget is called) is sensitive to absorbtion of RF only, and MUTUAL COUPLING. The heavier the oscillator coil is loaded, the greater the dip. I can make a deeper and wider dip occur with less Q as well as more, just by changing the distribution of inductance.

This can be seen in a simple circuit by putting a small coil of wire in series with a main inductor of many turns. If the big inductor is dipped, the dip will be sharp and deep. If the small series coil of wire is dipped, the dip will be shallow and wide. Yet the Q of the circuit is unchanged, only the coefficient of coupling is modified!

A network analyzer or impedance analyzer will not be fooled by mutual coupling changes, since it connects directly to the circuit. Whether I measure Q in series with the circuit, or across the small coil, the correct instrument gives almost perfectly identical Q and resonant frequency. Only the IMPEDANCE value changes with the Impedance analyzer.

>But I hope you understand that a frequency where feedback is
>negative *won't* be a frequency of oscillation no matter how
>deeply it dips your GDO.

As Wes, Gary, and I have all said in different words.

Except I won't say "won't", I'll just say it would be the best of blind luck if it were the frequency of oscillation. As a matter of fact, if the PA oscillated on the deepest GDO dip frequency just because I "guessed" it would, I'd quit doing PA's and enter the lottery every week. I would be a VERY lucky person to guess against such odds like that, and would use my ESP in better ways.

Using nichrome makes a low HF Q tank, not a low VHF Q suppressor. Lower HF Q makes the tank smoother to tune, and lessens the voltage slightly of tank voltage overshoots due to excessive drive power. The results you measure may actually indicate HIGHER VHF anode impedance, pushing the system towards oscillation at VHF!

Using thin long leads (even of nichrome) between the anode and the shunt impedance of the plate tuning capacitor is foolish. It demonstates a lack of knowlege of behavior of components in RF circuits. The impedance should be made as low as possible to minimize anode impedance and VHF gain. That's why smooth wide anode straps are used in critically stable applications, and why thin long leads on the grid or anode reduce stability.

Few (if any) of your claims agree with physics or common circuit theory. This is why, when QST finally sent your papers out to independent engineers, the replys came back so negative! If you don't believe that, call them and ask them. They searched and searched, and found no RF engineer who agreed with your explainations.

It isn't an industry, personal, or QST conspiracy Rich. Everyone that disagrees with you isn't "out to get you". You are a very talented and imaginative writer, the imaginative part is probably the problem since this is a technical area. It's too bad no one helped you weed this all out before you went public.

I have no more time for arguments about the value of a GDO or time to correct math or circuit analysis errors. I feel just as bad as you do about the way you were treated, someone should have had sense enough to look this stuff over BEFORE printing it. That was not your fault at all.

Good luck in the new year.

73 Tom

3944. Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961213.121703.4455.0.d.nordquest@juno.com>
Source record: 99778

Jeanne asked if connectors came in different impedances. Having read that BNC's did, but having seen no differences between specimens I removed from 50-ohm RF and 75-ohm video equipment, I seconded Jeanne's question, only to provoke the following response:.

From: jim@rst-engr.com (Jim Weir)
Subject: Coax Connectors Impedance

d.NOrdquest@juno.COM shared these priceless pearls of wisdom:

->In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
->50-ohm types. Could someone more knowledgeable tell us how to
->distinguish them?

Pink and blue booties??

Jim

Since it turns out from the other, more useful responses that a few manufacturers
have apparently used similar pins in both varieties, that some 75-ohm BNC's will mate with 50-ohm types, that some vendors use 50-ohm types in 75-ohm systems, and that there are older and newer types of 75-ohm BNC's, the matter is hardly as simple as Jim suggests. As for the "priceless pearls of wisdom," I thought I was being a gentleman in seconding a question that had provoked a very unkind response. Perhaps in another life I got Jim's goat.
Dave
KE9ED

3945. Re: T-44 ATV Retrofit Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: stevem@best.com
Message-ID: <58s0h6$re9@shellx.best.com>
Source record: 99779

In article <19961213142100.JAA12642@ladder01.news.aol.com>,
ADatGHC <adatghc@aol.com> wrote:
>I am working on a T-44 TV Transmitter. I understand that this was quite
>popular in 70's. I have been told that there are articles in QST and
>information in an earlier ARRL Handbook. I would also like to get copy of
>the schematic. I would welcome any comments and discussion on the T-44
>and video modulators.
>
>
>
>Thanks,
>
>Andrew KB3APR
>

Much of the work done at that time was for black and white video.
It is unclear if the T-44 output circuit is broad enough to pass
color. Also, keep in mind that unless you use a VSB filter on
the output of transmitter, you will be running double sideband
with an occupied bandwidth of over 9 MHz! Make sure you don't
bother any existing users of the band.

Good Luck

Steve M. WF6R

3946. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <58s4rl$1q32@info4.rus.uni-stuttgart.de>
Source record: 99780

>I am sure of one thing, though, you're not going
>to measure the impeadnace with an ohm meter!

Nothing is easier than that,

just have the cable long enough that your ohm meter shows a reading
before the reflected wave is back.

73, Moritz DL5UH

3947. Re: Cable noise???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec13.180459.485@ke4zv.atl.ga.us>
Source record: 99781
Cross-posted to: rec.video.cable-tv,rec.radio.amateur.homebrew

In article <58j61p$s2t@boursy.news.erols.com> mhorowit@erols.com (Michael Horowitz) writes:
>I'm looking at the video signal coming out the back of my VCR, and see
>the classic horizontal sync pulse, color burst and video; however,
>there is a faint trace, running horizontally, at the lowest point of
>the horizontal sync pulse. This means that unless I can clean up the
>signal, I can't use the pulse as a trigger. Anyone have an idea how
>the signal can be cleaned up? - Mike

The faint trace you are seeing is the vertical sync pulse. When triggered at an H rate, the scope shows you every line in the video field superposed. A number of those lines are the vertical interval (that black bar across the picture when you roll down the vertical hold control on the monitor). This is negative going (with equalizing pulses) for several horizontal lines at the beginning of each video field. That shows up on the scope. In other words, what you are seeing is completely normal.

Slow the sweep speed down to 20ms per division and you'll see the vertical sync pulse in all its glory.

You need a sync separator circuit to separate H and V sync pulses if the circuit you want to trigger can't tolerate the presence of V sync at the start of each field. There are equalizing pulses at twice the H rate during the vertical interval. You'll also need to deal with this in order to regenerate H rate pulses during that period. (If you look carefully at the display you have now, you can see these equalizing pulses as faint pulses halfway between the H sync pulses.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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Lawrenceville, GA 30244 | |

3948. Where is Jay? I'm here!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <58s6rm$eo3$2@mhadf.production.compuserve.com>
Source record: 99782

Apparently I'm not setting the ignore options right or whatever. "Jay" is here.
I don't check USENET all the time. I'm working on a bunch of projects for
97 and have not been keeping up with the threads. I do check my E-Mail
almost everyday. If you commented or asked a question about Circad and I
didn't reply PLEASE don't take it as an insult. I honestly do think Circad
is a great program. Heck I use it to generate artwork all the time. And that
(to me) is my main source of income. Well until publishers clearing house
calls. The only reason I got involved with the Ham package was that I saw a
need for a program that Hams & Students could afford that would not require a
bank loan or divorse from the XYL. I did a tiny bit of work on part of the
program and the owners set up a special site license for Hams in general.
My company does the support (Yes really!) and you do get the manuals and can
get updates for $50. Someone started the rumor that you don't get manuals and
there is no support. I love talking Circad and I happen to think I know most
of the answers. Plus since I work late hours you can phone when the rates are
lower. So support is around through Dover. Manuals etc? Of course!
I keep hearing about a shareware version of Circad. There is not and never has
been a shareware version. There is a FREE demo. This allows you to try the
program. It does not have all the features but will give you all you need to
know if it works. The Ham version $295 is the complete program. Same software
as the $995 version but no support from Holophase. Your stuck with Dover.
Updates are also not free. $50 per update whenever you decide to update.
Yes, if you have the program for 4 years and never update you can update for
$50. No auto Extortion policy like some others... So, flame off ok?
--
73, Jay WB0VNE - AAV5TH

3949. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <58s9dm$hou@hpcvsnz.cv.hp.com>
Source record: 99783

Wes Stewart (n7ws@azstarnet.com) wrote:

: In article <32AF52D5.277F@compulink.gr> Apostolos Bouroussis writes:
: >Please where i find a list that explain the diameter of the wires that
: >is coded by numbers.

: I believe, that the numbering system stated probably is AWG (American Wire
: Guage).

: There is an approximate formula for comverting these numbers to diameter, but
: I don't have it at hand.

For those with calculators or spreadsheets who would like to ditch
their wire tables:

Diameter in inches = 10^(-0.05035 * AWG_number - 0.4884)
Diameter in millimeters = 10^(-0.05035 * AWG_number + 0.9164)

Accurate to better than 0.1% (around 0.02%?) (Like to see you
find wire that's drawn to that sort of accuracy!). Use -2 in
formula for AWG 000, for example.

(Also, DC resistance, ohms/1000 feet, at 20C, is very nearly
10^(0.1*AWG - 1), though this is not as accurate as the
diameter formula above...just easy to remember.)

(Guess if you like 10's a lot you could remember that as:
R1000 approx= 10^((AWG-10)/10))

--
Cheers,
Tom
tomb@lsid.hp.com

3950. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001312961029260001@news.vcnet.com>
Source record: 99784

In article <32B10284.5CAA@barbwired.com>, andy@barbwired.com wrote:

> R. L. Measures wrote:
> >
snip

> Rich,
>
> Maybe its time to ditch these interminable Q calculations, and actually
> meaaure the VHF response of an amplifier with and without your
> suppressors.

Wes Stewart said he is going to make some Q measurements with his 250MHz Q meter.

> It shouldn't be that hard to hack a VHF input circuit onto an HF amp,
> drive it with some low-level VHF source, and see what shows up at the
> anode. The purpose of theory, after all, is to model reality. It's
> time for a reality check.
>
How could we be sure that the measurement apparatus did not alter the nature of the input and output circuitry?

> While you are at it, you could also check on what fraction of the total
> anode VHF voltage appears at the HF tuning cap and band switch.
> Conventional wisdom says not much; you say enough to be a source of failures.

Conventional wisdom says that such failures are not possible. // Measuring the phenomenon may be more complicated than it looks, Andy. Although minor levels of VHF energy can be observed at the anode with a spectrum analyzer whenever the anode current changes, however, when full blown regeration occurs---i.e., the kind that produces arcing--- it appears to be quite brief. // I have no doubt that the mysterious arcing is related to the presence of regenerative VHF energy. Consider an amplifier which produces a maximum of 2700v peak at the tune capacitor, whose bandswtich has a measured holdoff V capability of over 5500v. If the bandswitch arcs when the amplifier is not being tuned up, and/or is not being overdriven, it seems likely that there was an anomaly during the arc.
.

> The best way to have your claims taken seriously is to demonstrate the
> existance of the proposed effects in some repeatable, analyzable way.
>
I have little hope that Mr. Rauch will ever take anything seriously if it contradicts his dicta. For example, when confronted with the results of his own problem on the magnitude of VHF currents in an Ls/Rs VHF parasitic

suppressor, he summarily dismissed the results. // Consider the long and winding road over the question of whether or not the AL-1500 uses a VHF suppressor. // Consider the case of Buzz Miklos, who used to work at Eimac-Varian's Salt Lake City plant. Mr. Rauch told us "that Mr. Miklos was indeed R+D engineering manager for Varian". However, when I telephoned the personnel department at the Salt Lake City plant, they told me that Mr. Joseph 'Buzz' Miklos' title was "Engineer B"---and they assured me that Mr. Miklos was NOT the R and D Engineering Manager.

--
--Rich-- ag6k, 805-386-3734

3951. Making PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: "Joseph M. Zawodny" <J.M.Zawodny@LaRC.NASA.gov>
Message-ID: <32B1B35D.2E49@LaRC.NASA.gov>
Source record: 99785

Hi,

I am just getting started making my own PC boards and
intend to utilize toner from a laser printer to mask the traces
before etching. My question is this, I about to try using a
product called Toner Transfer System. It is a paper you print
on that has a water soluable coating. You iron it to transfer
the toner to the copper and then soak in water to release the
paper. Simple enough, but the paper costs $3.00 a sheet and is
a one use product. I have heard that some folks use plastic
transparency film to achieve a similar effect. How does this
work? How do you do it? Is there any particular brand of
transparency that works best?

Thanks,

Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
NASA Langley Research Center KO4LW@amsat.org
E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
(757) 864-2681 (757) 864-2671 FAX

3952. Re: WANTED:, D2MAC CODER !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: msimons <msimons@IAEhv.nl>
Message-ID: <01bbe945$b71f07e0$344697c2@marc'scomputer>
Source record: 99786

Peter,
It might be interesting for you to contact Jan de Bie at CinevideoGroep in Almere-Haven. He is one of the pioneers in D2MAC stuff, and I am sure he can send you to the right spot.
Good luck!

peter smit <peter_smit@hoogovens.e-mail.com> wrote in article <32A2182E.3BA2@hoogovens.e-mail.com>...
> I would like to buy a used d2mac coder (no decoder) for ATV
> Please if you have any information contact me.
>
> Peter Smit
> PE1CQS
>

3953. Re: Where Hi Voltage Zeners? Why not use a varistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: msimons <msimons@IAEhv.nl>
Message-ID: <01bbe946$6f8832c0$344697c2@marc'scomputer>
Source record: 99787

Hi there, I do not know the scope well, but you might concider to use a
varistor in stead. They are quite stable too, though I do not know if they
are stable over temperature as well....?
Good luck with it anyway...
Marc

Melissa & Jim <mgkepner@facstaff.wisc.edu> wrote in article
<58q6oh$h4o@news.doit.wisc.edu>...
> macino@ibm.net wrote:
>
> >In <58esuq$4dm@news.icanect.net>, fsimonds@icanect.net (Terry Simonds)
writes:
> >>
> >>I have a Heathkit scope (IO-104) that has managed to eat a string of
> >>275V 3-mA Zeners. Anybody out there have a source for such a beast?
> >>
> >>Thanks
> >>
> >>
> >> Hi Terry,
> >
> > Try a place called either Surplus Salvage or Surplus Supply a call.
They are
> > in Benton Harbor, Michigan. They have/had a lot of the old Heath parts.
I
> > don't have their number, but 1-616-555-1212 outta get you close. Good
Luck
>
> I had just such a repair on a Heath scope years ago and spent quite a
> while looking for alternate sources of HV diodes. In the end I could
> find nothing except for Heath above 200 V. Keep in mind that it is
> perfectly legitimate to add a few more diodes to your string and use
> smaller values.
>
> BTW, the problem with my old scope was that the Zener voltage varied
> considerably with temperature on SOME of the Heath Zeners. I bought
> extras and selected ones that were stable. This corrected the dimming
> as it warmed up problem that it had always had! Using more standard
> diodes might also be more reliable in this way.
>
> Jim
> --
> Melissa Kepner Jim Adney
> mgkepner@facstaff.wisc.edu jim.adney@mpcug.com

> Laura Kepner-Adney
> Madison, Wisconsin
> --
>
>

3954. Re: Elec Workbench, something else maybe?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-13 00:00:00 UTC
From: msimons <msimons@IAEhv.nl>
Message-ID: <01bbe947$c00c4500$344697c2@marc'scomputer>
Source record: 99788

Ever tried circuit maker?
Much better to my opinion! Much more serious! Much more 'the real world' in transistor parameters, measurement results etc. Also Microcap is quite interesting too (Version 4) although, quite expensive!
Good luck anyway!

Regards,
Marc

3955. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmE2DoFx.F94@netcom.com>
Source record: 99645

John Kolb (jlkolb@sd.cts.com) wrote:
: Low freq noise within the loop bandwidth will be mostly canceled by
: the PLL (it can't cancel it all - it doesn't start to react untill
: it detects a change has already occured), but higher freq noise
: components above the loop time constants will not be canceled.

John,

Could you elaborate? Your explanation seems counter-intuitive because the the VCO of a PLL is usually fed with a low-pass filter. Shouldn't it be that higher frequency noise is cancelled by the PLL? It seems that the only noise components which could modulate the VCO would be low frequency noise components which are below the cut-off frequency of the low-pass filter. Perhaps I'm overlooking something . . .

73,

Thomas KI4N

3956. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <58t1c7$pd7@lace.colorado.edu>
Source record: 99646

In article <850505838snz@lfheller.demon.co.uk>,
Leon Heller <Leon@lfheller.demon.co.uk> wrote:
>
>I remember reading a review of a VHF matching unit in Radcom a few years
>ago, which successfully matched the Tx to a steel dustbin. 8-)

... I always find a perfect match when feeding my VHF/UHF antennas with a
few hundred feet of RG-58, or better, RG-174. They won't take 1 kW
though; so how about a mile of RG-8? Perfect 1:1 SWR every time...

Bruce
N6URH

3957. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961214024600.VAA04690@ladder01.news.aol.com>
Source record: 99647

In article <measures-ya023180001312961029260001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>Wes Stewart said he is going to make some Q measurements with his 250MHz
Q
>meter.
>
>

Thought he was makings measurements on a Boonton 250 RX meter?
I have a vintage Boonton VHF Q meter, but I don't think it is of much
use for very low Q values.

I have a question. Probably shouldn't ask it, but I am going to
anyways. What would happen if the parasitic suppressor was made
to be parallel resonant at or near the parasitic frequency. I know it
would require an additional capacitor -- but I was wondering if this
wouldn't solve a few problems. First the coil size could be reduced,
limiting losses at 28 MHz. Secondly, there would
be little doubt that most of the VHF currents are flowing through the
resistor.

Another factor I have not seen discussed is how the suppressor
resistor appears at VHF. There has been a lot of complex math thrown
about, but all the calculations to date ASSUME that the resistor has no
inductance or capacitance and has no reactive components . Anyone
who has tried measuring a resistor on an RX bridge -- even at HF --
knows how imperfect most resistors are.

The most interesting "suppressors" I have seen were used by Hallicrafters
in an AB1 amp using a pair of 4CX350 tubes. They used wire wound
resistors, with a heavy wire coils wrapped around them!

Pete

3958. Re: Front Panel Graphics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <58tev9$kq6$1@mhadf.production.compuserve.com>
Source record: 99648

Hey! That is some great info. Send that to QST or whoever. I would like
to see that in photo form.
73
--
73, Jay WB0VNE - AAV5TH

3959. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <58thbr$msq@dallas1.connect.net>
Source record: 99649

In article <19961214024600.VAA04690@ladder01.news.aol.com>, commquart@aol.com says:
>
Snip....>
>I have a question. Probably shouldn't ask it, but I am going to
>anyways. What would happen if the parasitic suppressor was made
>to be parallel resonant at or near the parasitic frequency. I know it
>would require an additional capacitor -- but I was wondering if this
>wouldn't solve a few problems. First the coil size could be reduced,
>limiting losses at 28 MHz. Secondly, there would
>be little doubt that most of the VHF currents are flowing through the
>resistor.
>
Snip....

Just that has been done and has served me well without a glitch in 15
years.

In an article entitled "Five band Kilowatt Amplifier" in the January
1974 issue of "Ham Radio" magazine, W4OQ used such a device on a 4-1000A
amplifier. I built this project, and the amp is going strong to this
day with same tube I started out with. Here is the "recipe"....

20 pf ceramic capacitor (Centralab 852S, which was a "mini-doorknob
with axial leads) in parallel with four 470 ohm two watt resistors and
four turns #12 wire, one half inch diameter, resonated to 110 mhz.

John went on to say in the article:
If you look carefully at the physical structure of the grid and screen
of the 4-1000A, you will see that they form a sort of basket-woven
cavity. When a positive voltage is placed on the screen, these cavities
(with the filament) act as a triode oscillator above 100 mhz. By way of
demonstration, if you ground the grid and screen of the 4-1000A and
couple a GRID DIP OSCILLATOR to these leads, you will find that the
screen is resonant at about 120 mhz. The grid is resonant at about 110
mhz, an ideal condition for REGENERATION. Under these conditions, the
screen is inductive in respect to the grid, the condition required for
in-phase feedback.
"In fact, a 4-1000A self-oscillates near 110 mhz, and the 4-400A at
about 140 mhz. A pair of parallel
power tetrodes may act like a push-pull oscillator, oscillating at a
frequency that is dependent on the length of their interconnecting leads.
If the grid is made to resonate higher (or the screen to resonate lower),
self-neutralization occurs since the screen is capacitive in respect to
the grid producing DEGENERATION. This is easily accomplished by using
a 500 pf bypass capacitor to raise the resonant frequency of the grid.

A small inductor (3-turns #12 3/8" dia. in parallel with a 100 ohm 2 watt resistor) in series with the screen shifts its natural resonance point below that of the grid, resulting in NEUTRALIZATION.

I know you only asked "what time it was, and I have showed you how to build a watch" but I thought the followers of this thread might like an insight on how innovative hams can get armed with a little test gear and a lot of "gray-matter"!!

(((73))) to all...happy holidays...
Phil, K5PC Lewisville, TX
,

3960. Re: Making PC boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32B2C167.DE9@worldnet.att.net>
Source record: 99650

I have used laser transparency stock to make pcbs, but with limited success. While it is much cheaper, it requires that you carefully peel away the plastic after it has cooled from ironing on. The toner sometimes adhears to the stock better than the copper and pulls away with it. I haven't experimented with too many brands/types - some may be better than others. _Woody_

Joseph M. Zawodny wrote:
>
> Hi,
>
> I am just getting started making my own PC boards and
> intend to utilize toner from a laser printer to mask the traces
> before etching. My question is this, I about to try using a
> product called Toner Transfer System. It is a paper you print
> on that has a water soluable coating. You iron it to transfer
> the toner to the copper and then soak in water to release the
> paper. Simple enough, but the paper costs $3.00 a sheet and is
> a one use product. I have heard that some folks use plastic
> transparency film to achieve a similar effect. How does this
> work? How do you do it? Is there any particular brand of
> transparency that works best?
>
> Thanks,
>
> Work: Dr. Joseph M. Zawodny Play: Joe Zawodny
> NASA Langley Research Center KO4LW@amsat.org
> E-mail: J.M.Zawodny@LaRC.NASA.gov zawodny@exis.net
> (757) 864-2681 (757) 864-2671 FAX

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3961. WTB: Stancor P4080 transformer.R Lloyd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: avrial@ix.netcom.com
Message-ID: <32b254c7.1299819@nntp.ix.netcom.com>
Source record: 99651

Im looking for a power transformer with 350 volts each side of
center,6.3 volts and 5 volts.Attempting to build the 35 watt tx in the
april issue of QST 1950.Also needed Stancorpart#C1001,10.5hy. 110-ma.
filter choke. Thanks in advance.... 73 . R Lloyd .KE6ONN.
avrial@ix.netcom.com

3962. Re: Where is Jay? I'm here! RE:CirCAD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961214101100.FAA17188@ladder01.news.aol.com>
Source record: 99652

In article <58s6rm$eo3$2@mhadf.production.compuserve.com>, Jay Craswell
<73016.27@CompuServe.COM> writes:

>
>Apparently I'm not setting the ignore options right or whatever. "Jay"
is
>here.
>I don't check USENET all the time.

Here is one you missed...

You are trying to promote a software
program, that has very little value, at a
tremendous price.

There are better freeware programs. In particular
the Easytrax program which I am sure you are aware of.
It has a block feature, easily understood, that permits
making your own symbols for import.

That you can comm with hams better than the printed
word catches my attention. 1 of perhaps 1000, perhaps, has
any need for a drawing program. PCBoard layouts come with
the construction articles.

Your concern should be directed at producing symbols for the Easytrax
program. THAT would provide proof you are taking hams concerns at heart.

I find no fault in your desire to make a few bucks or a living thru
expertise or business savvy.

The deal on the CC software ain't no deal.

Carl

Now tell me how do you get over $700 discount on that program?
Details OK. I got time.
I think tremendous profits are were or will be made with deals like that
Support? 70% of the program cost for support!
30% for all other expenses... Come onnnn. Did you not think about that
70% in your deal with them?

CirCad is $50 program at best.
Perhaps my copy was not shareware. It was on a shareware CD-ROM
I believe. No matter. The learning curve was too steep compared to
Easytrax which felt like a slight grade.

Yesterdays programs fall by the way fast when compared to more modern ones like DraftChoice - $99. We require a cosmeticly (?) appealing screen nowadays.
If the CC program you are pushing has a nice windows look then perhaps it is
worth $60- $100. You must compare your old CC with the old freeware Easytrax though and when you do the deal on CC ain't no deal.

3963. New WIN95 WINNT 32 bit Packet Radio Programs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: SV2AGW <sv2agw@the.forthnet.gr>
Message-ID: <01bbe9ac$7e53f9e0$e3fc5cc1@sv2agw.THE.FORTHNET.GR>
Source record: 99653
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space
Body handling: Binary attachment payload not displayed: sv2rq.txt

[One or more binary attachments are retained only in the source text.]

3964. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961214143000.JAA22557@ladder01.news.aol.com>
Source record: 99654

In article <19961214024600.VAA04690@ladder01.news.aol.com>,
commquart@aol.com writes:

>
>I have a question. Probably shouldn't ask it, but I am going to
>anyways. What would happen if the parasitic suppressor was made
>to be parallel resonant at or near the parasitic frequency. I know it
>would require an additional capacitor -- but I was wondering if this
>wouldn't solve a few problems. First the coil size could be reduced,
>limiting losses at 28 MHz. Secondly, there would
>be little doubt that most of the VHF currents are flowing through the
>resistor.
>
>

Hi Pete,

I covered this early on at the very beginning of this thread. The postings have probably expired by now.

The choices are a series resonant supressor path ro ground, or a parallel resonant suppressor path in seriies wth the connection to the low VHF Z tuning capacitor.

There are a few commercial amplifiers that use just such a suppressor.

As to your comments on resistors, the AL-1200 uses a 100 ohm metal film inductive resistor in series with a small siver mica capacitor that series resonates the resistor at the VHF self-oscillation frequency of 100 MHz. The capacitor reduces ten meter current through the suppressor resistor, and increases VHF current through the resistor.

PA's use different methods of suppression depending on the requirements.

73 Tom

3965. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbe9d8$bf9d85c0$30229bcf@kn6dv.qnet.com>
Source record: 99655

w8jitom@aol.com wrote in article
<19961214143000.JAA22557@ladder01.news.aol.com>...
> In article <19961214024600.VAA04690@ladder01.news.aol.com>,
> commquart@aol.com writes:
>
> >
> >I have a question. Probably shouldn't ask it, but I am going to
> >
******SNIP
> >
> >
>
> Hi Pete,
>
> I covered this early on at the very beginning of this thread. The
postings
> have probably expired by now.

There is a archive on my web page with all postings in it.
--
http://www.av.qnet.com/~kn6dv

> The choices are a series resonant supressor path ro ground, or a parallel
> resonant suppressor path in seriies wth the connection to the low VHF Z
> tuning capacitor.
>
> There are a few commercial amplifiers that use just such a suppressor.
>
> As to your comments on resistors, the AL-1200 uses a 100 ohm metal film
> inductive resistor in series with a small siver mica capacitor that
series
> resonates the resistor at the VHF self-oscillation frequency of 100 MHz.
> The capacitor reduces ten meter current through the suppressor resistor,
> and increases VHF current through the resistor.
>
> PA's use different methods of suppression depending on the requirements.
>
> 73 Tom
>

3966. Re: Anybody Know of a HomePage for Avontek ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961214161600.LAA25291@ladder01.news.aol.com>
Source record: 99656

Yes, it's http://www.avAntec.com

And you thought your english teacher was nuts when she tried to teach you spelling!

The homepage is in German, and there's a note at the bottom of the page that says an English version will be available real soon now.

W4ZCB

3967. Info. on infrared links?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: moulder@goodnet.com
Message-ID: <58ujls$i6a@news.goodnet.com>
Source record: 99657

I'd like to build an audio-grade infrared link. Does anyone know of any articles, books, etc. that deal with the subject? I am especially interested in kinds of IR emitters that are available and how to modulate them.

Tnx for any help . . . . . .

3968. ! MASS POST Was Here (ksgfrq)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: Ones-And-Zeros@Prodigy.net
Message-ID: <58uq78$7a1m@usenet1w.prodigy.net>
Source record: 99658

MASS POST, by Ones And Zeros, will let you post to as many newsgroups as you want!

To find out more about this exciting new program, visit a business newsgroup.

(This ad was sent to thousands of newsgroups!)

(eggdgq)

3969. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-ya023180001412960930450001@news.vcnet.com>
Source record: 99659

In article <19961214024600.VAA04690@ladder01.news.aol.com>,
commquart@aol.com wrote:

snip
> I have a question. Probably shouldn't ask it, but I am going to
> anyways. What would happen if the parasitic suppressor was made
> to be parallel resonant at or near the parasitic frequency.

ï¿½ I'm not sure that resonance would help resist the flow of VHF current.

>I know it
> would require an additional capacitor -- but I was wondering if this
> wouldn't solve a few problems. First the coil size could be reduced,
> limiting losses at 28 MHz.

ï¿½ The added loss at 28MHz from a low Q suppressor is about 1%. One would need a Bird digital wattmeter to see such a difference. Much smoke has been raised about the deleterious effects of low Q suppressors on 10m harmonic suppression. I have not observed this to be the case. So far, none of my 4500+ customers have reported such a thing. I do not see how it is possible to design a VHF suppressor that does not have some loss at 28MHz.

>Secondly, there would
> be little doubt that most of the VHF currents are flowing through the
> resistor.

ï¿½ As the inductance of Ls is reduced, more current flows through Ls and less current flows through Rs. (see 3/89 QST magazine)

> Another factor I have not seen discussed is how the suppressor
> resistor appears at VHF. There has been a lot of complex math thrown
> about, but all the calculations to date ASSUME that the resistor has no
> inductance or capacitance and has no reactive components . Anyone
> who has tried measuring a resistor on an RX bridge -- even at HF --
> knows how imperfect most resistors are.

ï¿½ True. Some are more imperfect than others. When Wes Stewart reports his measurements on the resistors we use in the suppressor retrofit kits, we will know for sure. // Cesiwid Co. is supposedly sending me some samples of 100 ohm 20w resistors which have under ten nanoHenry L.

> The most interesting "suppressors" I have seen were used by Hallicrafters
> in an AB1 amp using a pair of 4CX350 tubes. They used wire wound
> resistors, with a heavy wire coils wrapped around them!
>
ï¿½ The idea is interesting. However, if the Ls part of the VHF suppressor

is a wire wound resistor, then why not connect a lower-L MOF resistor in parallel with it to enhance the desired stagger-tuning effect? This would increase series-R, and that would decrease the parallel equivalent VHF load R presented to the anode, which in turn would decrease the VHF voltage gain, thereby increasing VHF stability.

--
--Rich-- ag6k, 805-386-3734

3970. Re: Anybody Know of a HomePage for Avontek ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32B397B9.4BE4@worldnet.att.net>
Source record: 99660

If the original poster (this thread goes back a while) was looking for
Avantek, manufacturer of MMICs and FETs, they were located in
Santa Clara, CA and purchased by HP not too long ago. I think their
parts are carried by Penstock. Woody

JohnsonHE wrote:

> Yes, it's http://www.avAntec.com
>
> And you thought your english teacher was nuts when she tried to teach you
> spelling!
>
> The homepage is in German, and there's a note at the bottom of the page
> that says an English version will be available real soon now.
>
> W4ZCB

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

3971. PVC pipe strength

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: steven bomba <bomba@execpc.com>
Message-ID: <32B3315F.7D41@execpc.com>
Source record: 99661

Can anyone direct me to a source of structural properties of PVC pipe so
I can design an antenna support?

steven, k9ier
bomba@execpc.com

3972. Re: Where Hi Voltage Zeners? Why not use a varistor?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbea17$30450e40$24102399@peter-s>
Source record: 99662

msimons <msimons@IAEhv.nl> wrote in article
<01bbe946$6f8832c0$344697c2@marc'scomputer>...
>
> Hi there, I do not know the scope well, but you might concider to use a
> varistor in stead. They are quite stable too, though I do not know if
they
> are stable over temperature as well....?
> Good luck with it anyway...
> Marc

Varistors are not too stable with temperature and are not as "sharp" as
zeners. Also, they are not designed for constant dissipation and too much
will cause them to violently ignite.

If you want to play, try some of the older gas regulator tubes (e.g., OA4).
They used to work well, but I would add high value parallel resistors if
making a string of them.

...Peter

3973. Coax connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.94.961214010150.21022A-100000@polaris>
Source record: 99663

My company has several trimble RTK GPS receivers and I have replaced some of the RG214 antenna cables with RG8X. The antenna connector is an "N" and the receiver end is a single pin LEMO. The EZ "N" from the wireman works ok with the adaptor sleeve for RG59. The EZ N has 2 seals when it screws together and it seems splash proof. I use scotch #23 rubber tape where the coax enters the connector. We also use 470 Mhz RF modems to transmit GPS corrections. The RF connectors on the modems are BNC type and the BNC connectors sold by the wireman for RG8X work good. RG8X is about the same OD as RG59 coax. I used the 75 ohm BNC connectors on the RG8X before I knew the wireman sold the BNC connectors for RG8X.
The RG8X from the wireman is nice stuff compared to the RADIO SHACK crap. The wireman advertises in the ham mags. Very good prices and delivery.
73
Spencer W1GAK

3974. Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: adkinsg@piranha.ianet.net
Message-ID: <58vtc4$tnb@piranha.ianet.net>
Source record: 99664
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Hi.

I have an older 286 computer that doesn't work anymore. It's
a non-standard case, so I can't put a new motherboard in it.

Since the power supply puts out many amps at 12v on this
particular one... Could I use it to power a mobile radio?

I realize I would have to apply the "power-good" signal (either
ground it or raise it, don't remember which) to get the supply
to work.. (at least that's how I remember it working, haven't
played with computer power supply in a while)

Would it be stable with no load on the 5v side? Could I hook a
big transistor to the 5v size (to ground) to let it see a little
load?

If anyone has done this, I'd appreciate any pointers!

Thanks,
Garry

3975. Re: Packet pgm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: Ron Myers <Myersr@infoave.net>
Message-ID: <32B37197.5A69@infoave.net>
Source record: 99665

Ron Giuntini wrote:
>
> I just got a used TNC and I assume it is fine. However, I am having trouble
> getting the computer to talk to it...I have an IBM PC and am using
> BITCOM...I tried everything but no luck...Does anyone know where I can find
> another (simpler) communications program? Bitcom is one of those extremely
> complicated programs intended to frighten everyone away from their
> computer...I have the old 360K disk drives as well...A copy of Pakratt-88
> might be what I am looking for, or anything that anyone is using
> successfully would be appreciated...Thanks KB6GK
> Ron
You can check out a TNC, and operate quite well with the windows
terminal program. It's simple and direct. After you have verified that
the TNC is talking to the computer, try the more sophisticated
programs. Most of the time, a new user does not have the computer baud
rate set to match the TNC, and everything is garbage. Try several
rates, starting with 1200 baud and hit the * (asterisk) several times to
set the autobaud.
Lots of luck ... KB4EG Ron

3976. FS: CONVERSION MANUALS Vol.'s 1,2,3 & CQ TECH SERIES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <32b31f8f.21735925@fvnews.com>
Source record: 99666

Hello All:
have the following for sale, plus shipping.

CQ Tech Series Surplus Conversion HB including Commad sets scuffs on
cover...other wise, like new
Surplus Radio Conversion Manual Vol.#'s 1,2, & 3 like new

sell all four of above as one lot $100
if interested, email me...first person gets them...
**** Please, Visit my Web Page.....****
==========]-[->
Robert Fowle KC8DBC
1215 Winifred
Jackson, Mich. 49202-1946
Ph. 517-789-6721
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund

NOW... BOATANCHORS Conference!
talk, buy-sell-trade all in one place!
Moderator: Robert Fowle
at: http://www.inetnc.com/hamchat/

3977. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec14.155840.5105@ke4zv.atl.ga.us>
Source record: 99667

In article <mikegem-1012961154270001@cox10.batnet.com> mikegem@aol.com (Michael Pinneo) writes:
>Can anyone recommend a construction article for an antenna tuner/matching
>network
>for use at 144 MHz, 1kw cw? Thanks.

At that power level and frequency, I'd go with a double stub tuner made from 3 1/8th inch rigid line. It's a little big, but the Q is high and it'll handle the power. In theory at least, if not in practice, a double stub tuner can match any impedance to any impedance. In practice things get hinky if you go to extreme values.

The two stubs are easy to fabricate, and if they must be adjustable, you can do it mechanically like a notch cavity. In fact you could just use a couple of notch cavities for the stubs if their adjustment range is sufficient. The center trombone section is a little tricky to fabricate. You have to use copper tubing sizes that will nest inside each other for a slip fit for both the outer and inner conductors. A bit of finger stock soldered around the ends of the larger tubes will give good contact. But if the span of adjustment you need is small, you can use a single rigid piece of approximately the correct length and make up the difference in the stubs.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3978. Re: Ham-Homebrew Digest V96 #576 computer power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: w1gak@mindport.NET
Message-ID: <199612152009.PAA26816@Eden.mindport.net>
Source record: 99589

Usually require some minimum load on the 5V supply or will shut down.

3979. Re: ! MASS POST Was Here ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961215235000.SAA17848@ladder01.news.aol.com>
Source record: 99590

Or public round or whatever. All I can think of is....Too Bad.

3980. O'scope - Trigger level/Var Sweep

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <591nvc$bek@boursy.news.erols.com>
Source record: 99591

Folks -

I can stop a pulse from moving across my scope screen by playing with either the Trigger level or the Variable Sweep; the former seems to lock in more firmer; This is a dual sweep scope, so I've noticed I can display two "in sync" pulses as if they were not in sync, so it's possible to get an erronerous reading. What's the smart way to use these two controls?(the Hold Offest is off)
Thanks, Mike

3981. F/S: TUBES!! 12/14/96

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: DQCB48A@prodigy.com
Message-ID: <58vjn4$2iaq@usenetp1.news.prodigy.com>
Source record: 99668

UPDATED 12/14/96

Lab collection of tubes, all of which should be considered
USED unless otherwise marked. All are guaranteed to be
within normal test limits when shipped. All tubes are
either American made or made by Amperex, Mullard, Siemens, or
Telefunken. TUBES ARE NOT SORTED BY MANUFACTURER, AND SORTING
BY MANUFACTURER IS NOT AVAILABLE. (Please don't ask!) All
items subject to prior sale. When they are sold, they are
gone forever; there will be no restocking.

$1.00 EACH: (USED, GUARANTEED)
0A2, 0A3, 0B2, 0C2, JAN-0C3/VR105, 0D3, 0D3A, 0G3/85A2, 1BC2,
1G3GT/1B3GT, 1J3, 1K3, 1V2, 1X2A, 1X2B, 2BN4, 2D21, 2E26,
3A3C, 3BN6, 3BU8, 3BZ6, 3CB6, 3GK5, 3HQ5, 4BZ6, 4CB6, 4DK6,
4JC6, 4JD6, 5AQ5, 5CG8, 5EW6, 5JB8, 5U4GA, 5Y3GT, 6AC7, 6AG7,
6AH6WA, 6AK5, 6AK5/EF95, 6AL5, 6AN5, 6AN8A, 6AQ5A, 6AQ7GT,
6AR6, 6AS6, 6AU5GT, 6AU6, 6AU8, 6AU8A, 6AV6, 6AW8A, 6AX4GT,
6BA7, 6BV11, 6BC7, 6BG6GA, 6BH6, 6BJ6, 6BJ7, 6BJ8, 6BK7,
6BN6, 6BQ6GA/6CJ6, 6BQ7A, 6BS8, 6BW4, 6BX6/EF80, 6BZ6, 6C4,
6CB6A, 6CB6A/6CF6, 6CG8A, 6CH8, 6CL6, 6CL8A, 6CM6, 6CM7,
6CN7, 6CW5, 6CX7, 6DQ6A, 6DS4, 6DZ4, 6EA8, 6EB8, 6EN4, 6ES8,
6EU7, 6FG7, 6GB5, 6GC5, 6GF7, 6GH8, 6GM6, 6GU7, 6GY6, 6GY8,
6H6, 6HZ6, 6J5, 6J6, 6JU8, 6KA8, 6KZ8, 6LN8, 6LQ6, 6LU8, 6MD6,
6N7, 6S4A, 6SF5, 6SG7, 6SJ7, 6U8, 6W4, 6X4, 6X5GT, 6Y6GT,
8B10, 8CG7/8FQ7, 8FQ7, 8FQ7/8CB7, 8JV8, 8KA8, 10JT8, 10LZ8,
11BQ11, 12A6, 12AE10, 12AL11, 12AT7, 12AX4GTB, 12B4A, 12BF6,
12BN6, 12BQ6GTB, 12BV11, 12BY7A, 12DT8, 12EQ7, 12H6, 12HG7,
12JB6A, 12MD8, 12R-K9, 12SG7, 12SJ7, 12SL7GT, 12SN7GT, 12T10,
14BR11, 15BD11, 15KY8, 17AY3, 17CU5, 17JZ8, 19CL8, 19EA8,
21HB5A, 21LU8, 22JU6, 22JG6, 23Z9, 25L6GT/G, 25Z6, 25Z6GT/G,
33GY7, 34CE3, 35C5, 42KN6, 50EH5, 3223/5735, 5651, 5654,
5654/6AK5W, 5687, 5696, 5725, 5725/6AS6W, 5726, 5726/6AL5W,
5727/2D21W, 5841, 5844, 5879, 5963, 5965, 6135, 6136,
6136/6AU6WA, 6143 (short leads), 6186, 6189, 6201, 6202, 6211,
6211A, 6227, 6293, 6350, 6485, 6661/6BH6, 6682, 6688, 7316,
9002, CK1034, CK6528, EF88, EF94/6AU6, HP-45B, KU-99, M3104.
Ballast tubes: 3-14, 9-7, 12-4

$2.00 EACH: NEW IN CARTON
6BK4/6EL4A, 30RS, 33GY7, 90C1, 5799, CK547DX, CK5517, CK5886,
CK5889, CK6174, CK6528

****
* *

* EVERYTHING - Over 850 tubes - $500 *
* (shipping included) *
* *
****

PRICES SHOWN DO NOT INCLUDE SHIPPING.

SHIPPING CHARGES (USA ONLY; elsewhere, ask for quote)
Up to $15, $4.00.
Up to $30, $5.00
Up to $50, $6.00
Up to $100, $7.00
Up to $200, $9.00
Over $200: FREE
COD AVAILABLE (CASH ONLY!!) add $5.00

TERMS: Payment with order. Checks will be held 5 business
days. Money orders clear in 1 day. COD: $5 additional.
All items subject to prior sale. E-mail for information.

PLEASE DO NOT REPOST THIS ARTICLE IN YOUR REPLY.

3982. WTB: Old SB-xxx chassis for homebrew project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <58vj6n$cj7@sjx-ixn8.ix.netcom.com>
Source record: 99669
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi! I just bought an old SB-102 chassis with all of the parts removed for $15 to use as a homebrew project chassis. I plan to repaint, and cover the faceplace with a new thin sheet of aluminum for my new rig to live in. (2 stage, 30 watt all band CW rig with built-in VFO)

Well, I need another and possibly 2 more - one for a matching receiver I'm planning, and another for a small amplifier.

So I am looking for ANY SB-xxx chassis, completely stripped of parts or not - don't care what the model was - even could maybe use smaller boxes, like old SB-610 scopes or speaker boxes, or whatever. Again, I am after the boxes and the innards are not important (although if any parts still remain, they would be put away for future homebrew)

Cheap is kind of important, though. That's why I am specifying no parts and looks are unimportant, as long as no dents or cutouts that would be tough to paint over. $10 to $20 is the range I was thinking.

email to Dave gekko95@ix.netcom.com

Thanks to anyone who replies!

3983. Packet pgm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: rong@slip.NET
Message-ID: <E0vZ5bE-0002YA-00@mouse.slip.net>
Source record: 99670

I just got a used TNC and I assume it is fine. However, I am having trouble getting the computer to talk to it...I have an IBM PC and am using BITCOM...I tried everything but no luck...Does anyone know where I can find another (simpler) communications program? Bitcom is one of those extremely complicated programs intended to frighten everyone away from their computer...I have the old 360K disk drives as well...A copy of Pakratt-88 might be what I am looking for, or anything that anyone is using successfully would be appreciated...Thanks KB6GK
Ron

3984. F/S: X-band klysrtrons, T/R's, maggies, etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: DQCB48A@prodigy.com
Message-ID: <58vjrt$k2c@usenetp1.news.prodigy.com>
Source record: 99671

All items are located in Philadelphia, PA. area.
Packing, shipping, etc., not included in price.
Prices are in $US. All reasonable offers will be considered.

NEW tubes are indicated by "NIC" ("new in original carton"),
"NIB" ("new in original box") or "NEW-repacked" for either
bulk tubes which have been repackaged as single items, or
when the original packaging was damaged beyond usefulness.
All tubes are tested and guaranteed.

X-BAND TUBES: ($US) EACH
723A/B-2K25 Klystron .....(3 available).10.00
CHS-724B, T/R tube (NIC) 15.00
JRC9M80 7.5 KW Magnetron (NEW-repacked)..(2 available).50.00
M599 5KW Magnetron .....(3 available).25.00
TL368A ATR tube (NEW-repacked) 15.00
V-262 Klystron (Varian).....15.00
VDX1080 ATR tube (NEW-repacked) .....(2 available).15.00

*****ENTIRE STOCK***** $250.00 *****Shipping included*****

SHIPPING CHARGES (TUBES & ACCESSORIES ONLY)
Up to $25, $4.00.
Up to $50, $5.00
Up to $99.50, $6.00
Over $100: $7.00

COD AVAILABLE (CASH ONLY!!) add $5.00

TERMS: Payment with order. Checks will be held 5 business
days. COD: prices as stated. All items subject to
prior sale. E-mail for information.

3985. Vuedata PS950 Scope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961215024100.VAA14051@ladder01.news.aol.com>
Source record: 99672

Anybody with a manual on the above 50 MHz scope? I have one with no sweep. Might be bad tube and beyond repair, but might just be sweep. Would like to pay for xerox, rent manual till I xerox it or whatever other arrangements can be worked out.

Reply E-mail direct

W4ZCB

3986. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961215024901.VAA14236@ladder01.news.aol.com>
Source record: 99673

In article <19961213151600.KAA14061@ladder01.news.aol.com>,
w8jitom@aol.com writes:

>
>I have no more time for arguments about the value of a GDO or time to
>correct math or circuit analysis errors. I feel just as bad as you do
>about the way you were treated, someone should have had sense enough to
>look this stuff over BEFORE printing it. That was not your fault at all.
>
>Good luck in the new year.
>
>73 Tom
>
>

Thanks Tom.

I can sense your resolve in ending this thread.

Let me say I have followed it with anticipation. Everyone helped me
understand
the ol' amps a lot better. The complete discussion have been archived and
I will get the data and keep it for future reference.

Although the thread was started with a degree of animosity and not
intended to be of great value, it most certainly has been to me. Rich
should be thanked for his
presence to keep the thread alive. You too. Thanks Rich...and others who
made technical comments.

Thanks again.....

Carl
N9EFJ
The2x4

3987. Re: Yaesu FT-227R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961215024900.VAA14243@ladder01.news.aol.com>
Source record: 99674

In article <32b3edbd.17872300@news.igs.net>, mdonohue@renc.igs.net
(Michael J. Donohue) writes:

> Any help on the pinouts for this radio would be
>gratly appreciated. Tnx

The ol' blue Memorizor.

I got one and I believe the schematic.
Let me look for it.
I'll get back to you.

Carl

3988. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <58vrag$4rg@ordeal.cts.com>
Source record: 99675

Thomas G. McWilliams (tgm@netcom.com) wrote:
: John Kolb (jlkolb@sd.cts.com) wrote:
: : Low freq noise within the loop bandwidth will be mostly canceled by
: : the PLL (it can't cancel it all - it doesn't start to react untill

: Could you elaborate? Your explanation seems counter-intuitive because
: the the VCO of a PLL is usually fed with a low-pass filter. Shouldn't it
: be that higher frequency noise is cancelled by the PLL? It seems that

A varacter tuned VCO has very high phase noise sidebands compared
to one tuned with a good variable cap as in a general coverage
receiver. Phase noise within the loop bandwidth can be canceled by
the loop - noise above the cutoff freq of the low pass filter
cannot be corrected.

John

3989. FS: CB Service Manuals (Tram)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: Reddbox@cris.com
Message-ID: <58vs54$603@herald.concentric.net>
Source record: 99676
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc, rec.radio.amateur.policy,rec.radio.amateur.space

Organization: Concentric Internet Services
Summary:
Keywords:

For Sale:
RARE Tram Factory Service Manuals (Gone out of business now) for Tram
Citizen Band Radios (CB SSB/AM)
These manuals include:
o Tune Up Procedures
o Schematics
o Photos of the PC Boards
o Alignment procedures
o Testing
The manuals are 10 to 20 pages long. In SUPERB condition!
No soiled, roughed, or dogeared pages. The booklet is stapled.
Model Price
XL $25
XL5 $30
DIAMOND 40 $40
DIAMOND 60 $50
D201 (Base unit) $10
Please respond via email to Punisher@m-net.arbornet.org or call my machine
at (203)458-9962 and leave a message or fax (since these groups tend to
get cluttered) Thank you.

3990. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961215035400.WAA16108@ladder01.news.aol.com>
Source record: 99677

In article <measures-ya023180001412960930450001@news.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>
>snip
>> I have a question. Probably shouldn't ask it, but I am going to
>> anyways. What would happen if the parasitic suppressor was made
>> to be parallel resonant at or near the parasitic frequency.
>
>> I'm not sure that resonance would help resist the flow of VHF
current.

I should have been more clear. Using HiQ components for reactive
components for a relatively high unloaded Q.
>
> I do not see how it
>is possible to design a VHF suppressor that does not have some loss at
>28MHz.
>
Thats why I suggested the parallel resonance. Any filter will have
some loss. But "some" is rather subjective..
>
>> As the inductance of Ls is reduced, more current flows through Ls and
>less current flows through Rs. (see 3/89 QST magazine)

What would happen if a capacitor with the same reactance at the
desired parasitic frequency was added?

>
>> Another factor I have not seen discussed is how the suppressor
>> resistor appears at VHF. There has been a lot of complex math thrown
>> about, but all the calculations to date ASSUME that the resistor has
no
>> inductance or capacitance and has no reactive components . Anyone
>> who has tried measuring a resistor on an RX bridge -- even at HF --
>> knows how imperfect most resistors are.
>
>> True. Some are more imperfect than others. When Wes Stewart reports
>his measurements on the resistors we use in the suppressor retrofit kits,
>we will know for sure.

But what methods will he use to verify his results? The terminals on the
Boonton 250 are about 1 inch apart. Is it possible to measure the
resistors
you use on such an instrument with 0 lead lengths?

// Cesiwid Co. is supposedly sending me some
>samples of 100 ohm 20w resistors which have under ten nanoHenry L.
>
>> The most interesting "suppressors" I have seen were used by
Hallicrafters
>> in an AB1 amp using a pair of 4CX350 tubes. They used wire wound
>> resistors, with a heavy wire coils wrapped around them!
>>
>&#65533; The idea is interesting. However, if the Ls part of the VHF
suppressor
>is a wire wound resistor, then why not connect a lower-L MOF resistor in
>parallel with it to enhance the desired stagger-tuning effect? This
would
>increase series-R, and that would decrease the parallel equivalent VHF
load
>R presented to the anode, which in turn would decrease the VHF voltage
>gain, thereby increasing VHF stability.
>
The only thing I could assume Hallicrafters was doing is that by some
remote chance the resistor windings were near series resonance at the
desired frequency. In that case, whatever VHF energy that did not pass
through the
inductor would be dumped into the resistive component of the power
resistor. Seems like a long shot to me!

Peter

3991. Re: ! MASS POST Was Here ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961215040000.XAA16248@ladder01.news.aol.com>
Source record: 99678

In article <58uq78$7a1m@usenet1w.prodigy.net>, Ones-And-Zeros@Prodigy.net writes:

>Subject: ! MASS POST Was Here
>
>From: Ones-And-Zeros@Prodigy.net
>Date: Sat, 14 Dec 96 18:04:21 GMT
>
>MASS POST, by Ones And Zeros, will let you post to as many newsgroups as you
>want!
>
>To find out more about this exciting new program, visit a business newsgroup.
>
>(This ad was sent to thousands of newsgroups!)
>
>

Here is someone who should be hung in a public square.

3992. Digital Freq readout for QRP rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <590cq2$hh3@opera.iinet.net.au>
Source record: 99679

I am designing a freq counter based on the PIC 1 GHz counter (See web page) for QRP/other rigs which do not have digital readout
Planned features:

4 User programmable offsets to 10 Hz resolution. These can be selected via 2 I/O pins along with a user programmable message (eg "USB" etc) These are calculated in software (ie not a 10 turn pot/ADC system which I presume would drift somewhat)

Basic counter resolution around 10 Hz

Bandwidth around 40 MHz

LCD readout

High impedance input so as not to load the LO too much

Simple/small physical size (around 3 by 5 inches for the board)

I will be marketing this at about $90 US for the kit

I would appreciate any ideas re features/cost etc

Thanks

Richard Hosking
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

3993. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1512960143130001@term1-13.vta.west.net>
Source record: 99680

In article <19961213151600.KAA14061@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> Rich,
snip

> Using nichrome makes a low HF Q tank, not a low VHF Q suppressor. Lower HF
> Q makes the tank smoother to tune, and lessens the voltage slightly of
> tank voltage overshoots due to excessive drive power. The results you
> measure may actually indicate HIGHER VHF anode impedance, pushing the
> system towards oscillation at VHF!
>
Tom told us that there was virtually no VHF current in Ls. However, when
Tom provided me with a problem that he presumed would prove himself right
and prove me wrong, it revealed that there was actually more VHF current
in Ls than there was in Rs. // Tom originally claimed that that there
was no difference in VHF Q when Ls was made from resistance wire, and that
a serious decrease in HF Q would be effected. Now Tom wants us to believe
that resistance wire encourages VHF oscillation. Does it make sense that
the resistance of a conductor DECREASES with an increase in frequency?

> It isn't an industry, personal, or QST conspiracy Rich. Everyone that
> disagrees with you isn't "out to get you". You are a very talented and
> imaginative writer, the imaginative part is probably the problem since
> this is a technical area. It's too bad no one helped you weed this all out
> before you went public.

The first QST magazine article about intermittent VHF parasitic
oscillations was published in October 1988. During the next ten months I
received around 1400 letters and telephone calls from people who said that
they had experienced the problem. QST appeared to welcome the followup
article "Parasitics Revisited" in the September and October 1990 issues
of QST. However, shortly after my article "The Nearly Perfect Amplifier"
was published in the Jan., 1994 issue, QST Editor Mark Wilson sent word
to me that via Al Brogdon, that he was getting pressure from advertisers.
Paul Pagel, the editor of the Technical Correspondence column, was
mysteriously pulled off of his column for the Sept. 1994 issue---wherein
Mr. Tpm Rauch recognized himself as one of the "recognized amplifier
experts", and claimed that I did not know what I was talking about since
virtually no VHF current flows in a VHF suppressor's inductor.
...........Nice going, Mark.

One of the ARRL Directors wrote a letter to the ARRL President about the
Sept. 1994 Technical Correspondence column. He said:

"After we both lost expensive 8877s, I installed Measures parasitic suppression kit in both amplifiers. I am happy to say that the problem has never recurred to either of us. For Telewski to categorically state that it is only the external circuitry is at fault is nonsense. The loop which causes the oscillation includes the tube itself as well as all surrounding external circuitry." ... ... "All in all, I feel the September 1994 rebuttal was vindictive. I hope that there was not a 'secret agenda" underlying the rebuttal. In the interest of journalistic fairness, I believe that Najork's request for an apology is in order. I also believe that Measures' rebuttal should be printed in QST."

The complete text of this letter is currently available at:
<http://www.vcnet.com/measures/> see link to 'rebuttal postscript'.

> I have no more time for arguments. ...snip...

Mr. Rauch told us "that Mr. Miklos was indeed R+D engineering manager for Varian". I telephoned the Personnel Department at Varian-Eimac's Salt Lake City plant. They told me that Mr. Joseph 'Buzz' Miklos' title was "Engineer B". They assured me that Mr. Miklos was not the R and D Engineering Manager. I posted the information here.

RE: "I have no more time for arguements..." :
Translation: Having been caught adjusting the truth about Mr. Miklos' position at Varian, Mr Rauch seems to have abandoned the very debate that he desired since 1990.

--
--Rich-- ag6k, 805-386-3734

3994. Need help -Eico 955

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: screamer@li.net
Message-ID: <32b7f064.137618184@newshost.li.net>
Source record: 99681

I hope someone can answer this. I have an Eico 955, in circuit capacitance tester. The unit is missing the test lead. I understand the cable used for this lead is most important for an accurate reading. Does anyone have a clue as to what the origional test cables designation was?

Any help will be most appreciated.

Please reply via e-mail, since I don't frequent this group.

SJ Creamer

3995. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: mikew816@pacbell.net
Message-ID: <32B3D46E.2886@pacbell.net>
Source record: 99682

d.NOrdquest@juno.COM wrote:
>
> In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> 50-ohm types. Could someone more knowledgeable tell us how to
> distinguish them?
> Dave KE9ED

Dave,

There are true 75-ohm BNC's, an example is the Kings male BNC that fits Belden 1694A 75-ohm serial digital video cable. 1694A cable passes 270-megabit/sec serial data, and impedance at all connections must be carefully controlled. 1694A cable is about 3/8" O/D. I forget the Kings part number right now but can look it up. You can get true 75-ohm BNC's at Pacific Radio, Hollywood, CA, and from H.L. Dalis Co. on Long Island.

Rather than try to tell the 50 from 75 ohm connectors by appearance, I just look at the part number stamped on the outer edge of the coupling ring.

At work, we're rebuilding TV studios, converting them to digital, and use these BNC's by the thousands.

Mike WA3RVS
KTLA-TV Los Angeles

3996. Re: Where Hi Voltage Zeners?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: "William M. Spaulding, Sr." <billspau@accessone.com>
Message-ID: <01bbea95$432bef00$039a76cc@billspau>
Source record: 99683

For many years Neon bulbs were used as a reference voltage source for high-voltage power supplies. If your current levels are consistent, go to Radio Shack, stack up a few bulbs (70 to 90 volts per bulb) and get the 'scope back up. Make sure the current is properly limited!

Hope this is of help.

Vy 73's
Bill
NA7Y

Terry Simonds <fsimonds@icanect.net> wrote in article
<58esuq$4dm@news.icanect.net>...
>
> I have a Heathkit scope (IO-104) that has managed to eat a string of
> 275V 3-mA Zeners. Anybody out there have a source for such a beast?
>
> Thanks
>
>
>
>

3997. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: "William M. Spaulding, Sr." <billspau@accessone.com>
Message-ID: <01bbea97$063c5880$039a76cc@billspau>
Source record: 99684

Since the impedance of a coaxial system is related to the log of the ratio of conductor diameters, the center pin of a 75 ohm BNC is smaller than a 50 Ohm version.

Usually, the 75-ohm variety comes with a machined groove around the circumference to mark it as a 75 piece.

Since center pins are larger, don't plug 50's into 75's.

Clear as mud?

73's
Bill
NA7Y

d.NOrdquest@juno.COM wrote in article
<19961211.220346.4383.0.d.nordquest@juno.com>...
> In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> 50-ohm types. Could someone more knowledgeable tell us how to
> distinguish them?
> Dave KE9ED
>

3998. HomeBrew Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: bobberlyn@aol.com
Message-ID: <19961215151100.KAA02073@ladder01.news.aol.com>
Source record: 99685

QRP/ HOMEBREWERS/ ELECTRONIC EXPERIMENTERS:

Toroids/Transistors/IC's/Small Parts /Kits Great prices, quick shipment.
For catalog SASE to: HB Electronics 43 Rector St. E.Greenwich, RI
02818-3312
or see HTTP://www.Businesson.com/HAMPARTS or E-MAIL:
HB.Electronics@Businesson.com

3999. WTB: Old Heat SB-xxx chassis for homebrew projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <591b63$npi@dfw-ixnews2.ix.netcom.com>
Source record: 99686
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Hi! I just bought an old SB-102 chassis with all of the parts removed for $15 to use as a homebrew project chassis. I plan to repaint, and cover the faceplace with a new thin sheet of aluminum for my new rig to live in. (2 stage, 30 watt all band CW rig with built-in VFO)

Well, I need another and possibly 2 more - one for a matching receiver I'm planning, and another for a small amplifier.

So I am looking for ANY SB-xxx chassis, completely stripped of parts or not - don't care what the model was - even could maybe use smaller boxes, like old SB-610 scopes or speaker boxes, or whatever. Again, I am after the boxes and the innards are not important (although if any parts still remain, they would be put away for future homebrew)

Cheap is kind of important, though. That's why I am specifying no parts and looks are unimportant, as long as no dents or cutouts that would be tough to paint over. $10 to $20 is the range I was thinking.

email to Dave gekko95@ix.netcom.com

Thanks to anyone who replies!

4000. Re: Good source for ampli

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <850674930@infoway.com>
Source record: 99687

Ok, I also have a question or two.
Maybe I missed something about how to test parasitics.

When building my 4-1000A pair linear, I used a variac to increase
the plate voltage cautiously looking for a feared parasitic.
Since the gain of the tube increases with plate voltage,
it happened, that I only got a parasitic when at the target
plate voltage of 6000 volts.

My experience was that for that instant of the parasitic,
I couldn't do much of anything, much less measure it's frequency.
I had a inline fuse in the B+ line, which exploded, the force of
the concussion of the explosion breaking things up to several feet away.
How do you folks measure the frequency of your parasitics when they explode
with such violent force?

What measures are used to test for parasitics in a less
destructive fashion?

>I have a question. Probably shouldn't ask it, but I am going to
>anyways. What would happen if the parasitic suppressor was made
>to be parallel resonant at or near the parasitic frequency.

Ph> "In fact, a 4-1000A self-oscillates near 110 mhz, and the 4-400A at
Ph> about 140 mhz. A pair of parallel
Ph> power tetrodes may act like a push-pull oscillator, oscillating at a
Ph> frequency that is dependent on the length of their interconnecting
Ph> leads.

As I have both first, and screen grids grounded, with just
regular plate suppressors in each plate lead (about your
3 turns #12, 1/2" diameter wound on 100 ohm 2 watt resistors)
would we know if the parasitic was push-pull or parallel resonant?

Don N6MCE

... Don.Phelps@Infoway.com 1:125/104 POBox 9739 San Rafael,CA 94912
___ Blue Wave/386 v2.30 [NR]

4001. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-15 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <591ic6$47g@hpscit.sc.hp.com>
Source record: 99688

In article <58vrag$4rg@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
>
>A varacter tuned VCO has very high phase noise sidebands compared
>to one tuned with a good variable cap as in a general coverage
>receiver. Phase noise within the loop bandwidth can be canceled by

Not necessarily. If the unloaded Q of the varactor is much higher
than the unloaded Q of the inductor, the inductor will be the
limiting factor, and there will be no advantage to replacing the
varactor with a variable capacitor of even higher Q. [Phase
noise is inversely proportional to Q]. The best ferrite
inductors, to my knowledge, top out at an unloaded Q of about
500. Varactors with Q's of many thousands are commonly
available. Of course, good engineering practice must be followed
regarding tuning voltage management to avoid externally induced
noise from being generated in the varactor. Another tip is to
always take the output directly from the tank, and use a low
phase noise buffer amplifier following the oscillator.

Rick Karlquist, N6RK
rkarlqu@scd.hp.com

4002. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961216004900.TAA19692@ladder01.news.aol.com>
Source record: 99592

Hi Rich--

As far as I have been able to discern from this thread--and from past media wars--is that there is no conspiricy here. I suspect Dick Erhorn, Tom Rauch, Dick Frey, and those various "demon" engineers at Eimac and elsewhere who are "attempting to hide the truth from the amateur public" are nothing more than a wishful figment of your imagination. The fact is, you have written extensively--and you currently have a web page--where you make money selling a product that is based upon the premise that others in the industry are stupid and incompetent. That's a pretty big burden of proof to carry, Rich. How's it working out??

Rick K1BQT

4003. SMD parts for projects & prototypes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: baggybob@townsquare.net
Message-ID: <baggybob-1512961949280001@cnc402050.concentric.net>
Source record: 99593

Surface mount parts for experimenters/prototypers
all new surplus unless otherwise noted

price on tantalum chips reduced
A & B size were 10/$1.00 now 12/for a buck
C & D size were 8/$1.00 now 10/for a buck

Motorola MRF 94llL NPN hi gain low noise small signal transistor
excellent broadband linearity with typ fT = 8 GHz.
4 pin SOT-143 package
5 / $1.00 with data sheet 80 for $10

Toshiba 2SC3606 NPN hi gain low noise transistor. Typical fT=7GHz, noise
figure @1GHz=1.1dB.
3pin EIAJ SC59 package; slightly larger than EIA SOT-23.
8/ $1.00 with data sheet 100 for $10

Phillips BCP51 PNP or BCP54 NPN Both are SOT 223
VCEO=45, Ic= 1 Amp, hFE 40/250, fT= 50 Mhz
good for audio, DC control
8/$1.00 100 for $10

ROHM 2SB1132 PNP SOT-89 Equal to Phillips BCX51 VCEO=45,
IC=1Amp, VCEsat=. 5 V
10/$1.00

Phillips PMBTA56 PNP SOT 23 VCEO=80, hFE>50, ICmax=500mA
fT typ =50 MHz
12/1.00 limited quantity

ROHM NPN digital transistor DTC114YK 12/1.00
10K |____ COLLECTOR
__/\/\/__________| BASE
| |__> EMITTER
|\/\/\/______|
47 K
excuse the poor artwork. There is a 10K in series with the base and 47K
between base and emitter. Use as digital switch or driving LEDs. IC=100
mA, VCC=50. Package is SC-59 with package outline slightly larger than
SOT-23 but the pin spacing is same as SOT-23.
package stamping -- 64

Motorola BAV99 dual diode series connected SOT 23 package
VBR=70 volts, IF max =100 mA, PD=500 mW
12/$1.00

Tunning diodes 8/$1.00
MMBV109 ratio 5:1 8-40pf
MMBV2105 ratio 2.5:1 Ct 15pf @ 4v

Surface mount 1/8 watt resistor assortment.
paper strips of 20 each of 50 different values = 1000 resistors
all parts marked with standard 3 digit code
$10.00 each assortment

Chip capacitors -- 0.1uf 50 volt ,tolerance range Z
size 1206 (3.2mm x 1.5mm) packaged on paper tape
Y5V ceramic with nickel barrier terminations
MuRata pn GRM42-605Y5V104Z50
30/$1.00

I have other chip caps, mostly MuRata for same price
1pf,2.7,3.3,4.7,5.6,20,22,24,27,30,56,75,150,180,300 are all similar to
above and are 50 volt 5% tolerance, NPO ceramic
220,1000pf is 10% X7R ceramic

8.2pf,11,12,100, are size 0805 which are smaller, 50 volt, NPO
also 30/$1.00

Mica surface mount capacitor from Soshin Electric 1210 size unless
otherwise noted all are 500 volt , 5% tolerance. Yeah, this is a strange
one.
4.5pf, 5.5, 6.5, 7.5, 9.5, 11, 13, 16, 15, 16, 20, 27, 51, 56, 68, 75, 82,
180@100 volt, 200@100 volt, 240@100 volt
15/$1.00

surface mount diodes in round MELF package
Rohm RLRH100: same ratings as 1N4002 (1 AMP, 100 Volt)
12/$1.00

SMD zener diode 10 volt @5 mA test 350mW Pd 5% tolerance in
SOT 23 package Motorola MMBZ5240 12/$1.00 200 for $10
also 3.9V zener from same series 10/$1.00

Surface mount inductor by TDK 82, 220, 330, 680 nH 8/$1.00 (mostly 1206 size)

Surface mount resin molded tantalums made by Panasonic, Matsuo, NEC,
Sprague and possibly others.
A & B sizes 12/$1.00, C & D size 10/$1.00
A size stamping code
.1uf 35v A104
.1uf 50v 104-50
.33uf 35v V334
.47uf 25v E474
1 uf 16v C105
4.7uf 10v A475

B size
1uf @ 35v 4.7uf @ 10v 10uf @ 10v

C size
4.7uf @ 20v 10uf @ 20v 22uf @ 10v

Dsize
6.8uf @ 35v 33uf @ 16v

smd LEDs 1206 size mostly green with a few red or yellow possible or all yellow 12/$1.00

baggybobs' buck a bag bargain bonanza brought to you by bob & kim.
also have some common and not so common leaded parts
also have replacement transistors for Motorola 2 way radios (no RF outputs)

e-mail for more info: baggybob@cris.com

4004. Where can I get a crystal 53.000-54.000Mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: sgoetz@ecs.fullerton.edu
Message-ID: <592c1u$705$1@wintermute.ecs.fullerton.edu>
Source record: 99594

Hi, I am in the process of building my robot which is going to be
remotly controlled by a computer. I would like to use one of the 10 channels
between 53.000-54.000 or 50.800-50.980. But I have a serously problem,
I can not find a crystal for any of the 10 channels. I would really
apprciate if someone told me where I can get such a beaty.

Thank you

e-mail: sgoetz@titan.fullerton.edu

KD6OAD/KT

4005. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961216032800.WAA24507@ladder01.news.aol.com>
Source record: 99595

In article <measures-1512960143130001@term1-13.vta.west.net>,
measures@mail.vcnet.com (R.L. Measures) writes:

>
>Mr. Rauch told us "that Mr. Miklos was indeed R+D engineering manager for
>Varian". I telephoned the Personnel Department at Varian-Eimac's Salt
>Lake City plant. They told me that Mr. Joseph 'Buzz' Miklos' title was
>"Engineer B". They assured me that Mr. Miklos was not the R and D
>Engineering Manager. I posted the information here.
>
>RE: "I have no more time for arguements..." :
> Translation: Having been caught adjusting the truth about Mr. Miklos'
>position at Varian, Mr Rauch seems to have abandoned the very debate that
>he desired since 1990.

Hi Richard,

I'm afraid your statement about Mr. Miklos is not correct. Since it has so
little to do with parasitics, I was simply going to ignore it. It does
little good for us to argue about what you "heard" or what I head, it
means nothing to anyone else.

Two things about your claim does not make sense.

First, the personel department at Varian would not release employment
information to some voice over the phone without a signed release by that
employee.

Second, I've known Mr. Miklos and the guys at Varian for many years now.
Mr. Miklos was indeed manager of power grid R+D at the Salt Lake plant
from 1989 throgh 1992. In 1992 he left to work at a division of Siemens.

Your statement is not correct, plus I have serious doubts the personel
department would release employee history to the self-appointed
spokesperson of Varian 500 watt 8877 grids.

Who at Varian gave you that information? Did you "record" that
conversation?

Back to parasitic's and nichrome. You seem to not understand the concept
of impedance. Do you think a thin nichrome wire has the same series
impedance as a thick copper wire or strap? It has higher impedance Rich,
so it raise the series equivalent anode impedance.

Here's something for everyone to think about, and something Rich needs to
answer.
Richard claims the nichrome greatly de-Q's the anode at VHF. He also

claims the tuning capacitor and bandswitch can arc from VHF energy from parasitic.

1.) In order for the bandswitch or capacitor to arc, they MUST have very high VHF impedances.

2.) If anything is placed between the anode and that high impedance, it will have little effect on Q unless the added impedance is very high and very resistive.

3.) If the added impedance (ie the nichrome) is very high and resistive, it can only RAISE the anode's load impedance at VHF and increase VHF gain.

In order for the nichrome (or ANY suppressor in series from the tube to the tank) to work, the tank must present a very low VHF impedance to the suppressor. If the tank looks like a very low VHF impedance, the tank can't develop enough voltage to arc at VHF.

Once again, Richard seems to argue against Richard. Is the tank a high VHF impedance at the tuning capacitor, or a low one? It can't be both.

Is the nichrome wires resistivity and reactance higher than a thick round conductor or wide strap, or lower? It can't be both.

73 Tom

4006. Specs. on MECA bidirectional coupler 700-M042?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: johnoz@indy.net
Message-ID: <592fij$ong@news.indy.net>
Source record: 99596

I have a MECA bidirectional coupler marked:

KS-21603 L21
COMCODE: 406715219
Coupler
700-M042

It has a -40dB and a -50dB port.

Does anybody know the specs. for this coupler (frequency range,
average allowable power, directivity)?

Thanks. John KB9MIE.

4007. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <592nq8$oj4@dallas1.connect.net>
Source record: 99597

In article <19961215024901.VAA14236@ladder01.news.aol.com>, the2x4@aol.com says:
>
>In article <19961213151600.KAA14061@ladder01.news.aol.com>,
>w8jitom@aol.com writes:
>
>>
>>I have no more time for arguments about the value of a GDO or time to
>>correct math or circuit analysis errors. I feel just as bad as you do
>>about the way you were treated, someone should have had sense enough to
>>look this stuff over BEFORE printing it. That was not your fault at all.
>>
>>Good luck in the new year.
>>
>>73 Tom
>>
>>
>
>Thanks Tom.
>
>I can sense your resolve in ending this thread.
>
> snip.....

It is unfortunate that W8JI's article 19961213151600 that 2X4 is
responding to above was pulled from this news group before I got
to read it! Perhaps 2X4 will be kind enough to repost it so we can
all "sense [W8JI's] resolve in ending this thread." It is like
reading a novel only to find out someone tore out the last page!

Thanks,
Phil K5PC

4008. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <32B50D72.154F@rcru.rl.ac.uk>
Source record: 99598

Ian White, G3SEK wrote:
>
> Michael Pinneo wrote:
> >Can anyone recommend a construction article for an antenna tuner/matching
> >network
> >for use at 144 MHz, 1kw cw? Thanks.
>
> In one word, DON'T.
>
> In a few more words: match the impedance correctly at the antenna itself
> and operate the feedline at low VSWR to reduce losses. If your antenna
> is not matched correctly, it would be bad engineering to build an ATU to
> hide the problem - fix the antenna.

Quite correct, match the antenna if possible.

It rather depends on if you need a matching unit or a tuning unit and what it is for. E.g resonating a mobile whip (not with 1kW). turning a 1.5:1 VSWR to a 1:1 VSWR to protect some poor power transistors, for example when operating a high Q 144 MHz antenna at 147 MHz. Matching an open wire feed system to 50 ohms, or even tuning up the HF wire dipole that is all you can put up owing to antenna restrictions.

ATUs, or more corectly AMUs are used frequently on VHF. My 4m antenna has a built in ATU - called a Gamma Match. My valve amplifier also has a device to tune the 3k ohm output to the 50ohm coax. Our box of 4 yagis (co-ax fed for portable use Ian) has a 1/4 wave line matching unit to transform 12.5 ohms to 50 ohms.

Therefore, to answer the question. Assuming you are trying to match a 50 ohm line to a near resonant antenna, you can use a pi or pi-L network just like an HF atu, except the inductor will just be a length of thick copper - length cut to suit. The capacitors will be low loss air spaced flappers - like used in valve amplifiers. Calculate the value of L and C required, cut L to length and make the Cs adjustable. REsonate and match. Place as close to antenna as possible.

At higher frequencies you can use a stub tuner, but these are a bit big on 144 MHz.

It is more a matter of where you put the ATU than if you use one.

4009. Short Wave AM transmitter wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: -Tony-Gallagher- <kiss@iol.ie>
Message-ID: <5938p9$7j7$3@nuacht.iol.ie>
Source record: 99599

Does anyone have a 500-1Kw AM shortwave transmitter for sale?

(49 meter band)

Ideally in UK or Ireland.

4010. Re: Coax connectors impedence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: jeroen@psas01.cern.ch
Message-ID: <E2ILrs.DK0@news.cern.ch>
Source record: 99600

In article <32B02D16.41C67EA6@aud.alcatel.com>,
Tom McDermott <mcdermot@aud.alcatel.com> wrote:
>
>If you try to fit a 50-ohm male BNC into a 75-ohm female BNC, you
>will deform the metal contact, making it intermittant, or in the
>worst case, breaking it.
>
>The plastic shroud of the 50-ohm female BNC makes it more difficult
>to mangle or deform the metal contact compared to the 75-ohm female
>BNC connector which offers no protection to the metal contact.
>

I've gone through considerable trouble to rid the lab of broken
75 Ohm sockets, and I never cease to harass newbies here to take
good care of connectors.

In my opinion, the people who designed the 75 and 50 Ohm BNCs to
be so closely alike that only specialists can tell them apart
deserve to be fried to a crisp.

And they did it again with N-connectors, and C, and probably some
others I haven't encountered yet.

Is it laziness, unwillingness to design a *different* interface?
Is it a conspiracy? Will they ever learn?

Jeroen Belleman
Jeroen.Belleman@cern.ch

4011. chips for communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: Paul <kelleypf@tiac.net>
Message-ID: <32B5AD9E.7221@tiac.net>
Source record: 99601

were can I get INFORMATION on specilized chips used in remote transmitters such as remote door bells or car alarms and the like.

4012. RS232/TTL for Kenwood

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: Ed Wolf <wolfie@sgi.net>
Message-ID: <32B587D8.4389@sgi.net>
Source record: 99602

Anyone have info on making up an interface cable for a Kenwood850 to
computer using the Maxis series of chips?
Ifso PLEASE e-mail me. Thanks.
--
This be from wolfie@sgi.net Pittsburgh.PA =o&>o
North American 40+ Touring Riders - Pittsburgh Chapter
International Order of Old Bastards
ARS N3WUE - 10X, ARRL, BreezeShooter, Springbok

4013. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <5945u7$j7e@hpcvsnz.cv.hp.com>
Source record: 99603

Ian White, G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
(in reply to something Wes Stewart wrote)

: None of my British handbooks mentions NBS, and neither did US sources
: such as the 1950 ARRL Handbook or the 1959/60 and 1977/78 editions of
: the Handbook of Chemistry and Physics.

: I finally found it in the 1941 edition of Machinery's Handbook:

: "This Standard Wire Gage (also known as the Imperial Wire Gage and the
: English Legal Standard) is used in England for all wires. The
: abbreviation S.W.G. is sometimes used for Standard Wire Gage, also the
: abbreviation N.B.S. for New British Standard Wire Gage. This gage was
: legalized in Great Britain in 1883."

: It seems that Reference Data for Radio Engineers uses wire tables that
: date back to the days when NBS really was "New"!

The newer 7th edition, dated 1986, and now called "Reference Data for Engineers," has a table, "Courtesy Whitehead Metal Products Co., Inc.," which is a comparison of various gauge standards. It lists "AWG B&S," "Birmingham or Stubs BWG," "Wash. & Moen W&M," "British Standard NBS SWG," "London or Old English," "United States Standard US," and "American Standard Preferred Thickness." (The last one isn't really a gauge number standard...) I'm sure there are others. I would hope the part of the world that's been smart enough to go metric has also converted to simple metric diameters and thicknesses in place of gauge numbers, but I guess old habits die hard. Thank goodness US manufacturers are getting metricized, even though our kitchens and roadways are still miles and ounces and tablespoons...

--
Cheers,
Tom
tomb@lsid.hp.com

4014. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1612960947030001@port39.vcnet.com>
Source record: 99604

In article <592nq8$oj4@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) wrote:

> In article <19961215024901.VAA14236@ladder01.news.aol.com>, the2x4@aol.com says:
> >
> >In article <19961213151600.KAA14061@ladder01.news.aol.com>,
> >w8jitom@aol.com writes:
> >
> >>
> >>I have no more time for arguments ....snip......

> It is unfortunate that W8JI's article 19961213151600 that 2X4 is
> responding to above was pulled from this news group before I got
> to read it! Perhaps 2X4 will be kind enough to repost it so we can
> all "sense [W8JI's] resolve in ending this thread." It is like
> reading a novel only to find out someone tore out the last page!
> .

Untruthfulness is probably the surest way to loose public support---and the fastest way to ruin one's chances of winning a public debate.

It's unfortunate that Mr. Rauch bailed out, Phil. This morning I got an e-mail from Rick KC0HH, who has had two bandswitches mysteriously burn up in his Ameritron AL-80A amplifier. Rick said: " I am really tired of spending all day Sunday re-installing a band switch...."

--
--Rich-- ag6k, 805-386-3734

4015. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1612961439480001@port10.vcnet.com>
Source record: 99605

In article <19961216004900.TAA19692@ladder01.news.aol.com>, k1bqt@aol.com (K1BQT) wrote:

> Hi Rich--
>
> As far as I have been able to discern from this thread--and from past
> media wars--is that there is no conspiricy here.

Hello, Rick
I never claimed that there was a conspiracy. I presented the evidence I have. The reader decides.

> I suspect Dick Erhorn,
> Tom Rauch, Dick Frey, and those various "demon" engineers at Eimac.

Where did you see the term 'demon engineers'?. I credited Eimac engineers with apparently pointing me in the right direction back in February 1986. // To the best of my knowledge, Dick Erhorn and Tom Rauch have never inspected a kaput tube for the presence of gold-sputtering to see if Mr. Foote and I are right or if we are wrong. Mr. Rauch said he had some kaput 3CX800A7s whose gold grid-plating he claimed had evaporated from 150mA (<5w) of HF grid current. I offered to dissect, photograph, and post the pictures of the insides of one of these3CX800A7s on my web site for all to see. Mr. Rauch stonewalled me.

> ......and elsewhere who are "attempting to hide the truth from the amateur public"
> are nothing more than a wishful figment of your imagination. The fact is,
> you have written extensively--and you currently have a web page--where you
> make money selling a product that is based upon the premise that others in
> the industry are stupid and incompetent. That's a pretty big burden of
> proof to carry, Rich.

Are some amplifier manufacturers incompetent? Consider the cut-and-dry issue of filament voltage. The rated filament voltage for a 3-500Z is 4.75v to 5.25v. Eimac says that the emissive life of a thoriated tungsten filament/cathode varies as E1/E2.^23.4. If you bought a commercial 3-500Z amplifier, Rick, and you subsequently discovered that the filament voltage at pins one and five on the tube sockets was 5.95v with an electric-mains voltage of 240v, would you conclude that the amplifier was competently-engineered? (such fil-v reduces life to under 1 percent of normal) // This is not a figment of anyone's imagination, Rick. The amplifier's manufacturer is Henry Radio Co. Other manufacturers have the same problem. Do you think its okay to run 15V on a 3CX800A7 filament?

Rick: Do you think 48A of filament inrush current is ok for a 3-500Z?

The low VHF Q suppressor retrofit kit mail order business was not my idea. It was suggested by people who apparently had parasitic oscillations damage their amplifiers. From its beginning in December 1988, I operated the business as non profit. The only person who makes any money is my helper who runs the business.
>
How's it working out??

After selling 4500+ low VHF Q parasitic suppressor retrofit kits, it appears that the market is beginning to saturate. There doesn't to be many hams these days who know how to solder, Rick

Is the ARRL independant of advertisers? The ARRL lab technician who tested the AL-1200 amplifier told me that he observed what appeared to be intermittent VHF parasitic-related arcing during lab testing. This information did not appear in the QST product review.

Do you feel that Mr. Rauch's prevarication about Eimac/Salt Lake City. ex-employee Mr. Miklos was justified?

--
--Rich-- ag6k, 805-386-3734

4016. Re: chips for communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: Dane Westvik <dane.sbm@lnn.com>
Message-ID: <32B5B373.17CE@lnn.com>
Source record: 99606

Paul wrote:
>
> were can I get INFORMATION on specilized chips used in remote
> transmitters such as remote door bells or car alarms and the like.Check out HOLTEK. Their web site (www.holtek.com) has PDF datasheets.
These are also available from Jameco, JDR, etc.

-Dane
KO6YD

4017. Telephone Switchboard Web Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: ricardo@phoneswitch.com
Message-ID: <32b5d8f5.5443929@news.dhc.net>
Source record: 99607

A PHONE SYSTEM FOR HOME OR OFFICE.
SCHEMATICS AND SOURCE CODE INCLUDED.
DELIVERED TO YOU *- WORKING -* RIGHT OUT OF THE BOX.

http://www.PhoneSwitch.com
sales@PhoneSwitch.com

Greetings, This is a repost and is crossposted. Many thanks to the person who told me about crossposting, I can see how its very usefull.

If you have been given the responsibility to design a hardware product which interfaces to a telephone set or a telephone line or you are just interested in the intricacies of telephone call processing based on a state machine then the Small Telephone Switch Evaluation Kit is for you.

The EVKIT includes a working PCB, schematics and source code written in C.

You can make calls between extentions or to the outside lines. Incomming calls can also be transfered between extentions. Its a complete PBX that you can change the software on! Even add new hardware features...

Begin of EVKIT overview:

The sx38 product is a complete small modularly expandable open architecture private branch exchange on a 12" by 12" circuit board and is delivered partially assembled with a PC compatible 65W power supply.

The sx38 switch can provide complete standalone service in remote applications.

Complete schematics and source code (8051 written in C, compatible with popular compilers) are provided to facilitate development of industry standard peripherals, interfaces, software and companion switching modules.

The basic printed circuit board has 8 subscriber line interfaces and 3 central office line interfaces. 2 of the slics and 1 of the co interfaces are delivered pre-assembled, working and tested.

12 speech paths are provided to support non-blocked operation and support multiple conference calls in progress at the same time.

All of the ports have the same terminating impedance when measured from the switch matrix allowing any port to be connected to any other port.

One board provides a complete system, all the necessary common control and signaling components to set up multiple conversations at one time are included.

Basic and flexible, the software is modular by nature allowing complete software control to create sophisticated communications products.

The evaluation kit is $375 and is provided with a power supply which is UL registered. Two of the eight slics and one of the three co interfaces are already assembled. When you receive the board you will be able to lift either extension phone and receive dial tone, be able to make intercom calls which ring standard phones, make calls external to the system by dialing 9, receive calls from the outside and transfer the calls to another extension and answer any ringing phone by dialing 9. The evaluation kit works when you receive it. You can also expand the evaluation kit by adding easy to purchase components and simply soldering them to the board following the pattern of the already assembled circuits.

Feature Overview:
8 station 3 trunk, expandable to 16 station 6 trunk. (expansion board is $160 partially assembled).
2 DTMF Senders (one is provided in the EVKIT)
2 DTMF Receivers (one is provided in the EVKIT)
2 imprecise call progress receivers (one is provided in the EVKIT)
2 dial tone generators
90vac 20hz Bell Ringing Invertor
SLIC Supervision Generator (forces answering machines to hang up)
SLIC Ring trip detect (detects offhook during application of ringing signal)
All ports can add gain to the call.
SLIC can transmit audio during on-hook. (Slic can send audio, like caller id, to extensions)
CO can receive audio on-hook (caller id can be decoded by a central, shared, CID decoder)
2 expansion connectors with CPU bus and audio channels.
Full Duplex Serial Port (300,1200,9600 bps 8-N-1)
Conference Matrix for conference calls. (Any time three ports need to be on the same call.)
8051 CPU, 64KROM, 8KRAM

Suggested Applications with provided software:
+Small Telephone System for Home or Small Business.
+Personalized Ringing Pattern Decoder for fax machine or modem.
+Modem Pool controller. You cant barge in on a conversation in

progress.
+Any place one phone needs to call another.
+Any place one, two or three telephone lines need to be shared in a convenient non intrusive manner.

Applications you might develop by modifying the software and interfacing to the hardware:
+SEAMLESS integration of internet phone software/sound blaster card to home or office phone system. Imagine picking up a standard phone and dialing a intercom call around the world over the internet phone and reaching another standard phone at the other end. Might even be able to receive calls from the switched network and go back to the switched network.
+Automated and transparent (to the user) intercept and rerouting of voice calls to private networks or common carriers. (1+ to 10XXX+ as an example).

Remember the schematics and source code are included which makes modification, expansion and integration easier.

Important note: This system is based on technology I presented in a article in Circuit Cellar- The Computer Applications Journal. The EVKIT is MUCH IMPROVED over the circuits presented in the article. If you are looking for something which is COST EFFECTIVE and CHEAP then the EVKIT is probably not for you. The EVKIT is comparable to what other companies are offering except the SCHEMATICS and SOURCE CODE are provided with each unit. No other telephone switch manufacturer does this.

4018. Re: How can I dye plastic enclosures?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: "Mitch Kobierowski (KJ7JA)" <mskobier@3-cities.com>
Message-ID: <32B62D96.447A@3-cities.com>
Source record: 99608

John C. Dillon wrote:
>
> I found some inexpensive plastic enclosures for my electronic
> widgets. Price, fit and form is perfect. Color is anything but.
> These are bright yellow, and I need to dye them olive drab or
> even black. I dyed one in RIT black dye for an hour and got
> reasonable results (dark teal) but kinda splotchy. Is there
> a better dye for high density polyethelene?
> Thanks, John WA3RNC

John,
You said that you tried RIT die for one hour. Did you use any heat?
I've never tried to die the type of plastic you refer to, but I have
died several peices of nylon with excellent results. I found thaif you
bring the die to almost a boil, it only takes about 15 minutes to get
good color. You need to maintain the high temp for the duration of the
soaking. I hope this helps.

73's
Mitch KJ7JA

4019. WWVB/WWV references web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-16 00:00:00 UTC
From: Scott Coburn <scott@bnl.gov>
Message-ID: <32B5B2BB.7AAE88DB@bnl.gov>
Source record: 99609
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I have collected together some references to magazine articles about WWVB/WWV/LORAN-C/LF/VLF radio receiver design and construction. I put the list up on my web site. I also put some digital clock stuff up that I stumbled across while looking through old magazines. I would be interested in any other references that relate to this stuff.

I would also be interested in leads to kits for receivers of this type.

Thanks Much.

Scott

--
scott coburn brookhaven national laboratory
mailto:scott@bnl.gov upton, ny, usa
http://gorzarg5.phy.bnl.gov/~scott (on long island)

4020. How can I dye plastic enclosures?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: jdillon@acsworld.net
Message-ID: <32b5ec8b.0@newsmail.acsworld.net>
Source record: 99610

I found some inexpensive plastic enclosures for my electronic
widgets. Price, fit and form is perfect. Color is anything but.
These are bright yellow, and I need to dye them olive drab or
even black. I dyed one in RIT black dye for an hour and got
reasonable results (dark teal) but kinda splotchy. Is there
a better dye for high density polyethelene?
Thanks, John WA3RNC

4021. Two meter reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: dabell@aloha.NET
Message-ID: <199612170620.UAA07308@haleakala.aloha.net>
Source record: 99611

I am looking for a simple, single frequency FM reciever schematic to
accompany my two meter transmitter project. Thanks in advance for the help. 73's

---

With warm aloha,
D A V I D A N D S H A R I A B E L L
P.O. Box 974
Kalaheo, Kauai, Hawaii 96741
e-mail: dabell@aloha.net

4022. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <5950as$9jm@kirin.wwa.com>
Source record: 99612

Volts, Amps, and Watts have always been metric.

Simon
---
tomb@lsid.hp.com (Tom Bruhns) wrote:

>Ian White, G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
>(in reply to something Wes Stewart wrote)

>: None of my British handbooks mentions NBS, and neither did US sources
>: such as the 1950 ARRL Handbook or the 1959/60 and 1977/78 editions of
>: the Handbook of Chemistry and Physics.

>: I finally found it in the 1941 edition of Machinery's Handbook:

>: "This Standard Wire Gage (also known as the Imperial Wire Gage and the
>: English Legal Standard) is used in England for all wires. The
>: abbreviation S.W.G. is sometimes used for Standard Wire Gage, also the
>: abbreviation N.B.S. for New British Standard Wire Gage. This gage was
>: legalized in Great Britain in 1883."

>: It seems that Reference Data for Radio Engineers uses wire tables that
>: date back to the days when NBS really was "New"!

>The newer 7th edition, dated 1986, and now called "Reference Data for
>Engineers," has a table, "Courtesy Whitehead Metal Products Co., Inc.,"
>which is a comparison of various gauge standards. It lists "AWG B&S,"
>"Birmingham or Stubs BWG," "Wash. & Moen W&M," "British Standard
>NBS SWG," "London or Old English," "United States Standard US,"
>and "American Standard Preferred Thickness." (The last one isn't
>really a gauge number standard...) I'm sure there are others. I
>would hope the part of the world that's been smart enough to go metric
>has also converted to simple metric diameters and thicknesses in place
>of gauge numbers, but I guess old habits die hard. Thank goodness US
>manufacturers are getting metricized, even though our kitchens and
>roadways are still miles and ounces and tablespoons...

>--
>Cheers,
>Tom
>tomb@lsid.hp.com

In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

4023. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961217073201.CAA01871@ladder01.news.aol.com>
Source record: 99613

In article <592nq8$oj4@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) writes:

>>
>>In article <19961213151600.KAA14061@ladder01.news.aol.com>,
>>w8jitom@aol.com writes:
>>
>>>
>>>I have no more time for arguments about the value of a GDO or time to
>>>correct math or circuit analysis errors. I feel just as bad as you do
>>>about the way you were treated, someone should have had sense enough to
>>>look this stuff over BEFORE printing it. That was not your fault at
all.
>>>
>>>Good luck in the new year.
>>>
>>>73 Tom
>>>
>>>
>>
>>Thanks Tom.
>>
>>I can sense your resolve in ending this thread.
>>
>> snip.....
>
> It is unfortunate that W8JI's article 19961213151600 that 2X4 is
> responding to above was pulled from this news group before I got
> to read it! Perhaps 2X4 will be kind enough to repost it so we can
> all "sense [W8JI's] resolve in ending this thread." It is like
> reading a novel only to find out someone tore out the last page!
>
> Thanks,
> Phil K5PC

I think that.. "I have no more time"... as seen above does not require any more sensibility than observance of the written word.
I think the last page was repeated several times through out the thread.

Sorry you missed it...

Carl

4024. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961217040300.XAA28001@ladder01.news.aol.com>
Source record: 99614

In article <measures-1612960947030001@port39.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes these words of fine
wisdom:

****
>Untruthfulness is probably the surest way to loose public support---and
>the fastest way to ruin one's chances of winning a public debate.

****

In article <measures-ya023180000112960924280001@news.vc.net.com
(R. L. Measures) wrote:

>This afternoon I received a telephone call from Marvin Born, KF8XU, who
is repairing >a AL-1500 for a friend. Marvin asked me if we still sell
parasitic suppressor retrofit >kits. I said yes.
>I asked Marvin why he felt he needed a kit. He said that the AL-1500 had
an >intermittent VHF oscillation he could see on a spectrum analyzer, as
well as see on >Tektronix 454 oscilloscope.

Richard, I just got off the phone with Marvin Born.

Marvin said he clearly told you he measured the parasitic in a 3CX3000
amplifier, NOT in the "1500". Not only that, Marvin said the "1500" he is
repairing uses a pair of tubes. It has a different tube chassis and
transformer (more voltage) than the real AL-1500.

As we talked, things started to click. I asked him if the owner of the PA
was Jim Hurt, KC8MK. Indeed it was.

KC8MK was a saleman that used to call on Prime Instruments, and operated
160 meter contests at my South Amherst Ohio QTH. I gave Jim a scrap
prototype chassis (less most major components) in 1985. He wanted to build
a pair of 8877's and had no sheet metal equipment. That amp got him
started on his project.

Rest assured, the ONLY thing in that PA that is factory is basically the
cabinet!!!! Even the tube chassis and the transformers are non-factory.

Marvin insists you VERY clearly knew the 1500 was heavily modified without
the best craftmanship with two 8877 tubes in parallel. He also was
absolutely sure you knew the parasitics were measured on a 3CX3000, NOT on
this PA. (It isn't even running yet)

Richard, it would be better if you stuck to technical issues.

If people read back and count the times you've slammed others, including people like Dick Erhorn, Mark Wilson, Tom Rauch, Fred Telewski, Reid Brandon, Bill Clemow, John Fakan, Steven Katz, Buzz Miklos, and Bill Orr, they might just think you don't trust anyone. The list also includes organizations like the ARRL, ETO, Henry, Kenwood, Ten-Tec, Varian, NASA, and even Ford!

Ford, NASA, Nixon... they all have nothing to do with parasitics. Neither does your dream conversation with Marvin about a measurement he never even made. AL-1500 indeed, and you KNEW better!

And you accuse me of deception and smoke? Check the mirror, Rich.

Tom

4025. components for s.w. homebuilts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: yorshire@enter.net
Message-ID: <5956ra$ptk@news.enter.net>
Source record: 99615

Can anyone recommend a supplier for S.W. components such as r.f. coils, oscillators, filters, etc. New at building.

4026. SWAP floppies for BA parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <595s9r$t0@news1.mnsinc.com>
Source record: 99616

I have a quantity of High Density floppy diskettes to trade.
These are 1.44 Meg floppies 3.5" formatted.

I need:
1 watt and 2 watt resistors,
FT-243 crystals for 3500 - 3600 kHz and 7000 - 7150 kHz
Capacitors: MICA, electrolytic etc.
Useful tubes,
Audio transformers.
Old tube equipment, chassis, carcasses etc.
SO-239 and PL-259 connectors

I would like to swap for any of the above items.

E-mail me please at:
bry@mnsinc.com

73 from Bry (((Amateur Radio G3XLQ / AF4K)))
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, SWL info. etc. etc.

4027. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: Andreas Bahr <andi.bahr@ocs.ch>
Message-ID: <01bbec12$6a8e55a0$0f33d1c2@developpnix.ocs.ch>
Source record: 99617
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Garry P. Adkins <adkinsg@piranha.ianet.net> wrote in article
<58vtc4$tnb@piranha.ianet.net>...
> Hi.
>
> I have an older 286 computer that doesn't work anymore. It's
> a non-standard case, so I can't put a new motherboard in it.
>
> Since the power supply puts out many amps at 12v on this
> particular one... Could I use it to power a mobile radio?
>
> I realize I would have to apply the "power-good" signal (either
> ground it or raise it, don't remember which) to get the supply
> to work.. (at least that's how I remember it working, haven't
> played with computer power supply in a while)
>
> Would it be stable with no load on the 5v side? Could I hook a
> big transistor to the 5v size (to ground) to let it see a little
> load?
>
> If anyone has done this, I'd appreciate any pointers!
>
> Thanks,
> Garry
>

hi gary
i am using an old pwr-supply for driving lamps, motors, etc.
the 'power-good'-signal is an output i think; he tell's the watchdog of the computer to protect the memory from writing if power fail's. this is 'cause the cpu makes bullshit when power is not stable.
i never had problem's with unused power-lines, even if you have, don't use a transistor, use a simple resistor (try a 50R, 1W).

BUT: The output of a computer-power-supply (a switching-power-supply) is extremly noisy!!!
this is why i use it for lamps etc, remember that computer work's digital; if you use the supply for analog gear, you will have problem's.

on the other side, there exist's switching-power-supply's for ham-radio too. they work with frequencies higher than you can hear and they have much filtering-parts.

so - if you want use your power-supply - no problem, but don't be surprised about the 'side-effects'...

have fun...

andreas
andi.bahr@ocs.ch

4028. Returned mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: Mailer-Daemon@mailbox.enel.IT
Message-ID: <9612171859.AA1920@mail.ctir.enel.it>
Source record: 99618

```
---- message ----

Router: Impossibile aprire il file posta NNAMSR01/NA/ENEL/IT mail.box: Il
server non risponde

---- message ----
Content-Type: Message/rfc822
Content-Description: RFC822

To: Ham-Homebrew <Ham-Homebrew@UCSD.EDU>
bcc: 630777 bassano alessandro <630777_bassano_alessandro.na
@mail.ctir.enel.it>
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Date: 16 Dec 96 4:30:20
Subject: Ham-Homebrew Digest V96 #579
MIME-Version: 1.0
Content-Type: Text/Plain

Ham-Homebrew Digest Mon, 16 Dec 96 Volume 96 : Issue 579

Today's Topics:
! MASS POST Was Here ...
2m antenna tuner
Good source for amplifier tips (3 msgs)
O'scope - Trigger level/Var Sweep
Packet pgm
Short Wave AM transmitter wanted.
SMD parts for projects & prototypes
Specs. on MECA bidirectional coupler 700-M042?
Where can I get a crystal 53.000-54.000Mhz?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: 15 Dec 1996 23:50:46 GMT
From: johnsonhe@aol.com (JohnsonHE)
Subject: ! MASS POST Was
Here ...
```

Or public round or whatever. All I can think of is....Too Bad.

Date: Mon, 16 Dec 1996 08:50:58 +0000
From: Mike Willis <mjw@rcru.rl.ac.uk>
Subject: 2m antenna tuner

Ian White, G3SEK wrote:
>
> Michael Pinneo wrote:
> >Can anyone recommend a construction article for an antenna tuner/matching
> >network
> >for use at 144 MHz, 1kw cw? Thanks.
>
> In one word, DON'T.
>
> In a few more words: match the impedance correctly at the antenna itself
> and operate the feedline at low VSWR to reduce losses. If your antenna
> is not matched correctly, it would be bad engineering to build an ATU to
> hide the problem - fix the antenna.

Quite correct, match the antenna if possible.

It rather depends on if you need a matching unit or a tuning unit and what it is for. E.g resonating a mobile whip (not with 1kW). turning a 1.5:1 VSWR to a 1:1 VSWR to protect some poor power transistors, for example when operating a high Q 144 MHz antenna at 147 MHz. Matching an open wire feed system to 50 ohms, or even tuning up the HF wire dipole that is all you can put up owing to antenna restrictions.

ATUs, or more corectly AMUs are used frequently on VHF. My 4m antenna has a built in ATU - called a Gamma Match. My valve amplifier also has a device to tune the 3k ohm output to the 50ohm coax. Our box of 4 yagis (co-ax fed for portable use Ian) has a 1/4 wave line matching unit to transform 12.5 ohms to 50 ohms.

Therefore, to answer the question. Assuming you are trying to match a 50 ohm line to a near resonant antenna, you can use a pi or pi-L network just like an HF atu, except the inductor will just be a length of thick copper - length cut to suit. The capacitors will be low loss air spaced flappers - like used in valve amplifiers. Calculate the value of L and C required, cut L to length and make the Cs adjustable. REsonate and match. Place as close to antenna as possible.

At higher frequencies you can use a stub tuner, but these are a bit big on 144 MHz.

It is more a matter of where you put the ATU than if you use one.

Date: 16 Dec 1996 00:50:26 GMT
From: k1bqt@aol.com (K1BQT)
Subject: Good source for amplifier tips

Hi Rich--

As far as I have been able to discern from this thread--and from past media wars--is that there is no conspiricy here. I suspect Dick Erhorn, Tom Rauch, Dick Frey, and those various "demon" engineers at Eimac and elsewhere who are "attempting to hide the truth from the amateur public" are nothing more than a wishful figment of your imagination. The fact is, you have written extensively--and you currently have a web page--where you make money selling a product that is based upon the premise that others in the industry are stupid and incompetent. That's a pretty big burden of proof to carry, Rich. How's it working out??

Rick K1BQT

Date: 16 Dec 1996 03:29:11 GMT
From: w8jitom@aol.com
Subject: Good source for amplifier tips

In article <measures-1512960143130001@term1-13.vta.west.net>, measures@mail.vcnet.com (R.L. Measures) writes:

>
>Mr. Rauch told us "that Mr. Miklos was indeed R+D engineering manager for
>Varian". I telephoned the Personnel Department at Varian-Eimac's Salt
>Lake City plant. They told me that Mr. Joseph 'Buzz' Miklos' title was
>"Engineer B". They assured me that Mr. Miklos was not the R and D
>Engineering Manager. I posted the information here.
>
>RE: "I have no more time for arguements..." :
> Translation: Having been caught adjusting the truth about Mr. Miklos'
>position at Varian, Mr Rauch seems to have abandoned the very debate that
>he desired since 1990.

Hi Richard,

I'm afraid your statement about Mr. Miklos is not correct. Since it has so little to do with parasitics, I was simply going to ignore it. It does little good for us to argue about what you "heard" or what I head, it means nothing to anyone else.

Two things about your claim does not make sense.

First, the personel department at Varian would not release employment information to some voice over the phone without a signed release by that employee.

Second, I've known Mr. Miklos and the guys at Varian for many years now. Mr. Miklos was indeed manager of power grid R+D at the Salt Lake plant from 1989 throgh 1992. In 1992 he left to work at a division of Siemens.

Your statement is not correct, plus I have serious doubts the personel department would release employee history to the self-appointed spokesperson of Varian 500 watt 8877 grids.

Who at Varian gave you that information? Did you "record" that
conversation?

Back to parasitic's and nichrome. You seem to not understand the concept
of impedance. Do you think a thin nichrome wire has the same series
impedance as a thick copper wire or strap? It has higher impedance Rich,
so it raise the series equivalent anode impedance.

Here's something for everyone to think about, and something Rich needs to
answer.
Richard claims the nichrome greatly de-Q's the anode at VHF. He also
claims the tuning capacitor and bandswitch can arc from VHF energy from
parasitic.

1.) In order for the bandswitch or capacitor to arc, they MUST have very
high VHF impedances.

2.) If anything is placed between the anode and that high impedance, it
will have little effect on Q unless the added impedance is very high and
very resistive.

3.) If the added impedance (ie the nichrome) is very high and resistive,
it can only RAISE the anode's load impedance at VHF and increase VHF gain.

In order for the nichrome (or ANY suppressor in series from the tube to
the tank) to work, the tank must present a very low VHF impedance to the
suppressor. If the tank looks like a very low VHF impedance, the tank
can't develop enough voltage to arc at VHF.

Once again, Richard seems to argue against Richard. Is the tank a high VHF
impedance at the tuning capacitor, or a low one? It can't be both.

Is the nichrome wires resistivity and reactance higher than a thick round
conductor or wide strap, or lower? It can't be both.

73 Tom

Date: 16 Dec 1996 05:47:52 GMT
From: philk5pc@connect.net (Phil Clements)
Subject: Good source for amplifier tips

In article <19961215024901.VAA14236@ladder01.news.aol.com>, the2x4@aol.com says:
>
>In article <19961213151600.KAA14061@ladder01.news.aol.com>,
>w8jitom@aol.com writes:
>
>>
>>I have no more time for arguments about the value of a GDO or time to
>>correct math or circuit analysis errors. I feel just as bad as you do
>>about the way you were treated, someone should have had sense enough to
>>look this stuff over BEFORE printing it. That was not your fault at all.
>>
>>Good luck in the new year.

>>
>>73 Tom
>>
>>
>
>Thanks Tom.
>
>I can sense your resolve in ending this thread.
>
> snip.....

It is unfortunate that W8JI's article 19961213151600 that 2X4 is
responding to above was pulled from this news group before I got
to read it! Perhaps 2X4 will be kind enough to repost it so we can
all "sense [W8JI's] resolve in ending this thread." It is like
reading a novel only to find out someone tore out the last page!

Thanks,
Phil K5PC

Date: Sun, 15 Dec 1996 23:41:57 GMT
From: mhorowit@erols.com (Michael Horowitz)
Subject: O'scope - Trigger level/Var Sweep

Folks -

I can stop a pulse from moving across my scope screen by playing
with either the Trigger level or the Variable Sweep; the former seems
to lock in more firmer; This is a dual sweep scope, so I've noticed I
can display two "in sync" pulses as if they were not in sync, so it's
possible to get an erronerous reading. What's the smart way to use
these two controls?(the Hold Offest is off)
Thanks, Mike

Date: Sat, 14 Dec 1996 22:33:44 -0500
From: Ron Myers <Myersr@infoave.net>
Subject: Packet pgm

Ron Giuntini wrote:
>
> I just got a used TNC and I assume it is fine. However, I am having trouble
> getting the computer to talk to it...I have an IBM PC and am using
> BITCOM...I tried everything but no luck...Does anyone know where I can find
> another (simpler) communications program? Bitcom is one of those extremely
> complicated programs intended to frighten everyone away from their
> computer...I have the old 360K disk drives as well...A copy of Pakratt-88
> might be what I am looking for, or anything that anyone is using
> successfully would be appreciated...Thanks KB6GK
> Ron

You can check out a TNC, and operate quite well with the windows terminal program. It's simple and direct. After you have verified that the TNC is talking to the computer, try the more sophisticated programs. Most of the time, a new user does not have the computer baud rate set to match the TNC, and everything is garbage. Try several rates, starting with 1200 baud and hit the * (asterisk) several times to set the autobaud.
Lots of luck ... KB4EG Ron

Date: 16 Dec 1996 10:37:29 GMT
From: -Tony-Gallagher- <kiss@iol.ie>
Subject: Short Wave AM transmitter wanted.

Does anyone have a 500-1Kw AM shortwave transmitter for sale?

(49 meter band)

Ideally in UK or Ireland.

Date: 16 Dec 1996 02:10:40 GMT
From: baggybob@townsquare.net (kim kelly)
Subject: SMD parts for projects & prototypes

Surface mount parts for experimenters/prototypers
all new surplus unless otherwise noted

price on tantalum chips reduced
A & B size were 10/$1.00 now 12/for a buck
C & D size were 8/$1.00 now 10/for a buck

Motorola MRF 94llL NPN hi gain low noise small signal transistor
excellent broadband linearity with typ fT = 8 GHz.
4 pin SOT-143 package
5 / $1.00 with data sheet 80 for $10

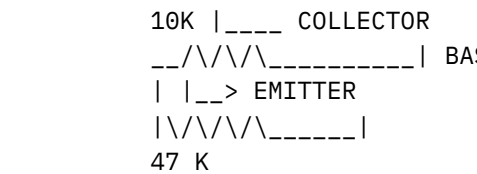
Toshiba 2SC3606 NPN hi gain low noise transistor. Typical fT=7GHz, noise figure @1GHz=1.1dB.
3pin EIAJ SC59 package; slightly larger than EIA SOT-23.
8/ $1.00 with data sheet 100 for $10

Phillips BCP51 PNP or BCP54 NPN Both are SOT 223
VCEO=45, Ic= 1 Amp, hFE 40/250, fT= 50 Mhz
good for audio, DC control
8/$1.00 100 for $10

ROHM 2SB1132 PNP SOT-89 Equal to Phillips BCX51 VCEO=45,
IC=1Amp, VCEsat=. 5 V
10/$1.00

Phillips PMBTA56 PNP SOT 23 VCEO=80, hFE>50, ICmax=500mA
fT typ =50 MHz

12/1.00 limited quantity

ROHM NPN digital transistor DTC114YK 12/1.00


excuse the poor artwork. There is a 10K in series with the base and 47K between base and emitter. Use as digital switch or driving LEDs. IC=100 mA, VCC=50. Package is SC-59 with package outline slightly larger than SOT-23 but the pin spacing is same as SOT-23.
package stamping -- 64

Motorola BAV99 dual diode series connected SOT 23 package
VBR=70 volts, IF max =100 mA, PD=500 mW
12/$1.00

Tunning diodes 8/$1.00
MMBV109 ratio 5:1 8-40pf
MMBV2105 ratio 2.5:1 Ct 15pf @ 4v

Surface mount 1/8 watt resistor assortment.
paper strips of 20 each of 50 different values = 1000 resistors
all parts marked with standard 3 digit code
$10.00 each assortment

Chip capacitors -- 0.1uf 50 volt ,tolerance range Z
size 1206 (3.2mm x 1.5mm) packaged on paper tape
Y5V ceramic with nickel barrier terminations
MuRata pn GRM42-605Y5V104Z50
30/$1.00

I have other chip caps, mostly MuRata for same price
1pf,2.7,3.3,4.7,5.6,20,22,24,27,30,56,75,150,180,300 are all similar to above and are 50 volt 5% tolerance, NPO ceramic
220,1000pf is 10% X7R ceramic

8.2pf,11,12,100, are size 0805 which are smaller, 50 volt, NPO
also 30/$1.00

Mica surface mount capacitor from Soshin Electric 1210 size unless otherwise noted all are 500 volt , 5% tolerance. Yeah, this is a strange one.
4.5pf, 5.5, 6.5, 7.5, 9.5, 11, 13, 16, 15, 16, 20, 27, 51, 56, 68, 75, 82, 180@100 volt, 200@100 volt, 240@100 volt
15/$1.00

surface mount diodes in round MELF package
Rohm RLRH100: same ratings as 1N4002 (1 AMP, 100 Volt)
12/$1.00

SMD zener diode 10 volt @5 mA test 350mW Pd 5% tolerance in
SOT 23 package Motorola MMBZ5240 12/$1.00 200 for $10
also 3.9V zener from same series 10/$1.00

Surface mount inductor by TDK 82, 220, 330, 680 nH 8/$1.00 (mostly 1206 size)

Surface mount resin molded tantalums made by Panasonic, Matsuo, NEC,
Sprague and possibly others.
A & B sizes 12/$1.00, C & D size 10/$1.00
A size stamping code
.1uf 35v A104
.1uf 50v 104-50
.33uf 35v V334
.47uf 25v E474
1 uf 16v C105
4.7uf 10v A475

B size
1uf @ 35v 4.7uf @ 10v 10uf @ 10v

C size
4.7uf @ 20v 10uf @ 20v 22uf @ 10v

Dsize
6.8uf @ 35v 33uf @ 16v

smd LEDs 1206 size mostly green with a few red or yellow possible or all
yellow 12/$1.00

baggybobs' buck a bag bargain bonanza brought to you by bob & kim.
also have some common and not so common leaded parts
also have replacement transistors for Motorola 2 way radios (no RF outputs)

e-mail for more info: baggybob@cris.com

Date: Mon, 16 Dec 1996 06:33:33 GMT
From: johnoz@indy.net (Occolowitz John)
Subject: Specs. on MECA bidirectional coupler 700-M042?

I have a MECA bidirectional coupler marked:

KS-21603 L21
COMCODE: 406715219
Coupler
700-M042

It has a -40dB and a -50dB port.

Does anybody know the specs. for this coupler (frequency range,
average allowable power, directivity)?

Thanks. John KB9MIE.

Date: 16 Dec 1996 02:27:10 GMT
From: sgoetz@ecs.fullerton.edu (Slawek Goetz)
Subject: Where can I get a crystal 53.000-54.000Mhz?

Hi, I am in the process of building my robot which is going to be
remotly controlled by a computer. I would like to use one of the 10 channels
between 53.000-54.000 or 50.800-50.980. But I have a serously problem,
I can not find a crystal for any of the 10 channels. I would really
apprciate if someone told me where I can get such a beaty.

Thank you

e-mail: sgoetz@titan.fullerton.edu

KD6OAD/KT

End of Ham-Homebrew Digest V96 #579
****

---- message ------

4029. FS: The Complete RF TECHNICIAN'S Handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: utilitynam@aol.com
Message-ID: <19961217150100.KAA05176@ladder01.news.aol.com>
Source record: 99619

THE COMPLETE RF TECHNICIAN'S HANDBOOK

(Published by Howard W. Sams, Inc.)

"The Complete RF Technician's Handbook" is THE book for the radio communication s beginner, student, or experienced technician, and supplies priceless information on not only wireless fundamentals, but also the advanced concepts vital to a successful career in RF communications.

Included are over 400 informative ILLUSTRATIONS and tables

The handbook includes everything a technician needs to know in real-world RF electronics -- from the fundamental concepts to the more advanced explanations of modern ANALOG and DIGITAL RADIO circuits and modulation methods. Furthermore, operational instructions on RF TEST EQUIPMENT, as well as identifying proper and improper signal waveforms, and AM, FM, PM, and SSB theory are included. In addition, transmitter and receiver testing methods and TROUBLESHOOTING TECHNIQUES are solidly covered.

For Further Information Please View The Web Site At:
http://members.aol.com/COTTERSAY/rftech.htm

4030. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961217154500.KAA05983@ladder01.news.aol.com>
Source record: 99620

Hi Rich--

In your last post, you wrote:

"Is the ARRL independant of advertisers? The ARRL lab technician who tested the AL-1200 amplifier told me that he observed what appeared to be intermittent VHF parasitic-related arcing during lab testing. This information did not appear in the QST product review."

The League has reviewed several pieces of my equipment, and I can vouche--first hand--that they will not, under ANY circumstance, withold reporting an anomoly in performance in a review--no matter WHO the vendor is or how much they spend annually on advertising. In fact, even when the observation is misinterpreted by the reviewer or not relevent to normal operation, they'll print it anyway! So I cannot accept your claim as having any credibility whatsoever. Also, I doubt the lab tech would independently arrive at a conclusion that arcing was caused by VHF parsitics--without your suggesting it to him in some way. I talk to these people on a regualr basis, and they are usually very careful not to make presumptions.

Linear amplifiers are not my area of expertise, which is why I have found this thead to be particularly interesting and instructional. The only reason I am intervening at all is because, from time to time, the dialog jumps off a technical track and into Rickie Lake style bickering over who did what and who said what. For me, that type of interchange serves no useful function except to deflect debate away from the real issue at hand. Wouldn't it be better for your VHF parasitic theory to stand or fall on the basis of its technical merit rather than remain muddled up in a mass of foolish charges and counter-charges?

Having registered my vote for sticking to technical issues, I'll get out of the way and let the debate continue.

-- Rick K1BQT

4031. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961217163500.LAA06824@ladder01.news.aol.com>
Source record: 99621

Hi Richard,

You seem to always confuse information to suit your needs.
.
In article <measures-1612961439480001@port10.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

> Mr. Rauch said he had some kaput 3CX800A7s whose gold grid-plating he
>claimed had evaporated from 150mA (<5w) of HF grid current. I offered to
>dissect, photograph, and post the pictures of the insides of one of
>these3CX800A7s on my web site for all to see. Mr. Rauch stonewalled
>me.

What would a picture show? The tube was overdriven by HF energy, I know because I over-drove it. I had the grid overload circuit disconnected, and that allowed me to damage the grids. I very plainly explained that.

More important YOU recommend disconnecting electronic grid overload circuits. That suggestion is idiotic.

>amplifier's manufacturer is Henry Radio Co. Other manufacturers have the
>same problem. Do you think its okay to run 15V on a 3CX800A7 filament?

Not all PA designs are perfect, so what does that prove? Do you want people to believe because Henry missed on filament voltage it makes you and expert? How about the AL-1500's that come in with your mods that have 4 volts on the filaments, and the cathodes are stripped? Is it a good idea to tell people to reduce voltage, and not tell them in detail how to measure it and what steps to take? Is it a good idea to tell them to disconnect protection circuits?

> Rick: Do you think 48A of filament inrush current is ok for a 3-500Z?

Name the PA, describe how you measured it. You never describe your methods, you just tell people there is a problem wioth everything built.

In ~~1986, Eimac (Buxx Miklos) did a test on 3-500Z filaments. He strapped 3-500Z's directly to a 5 volt 200 amp transformer and cycled the filaments off and on. In months of testing, they couldn't detect damage on any 3-500Z filaments.

While excessive inrush is a bad idea, the failure mechanism is thermal in nature. It is cause by the repeated rapid heating of the filament. It is accumulated damage, not instantaneous. It is a product of how much overload, the duration of the overload, and the accumulated number of thermal cycles.

A person could never observe the increase in failure due to 48 amperes of short time inrush in a 3-500Z in amateur service. The anode welds would fail, the tube would gas up, a grid wire would break, or something else would likely happen LONG before the filament would open from that small amount of inrush, assuming the inrush was caused by filament resistance delta.

>The low VHF Q suppressor retrofit kit mail order business was not my
>idea. It was suggested by people who apparently had parasitic
>oscillations damage their amplifiers. From its beginning in December
>1988, I operated the business as non profit. The only person who makes
>any money is my helper who runs the business.

Bunk. It feeds your hungry ego as well as you pocket. It is your 15 minutes of fame.

>After selling 4500+ low VHF Q parasitic suppressor retrofit kits, it
>appears that the market is beginning to saturate. There doesn't to be
>many hams these days who know how to solder, Rick

Maybe they found out your claims are false. That usually ruins sales.

>Is the ARRL independant of advertisers? The ARRL lab technician who
>tested the AL-1200 amplifier told me that he observed what appeared to be
>intermittent VHF parasitic-related arcing during lab testing. This
>information did not appear in the QST product review.

Bunk.

When the AL-1200 was tested, the lab people used a triac switched voltage regulator that sampled RMS line voltage. The regulator squared the waveform going into the AL-1200 resulting in extremely poor voltage regulation. No load, the supply was a sine wave, full load, the supply was a square wave.

While Richard fabricates a theory QST is under the thumb of manufacturers, QST refused to corrected their review that indicated low power output and low full load HV due to poor power source regulation. When the PA drive was removed, the regulator would spike up to extreme voltages. They told ME to write a correction and they would print it in technical correspondence. I refused, because it was their mistake...not mine.

Since that review, the ARRL has quit using that regulator.

Independent of that, QST is very honest. They do not cow-tow to any pressure. They occasionally make mistakes or use poor judgement (as they did when they printed your trash), but they don't intentionally lie to members. Your claim is bunk Rich, and you know it.

You invent some pretty wild stories Rich. I wonder how a person sitting in California knows "so much detail" about what happens between individuals in other areas of the world. I wonder how much of what you say is accurate, when you can't the details of a conversation with me correct, or a conversation with Brandon, or a conversation with Marvin Born. I wonder how much is accurate when your theories make ltlle to no sense at all.

You are now completely avoiding technical issues, and totally relying on stories that come only from you. Stories that can't be confirmed, so we just have to take "your word". The Q issue is bunk, several of us have said so. The photon issue is bunk, a physicist from England and others said so. The grid damage issue is bunk, Eimac said so.

You should lighten up on the rest of the world, until your own honesty is in order.
You are your own worst enemy, wasting all your excellent writing ability to promote obviously false claims and make a few bucks off some nichrome.

What a waste of space and time this has been.

73 Tom

4032. Wanted: 10mSSB convertion info for Cobra 134.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: Allen Underdown <ajunde@ccmail.monsanto.com>
Message-ID: <32B6D724.6F62@ccmail.monsanto.com>
Source record: 99622
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.cb

I'm looking for information or articles for converting a Cobra 134 CB to
10m SSB.

Thanks!

Allen - N0GOM
--
| Allen Underdown -
ajunde@ccmail.monsanto.com |
| ITSS WAN Group - Monsanto World Headquarters - St. Louis,
MO |
| Amateur Radio Operator, computer geek, homebrewer and outdoor
enthusiast! |
| Try My BBS at
314.939.9445! |

4033. Re: Two meter reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961217175900.MAA08346@ladder01.news.aol.com>
Source record: 99623

In article <199612170620.UAA07308@haleakala.aloha.net>, dabell@aloha.NET (David and Shari Abell) writes:

>
>I am looking for a simple, single frequency FM reciever schematic to
>accompany my two meter transmitter project. Thanks in advance for the
help.
>73's

HI
Some older, 1976, ARRL handbooks had a small board 2M receiver project.

Carl
The2x4
N9EFJ

4034. Re: How can I dye plastic enclosures?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: jonz@rainbow.rmii.com
Message-ID: <596mjq$soi@rainbow.rmii.com>
Source record: 99624

Mitch Kobierowski (KJ7JA) (mskobier@3-cities.com) wrote:
: John C. Dillon wrote:
: > I found some inexpensive plastic enclosures for my electronic
: > widgets. Price, fit and form is perfect. Color is anything but.
: > These are bright yellow, and I need to dye them olive drab or
: > even black. I dyed one in RIT black dye for an hour and got
: > reasonable results (dark teal) but kinda splotchy.

: You said that you tried RIT die for one hour. Did you use any heat?
: I've never tried to die the type of plastic you refer to, but I have
: died several peices of nylon with excellent results. I found thaif you
: bring the die to almost a boil, it only takes about 15 minutes to get
: good color. You need to maintain the high temp for the duration of the
: soaking. I hope this helps.

The suggestion on heat with RIT dye is correct. Several hundred
years ago -- when I was in the US Air Force -- I wore those ugly
military issue glasses. (-: The price was right :-) They had
translucent grey frames. Someone told me to bring them to a
near-boil on a pan of water and RIT dye. Luckily black glasses
frames were the fashion choice of the times. It worked Really Well.

(Too much of a boil and the %^#^&%$ lenses fell out. :-)

73
Jonesy W3DHJ

--
SK

--
Marvin Jones jonz@rmii.com
Gunnison, Colorado

4035. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1712961004520001@port12.vcnet.com>
Source record: 99625

In article <19961216032800.WAA24507@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> In article <measures-1512960143130001@term1-13.vta.west.net>,
> measures@mail.vcnet.com (R.L. Measures) writes:
snip...

> Hi Richard,
>
> I'm afraid your statement about Mr. Miklos is not correct. ...snip...

Nah. The cat's out of the bag, Tom Rauch. You were caught red-handed,
and you are telling another one to cover it up.

> I was simply going to ignore it. It does
> little good for us to argue about what you "heard" or what I head, it
> means nothing to anyone else.

It means C. Tom Rauch, Jr. did not tell the truth. To me, such a
shenanigan means more than 'nothing'.

> Two things about your claim does not make sense.
>
> First, the personel department at Varian would not release employment
> information to some voice over the phone without a signed release by that
> employee.

Yeah, that's what you were banking on, but it didn't work I phoned
Eimac's Salt Lake City division at 801-972-5000. I explained what has
been taking place in this debate. I said that certain claims about Mr.
Miklos were being made in his absence, and that I would like to verify
these claims. We are hardly talking about national defense secrets.

Under normal circumstances, Tom, you might have gotten away with it.
However, there were some unseen factors at work that may have upset your
apple cart.

In my family, there are two pathological liars, so I am familiar with how
such individuals operate. Briefly, EVERYTHING these indivuals say needs
to be investigated. When one lie gets exposed, they often tell another
lie to cover the previous lie, on and on. .

I found out how you lost control of Ameritron to MFJ.

--
--Rich-- ag6k, 805-386-3734

4036. Re: Wanted: 10mSSB convertion info for Cobra 134.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: David Little <dalite01@sprynet.com>
Message-ID: <01bbec4c$678a3100$f683aec7@436135022worldnet.att.net>
Source record: 99626
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.cb

> I'm looking for information or articles for converting a Cobra 134 CB to
> 10m SSB.
>
Allen,
do a search for "CB Radio". Look at Left Coast CB abd it's links.
You will find an abundance of info on PLL unlocks. If you know the PLL, I may be able to provide some info for you. Getting the fo's is the easy part....Broadbanding the receive and transmit capabilities requires some time, effort and substitutions. There are "tricks" such as adding more broad varactor diodes in the vco and ssb circuits, paralleling unused sections of IF transformers, changing the value of the synth crystals, etc. Some PLL's and circuit board combos are better than others, and the Cobra usually uses a Uniden board with either a 8719 or 8734 PLL IC.

The best authority is Lou Franklin of CB Cint International. You can contact him at info@cbcintl.com .
He has written variouis volumes of info covering whatever level of info you care to get into. He is also a ham and has been hombrewing and studying PLL circuits since their introduction to the retail market.

You will also have to consider adding FM (relatively easy) and repeater offsets. It is a good project, and even if it doesn't perform as well as a "store bought" rig, the experience that you will get has a value that no price can be set on.

Good Luck
73
David KD4NUE

4037. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: Joe Carey <jcarey@qualcomm.com>
Message-ID: <32B6FC9C.3E74@qualcomm.com>
Source record: 99627

Thomas G. McWilliams wrote:
>
> John Kolb (jlkolb@sd.cts.com) wrote:
> : Low freq noise within the loop bandwidth will be mostly canceled by
> : the PLL (it can't cancel it all - it doesn't start to react untill
> : it detects a change has already occured), but higher freq noise
> : components above the loop time constants will not be canceled.
>
> John,
>
> Could you elaborate? Your explanation seems counter-intuitive because
> the the VCO of a PLL is usually fed with a low-pass filter. Shouldn't it
> be that higher frequency noise is cancelled by the PLL? It seems that
> the only noise components which could modulate the VCO would be low
> frequency noise components which are below the cut-off frequency of the
> low-pass filter. Perhaps I'm overlooking something . . .
>
> 73,
>
> Thomas KI4N

Yeah, it's kind of funny sounding. This only applies when a PLL is being
used with a precise reference, for example in a frequency synthesizer.

What is happening is that the reference oscillator (often a TCXO or
oven controlled Xtal oscillator) typically has VERY good phase noise.
Any phase noise from the VCO (which tends to be pretty bad in this
respect) shows up as an error from the phase detector (typically a mixer).
The low pass filter can respond to this error if it falls within the
passband, but otherwise it can't and the VCO runs "open loop." So
what is happening is any phase noise out of the VCO shows up as
an error and gets corrected by the loop, provided it falls within
the loop bandwidth.

Afer you know the "why" it becomes obvious that to make this work
you've gotta have a very low phase noise reference.

Joe

4038. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <uHPmoGA5OutyEw9r@ifwtech.demon.co.uk>
Source record: 99628

Tom Bruhns wrote:
>The newer 7th edition, dated 1986, and now called "Reference Data for
>Engineers," has a table, "Courtesy Whitehead Metal Products Co., Inc.,"
>which is a comparison of various gauge standards. It lists "AWG B&S,"
>"Birmingham or Stubs BWG," "Wash. & Moen W&M," "British Standard
>NBS SWG," "London or Old English," "United States Standard US,"
>and "American Standard Preferred Thickness." (The last one isn't
>really a gauge number standard...) I'm sure there are others.

Wow... Old English. Presumably that is the pre-1883 version!
Are you sure that the book isn't called "Reference Data for Industrial Archaeologists"?

> I
>would hope the part of the world that's been smart enough to go metric
>has also converted to simple metric diameters and thicknesses in place
>of gauge numbers, but I guess old habits die hard.

It varies a lot in Britain. Steel, wood and building materials have come in metric sizes for many years now, but most of them are uncannily close to the old traditional inch sizes!

Aluminium is only available with an extra "i", and comes almost exclusively in inch dimensions for rod and extruded sections, and SWG thicknesses for sheet. Tubing comes in inch outside dimensions by SWG wall thickness. Copper wire is still available in SWG sizes, but is rapidly moving over to millimetre diameters.

Nuts and bolts are a "mindfield" (as my dyslexic friend so aptly says). In the car industry we'd just become accustomed to US sizes (American Fine) when it all went metric, in a pincer movement from Continental Europe and Japan. For amateur radio construction we all used to use even-numbered BA sizes (British Association of something-or-other) and then that too went metric. Metric bolts are easy to use, because the size of the bolt is also the size of the clearance hole.

Never did understand any of this American 4-32 stuff...

In spite of this confusion, almost all professional mechanical engineering in Britian is "born metric". Children aren't even educated in feet, inches or pounds any more, so maybe in a few generations they really will need a reference book to learn about the old units!

>Thank goodness US
>manufacturers are getting metricized, even though our kitchens and
>roadways are still miles and ounces and tablespoons...

Roads are still in miles and mph, but British cooking recipes have always tended to work by weight. This is fortunate because ounces are the same the world over, but your cups, pints and gallons are different from ours. Since my wife is from the USA, our kitchen works in four different kinds of units: ounces, grams, US cups and British cups. And as well as degrees F and C for the oven, there's the Gas Mark system...

Aaargh! But it does keep you pretty nimble on the pocket calculator.

73 from Ian G3SEK

4039. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: "Phil M." <philma@ix.netcom.com>
Message-ID: <32B7139C.2CF7@ix.netcom.com>
Source record: 99629
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Garry P. Adkins wrote:
>
> Hi.
>
> I have an older 286 computer that doesn't work anymore. It's
> a non-standard case, so I can't put a new motherboard in it.
>
> Since the power supply puts out many amps at 12v on this
> particular one... Could I use it to power a mobile radio?
>
> I realize I would have to apply the "power-good" signal (either
> ground it or raise it, don't remember which) to get the supply
> to work.. (at least that's how I remember it working, haven't
> played with computer power supply in a while)
>
> Would it be stable with no load on the 5v side? Could I hook a
> big transistor to the 5v size (to ground) to let it see a little
> load?
>
> If anyone has done this, I'd appreciate any pointers!
>
> Thanks,
> Garry

You can do this, but it can get noisy.
The power good is an output to the motherboard, not an input.
You will probably have to build some type of 'filter' board to feed the
output thru,
in order to clean it up a bit, maybe a big cap and a couple chokes.
Also, most supplies will not work unless there is a load on them.
Usually any line will
work, but you can smoke the switching transistors if there's no load on
it.

Enjoy,
Phil

4040. Re: Two meter reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <32B70D9E.6234@lanl.gov>
Source record: 99630

David and Shari Abell wrote:
>
> I am looking for a simple, single frequency FM reciever schematic to
> accompany my two meter transmitter project. Thanks in advance for the help. 73's
<snip>
Ramsey Electronics sells a varactor-tuned 2 meter FM receiver kit for
about 29.95, it can easily be converted to crystal control, and works
well as is for a usable 2 meter ham receiver with squelch etc. This is
barely above the cost of buying the parts themselves.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
http://nis-www.lanl.gov/~jdport/

4041. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: "Tom C. Brown, Jr." <madison@mail.teclink.net>
Message-ID: <32B6CC17.2BE0@mail.teclink.net>
Source record: 99631

w8jitom@aol.com wrote:
>
[Partial]

> Who at Varian gave you that information? Did you "record" that
> conversation?

This is beginning to sound like the opening exchange that we heard each week on "The Prisoner" between No. 6 and No. 2. ".....who is Number 1? .....You....are Number 6....."

"Who at Varian gave you that information?" ..... "Who is Mr. XXX?"

It just goes on and on....

You've got a lot of nerve to ask Rich for a name, when you have catagorically refused to name the mysterious Mr. XXX.

And you really should stop accusing Rich of saying that the dissipation rating of an 8877 grid is 500 watts. That's not what he's said, Tom. What he said was that it might take that kind of power to elevate an 8877 grid to the point of boiling gold in the instant of time it takes to trash one of those tubes. At least, that's the way I interpreted it.

And your denial of the possibility of cathode damage in some of these scenarios is wrong, too. Some of these cathodes are indeed pretty vulnerable to certain types of damage.

73, Tom KJ5IE

4042. SSTV,FAX,RTTY,CW plus more cheap!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: "Bruce Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <32B750BA.7280@concentric.net>
Source record: 99632

For a very inexpensive multi-mode check out this page

http://www.cris.com/~n9zle/hc.html

4043. Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <E2KuyC.877@actcom.co.il>
Source record: 99633
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hello all,

Is there such a thing as a Direct conversion FM receiver, similar to designs available for CW and SSB reception? Sensitivity isn't a premium.
I've heard about mini FM receivers for the broadcast FM band (such as "wrist watch" or "necklace" versions), that might implement such a concept.
Any pointer in the proper direction (either theoretical or a practical design) would be truly appreceated, including if there is a difference between a WBFM and a NBFM design.

(PS: When responding, please email directly in addition to posting here, so that no responses are missed).

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

4044. Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: innovative_technologies@actcom.co.il
Message-ID: <E2Kutx.7wn@actcom.co.il>
Source record: 99634
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hello all,

Is there such a thing as a Direct conversion FM receiver, similar to designs available for CW and SSB reception? Sensitivity isn't a premium.
I've heard about mini FM receivers for the broadcast FM band (such as "wrist watch" or "necklace" versions), that might implement such a concept.
Any pointer in the proper direction (either theoretical or a practical design) would be truly appreceated.

(PS: When responding, please email directly in addition to posting here, so that no responses are missed).

best regards,

Innovative Technologies
Telecom, Multimedia and VoiceMail products
and home of the TYIN utilities.
email: innovative_technologies@actcom.co.il
WWW: http://www.israel.net/innovative/

4045. Home brew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-17 00:00:00 UTC
From: Francis Lee <kitfai@asiaonline.net>
Message-ID: <32B59FE0.287@asiaonline.net>
Source record: 99635

Does it possible make a home brew TNC (not Baycom)? If yes, where can find the circuit ?
Rgds

Lee

4046. F.S. : JAN 6186W (6AG5WA) from $.10 each

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: murray.p@ix.netcom.com
Message-ID: <597lf1$42@dfw-ixnews10.ix.netcom.com>
Source record: 99542
Cross-posted to: rec.radio.swap,misc.industry.electronics.marketplace,rec.audio.tubes,rec.radio.amateur.homebrew

For Sale : Tubes type Jan 6186W equal to 6AG5WA. These were made by Philips in the USA in 1986. All are new and in the original clean boxes.

Quantity Price Each Shipping

1 to 24 $.20 $3.00

25 to 49 $.18 $3.00

50 to 99 $.16 $3.00

100 to 499 $.14 free

500 to 999 $.12 free

1000 to 9999 $.10 free

Murray Pasternack
po box 6117
Laguna Niguel, CA 92607

4047. Re: components for s.w. homebuilts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: k1el@aol.com
Message-ID: <19961218010300.UAA16516@ladder01.news.aol.com>
Source record: 99543

<<Can anyone recommend a supplier for S.W. components such as r.f. coils, oscillators, filters, etc. ? >>

Here's a good site:

http://www.fix.net/dans.html

Parts and kits, very reasonable prices

Steve K1EL

4048. Needed, Shortwave radio components

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: yorshire@enter.net
Message-ID: <597o2d$hcp@news.enter.net>
Source record: 99544

Can anyone recommend a sourse of S.W. components, such as coils, oscillators, filters, etc that deal with the hobbyist. New at building and need parts.

4049. Need: Manual for Collins Spectrum 2000 Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <597pc5$mus@dallas1.connect.net>
Source record: 99545

I need the service manual for a Collins Spectrum 2000 amp.
An operation manual would be nice also. converting it to
Amateur use.

Thanks,
Phil, K5PC philp5pc@connect.net

4050. Micor VHF, Help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: evincent@mediom.qc.ca
Message-ID: <597tc6$mfq@wagner.spc.videotron.ca>
Source record: 99546

Anybody can help me with this serial# (xmt43rtn-1100b), I know it's a Motorola
Micor VHF radio and no more.

If you can help me with that e-mail me at
Thank's...

evincent@mediom.qc.ca
73'S From VE2VXT, Quebec City.

4051. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: nagle@netcom.com
Message-ID: <nagleE2LnDw.I5D@netcom.com>
Source record: 99547
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

innovative_technologies@actcom.co.il (innovative technologies) writes:
>Hello all,
>Is there such a thing as a Direct conversion FM receiver, similar to
>designs available for CW and SSB reception? Sensitivity isn't a
>premium.
>I've heard about mini FM receivers for the broadcast FM band (such as
>"wrist watch" or "necklace" versions), that might implement such a
>concept.
>Any pointer in the proper direction (either theoretical or a practical
>design) would be truly appreceated.

There are other approaches than using IF stages. I read a ham
article a few years ago that suggested that TRF-type receivers, in
which all the amplifying stages are tuned, might be worth trying.
This was tried in the early days of radio, but having all those knobs
to tune was a big pain. Today we could make all the stages self-tuning.

Another recent cute idea is being used in some cell sites.
They downconvert the entire cellular band to an IF frequency,
digitize the entire band, and crunch on the results with DSPs to
extract all 800+ channels simultaneously. For fully populated
cell sites, it beats having 800 FM receivers.

John Nagle

4052. Transformer wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: avrial@ix.netcom.com
Message-ID: <32b7a717.1852270@nntp.ix.netcom.com>
Source record: 99548

Hi, Im looking for a transformer with
350vtct@110ma;6.3vt@4.5a;5vt@3a...Also a 10.5hy choke@110ma.Any ideas
or sugestions? thanks.R Lloyd KE6ONN.

4053. Need: Data on SRF3513B Transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <598971$86d@dallas1.connect.net>
Source record: 99549

Anyone have specs on these trransistors?

Thanks,
Phil, K5PC philk5pc@connect.net

4054. TR-7 modifications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Kovacs Karoly <karoly@ws6a26.gud.siemens.co.at>
Message-ID: <32B7D952.6FD@ws6a26.gud.siemens.co.at>
Source record: 99550

Can anybody send me a copy from the COMMUNICATIONS QUARTERLY Summer92
in article "TR-7 MODIFICATIONS".

If yes please e-mail DIRECT me then I will write my address & others...

Karoly, HA2EOF

4055. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32b90fa9.156567962@news.santafe.edu>
Source record: 99551
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

innovative_technologies@actcom.co.il (innovative technologies) wrote:

>Hello all,
>
>Is there such a thing as a Direct conversion FM receiver, similar to
>designs available for CW and SSB reception? Sensitivity isn't a
>premium.
Many years ago (about 33!) I built a simple FM radio using an RCA tunnel diode. I believe the circuit was in one of their semiconductor data books, but I don't remember the name of it.

The tunnel diode served as a mixer and an oscillator, but there was only one tuned circuit. The if was essentiallly 150 kHz or so. There were no tuned elements in the IF stages. The IF circuit was several (4) cascadeded limiters of two transistors each. The output of the limiter stages triggered a one shot with fixed pulse width for every zero crossing. The one-shot output was averaged to provide the detected audio.

The circuit occupied a 4" X 9" perf board when made from discrete components. I still have it. It actually worked pretty well. The biggest problem was interference from AM stations overloading the front end if you made the antenna lead too long. I used it for background music in my shop for several years with just a twin lead dipole.

The neatest thing about it was that it didn't take any fancy equipment to get it going. One could probably duplicate it more compactly with modern IC's, but you'd probably want to do something different than the tunnel diode front end.

On the other hand, there are some nice chips out there that don't require too many add-on parts to make an FM radio. And, you can buy a small FM radio with earphones for $9.95 at Wal-Mart.

Jim Potter

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4056. Re: Transformer wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32ba1259.157256049@news.santafe.edu>
Source record: 99552

avrial@ix.netcom.com wrote:

>Hi, Im looking for a transformer with
>350vtct@110ma;6.3vt@4.5a;5vt@3a...Also a 10.5hy choke@110ma.Any ideas
>or sugestions? thanks.R Lloyd KE6ONN.
>
I used to get those from old television sets. (1950-1960) Maybe there
are some still around.

Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4057. Re: 6m inverted V - Horiz or Vert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Lyle Koehler <k0lr@emily.net>
Message-ID: <32B81825.ACD@emily.net>
Source record: 99553

The radiation pattern from a typical inverted V antenna will show horizontal polarization in the broadside direction and vertical polarization off the ends. Which polarization is dominant depends upon the included angle and the height above ground. For 6 meter skip, polarization won't make much difference. On 2 meter FM, you'd probably be better off with a simple quarter-wave vertical.

Lyle, K0LR

4058. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <5996a5$kiu@ordeal.cts.com>
Source record: 99554

Richard Karlquist (rkarlqu@scd.hp.com) wrote:
: In article <58vrag$4rg@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
: >
: >A varacter tuned VCO has very high phase noise sidebands compared
: >to one tuned with a good variable cap as in a general coverage
: >receiver. Phase noise within the loop bandwidth can be canceled by

: Not necessarily. If the unloaded Q of the varactor is much higher
: than the unloaded Q of the inductor, the inductor will be the
: limiting factor, and there will be no advantage to replacing the

The last PLL design I did (years ago), I used a capacitor at the end of
a ~ 1/4 wavelength piece of coax to replace the inductor to obtain a
higher Q. Worked pretty well in an oscillator that tuned from 40-50 MHz.

John

4059. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Onno Kuijken <okuijken@ehv.sc.philips.com>
Message-ID: <32B823F5.112F@ehv.sc.philips.com>
Source record: 99555
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Jim Potter wrote:
>
> innovative_technologies@actcom.co.il (innovative technologies) wrote:
>
> >Hello all,
> >
> >Is there such a thing as a Direct conversion FM receiver, similar to
> >designs available for CW and SSB reception? Sensitivity isn't a
> >premium.
>
<...>
>
> The tunnel diode served as a mixer and an oscillator, but there was
> only one tuned circuit. The if was essentiallly 150 kHz or so. There
> were no tuned elements in the IF stages. The IF circuit was several
> (4) cascadeded limiters of two transistors each. The output of the
> limiter stages triggered a one shot with fixed pulse width for every
> zero crossing. The one-shot output was averaged to provide the
> detected audio.
>
<...>
>
> The neatest thing about it was that it didn't take any fancy equipment
> to get it going. One could probably duplicate it more compactly with
> modern IC's, but you'd probably want to do something different than
> the tunnel diode front end.
>
> On the other hand, there are some nice chips out there that don't
> require too many add-on parts to make an FM radio. And, you can buy a
> small FM radio with earphones for $9.95 at Wal-Mart.
>
You could try and check out the Philips TDA7000 series, if it still
exists. It has an IF of around 75kHz, in order to get around most
problems of image response, the theory being that if you have a
relatively strong transmitter 150kHz away, either your wanted signal or
the interferer is out-of-grid, and you will have problems anyway with an
el cheapo receiver.

Of true zero-IF receivers (with a selective PLL demodulator operating at
100MHz) I have no idea. But I guess you might run into some serious
problems.

Yes, I *do* have something with these guys. But I won't see it in my
paycheck whether you buy Philips or whatever other brand you like, so go

ahead.

Regards,

Onno
--

Onno Kuijken okuijken@ehv.sc.philips.com ph. +31 40 27 22058
Philips Semiconductors B.V. PS-SLE fax +31 40 27 22764
Eindhoven, The Netherlands

4060. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961218181400.NAA29991@ladder01.news.aol.com>
Source record: 99556

"Even a broken clock is right twice a day.."

Pete

4061. Identifying variable capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Dan Walker <SciCon@ix.netcom.com>
Message-ID: <32B838F8.7E23@ix.netcom.com>
Source record: 99557

I have a couple of variable caps from AM/FM portable radios.
They are small, abt 1" square, and they have four terminals and a
ground.

Looks like this is a type of four section capacitor?

What is the best way to test/measure variable caps? I want to wire
it for an AM loop antenna tuner, about 365pf.

thanks

4062. RADIO SHACK MODS PRO 51]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: yatkonj@ibm.net
Message-ID: <32B8482C.3D92@ibm.net>
Source record: 99558
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equiptment,rec.radio.swap

yatkonj@ibm.net wrote:
>
> I am interested in getting a scanner thast has the best bang for the
> buck. A few people have recommended the RS Pro-51. Presently it is
> under $200. I was wondering what other people think. Is this a bargin.
> Are there any mods for this item. Can you recomend another scanner our
> source for scanners? Any help would be greatly appreciated.
>
> Nick Yatko
> yatkonj@ibm.net;

4063. WRSwap: ISDN hardware for Shortwave or Ham gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: BOB DUCKWORTH <bob@atl.org>
Message-ID: <32B7D833.55EB@atl.org>
Source record: 99559
Cross-posted to:
rec.radio.shortwave,rec.radio.amateur.homebrew,misc.forsale.computers.modems,misc.forsale.computers.others.misc

I have some new, surplus, ISDN terminal adapters.
They are ISDN BRI external units similar to the Motorola Bitsurfer.
Features: ISDN BRI, POTs, NI-1, sync or async to DTE via 25pin 'D' conn.

While I have been selling these for $125/each, I'd be just as happy to
swap for shortwave or ham gear. New, old, dead, or alive.
My main interests are older tube type receivers, early solid state
receivers, transmitters, and transceivers, and home brew receivers.
However, being easily amused, I'll consider anything ham or SW related.

I also have some older ISDN adapters which support only DMS100 and 5ESS
but not NI-1 whick I'd also like to swap. They are also new surplus and
I've been selling for about $40/each.

-bob
WB4MNF
wb4mnf@atl.org

4064. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <599jo9$6ls@hpscit.sc.hp.com>
Source record: 99560

In article <5996a5$kiu@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
>: In article <58vrag$4rg@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
>: >
>: >A varacter tuned VCO has very high phase noise sidebands compared
>: >to one tuned with a good variable cap as in a general coverage
>: >receiver. Phase noise within the loop bandwidth can be canceled by
>
>: Not necessarily. If the unloaded Q of the varactor is much higher
>: than the unloaded Q of the inductor, the inductor will be the
>: limiting factor, and there will be no advantage to replacing the
>
>The last PLL design I did (years ago), I used a capacitor at the end of
>a ~ 1/4 wavelength piece of coax to replace the inductor to obtain a
>higher Q. Worked pretty well in an oscillator that tuned from 40-50 MHz.
>
>John

A rule of thumb is that a coaxial resonator has the same Q as an air
coil of half the diameter. To get a Q of 50 at 50 MHz. with an air
coil requires a diameter of about 1/14 of an inch. Hence, you would
need coax of 1/7 inch to get a Q of 50, i.e. 0.141 semi rigid coax.
A Q of 50 is close to what you get with an ordinary 10 cent molded
inductor. So there is no free lunch here.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4065. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <599hoi$cqq@hpcvsnz.cv.hp.com>
Source record: 99561
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

innovative technologies (innovative_technologies@actcom.co.il) wrote:
: Hello all,

: Is there such a thing as a Direct conversion FM receiver, similar to
: designs available for CW and SSB reception? Sensitivity isn't a
: premium.
: I've heard about mini FM receivers for the broadcast FM band (such as
: "wrist watch" or "necklace" versions), that might implement such a
: concept.
: Any pointer in the proper direction (either theoretical or a practical
: design) would be truly appreceated.

You can do it by doing a quadrature conversion to baseband and using
the resulting I and Q signals to find the phase of the signal; then
find the rate of change of phase with respect to time. This is
fairly easy to do in a DSP with some clever algorithms which I believe
are pretty well known. (Hope my memory is right on all that.)

You can also convert to a very low IF, digitize it, and process it
with an algorithm which is very similar to an analog quadrature detector:
just convert to, say, 20kHz IF, digitize at 80k samples/second, and
multiply each sample by the previous sample. Normalize for amplitude
(essentially the analog of a limiter stage). Run the output thru a
lowpass filter to remove things above half the IF or so. There is a
90 degree phase shift if the sig is exactly on 20kHz = fs/4, and the
output is zero. If the sig is above or below that, there is more or
less than 90 degrees phase shift, and the output will be above or below
zero. I recall the analysis I did on this (straightforward trig functions)
says the output is exactly linear, no distortion.

--
Cheers,
Tom
tomb@lsid.hp.com

4066. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <599j9c$680@hpscit.sc.hp.com>
Source record: 99562
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <E2KuyC.877@actcom.co.il>,
innovative technologies <innovative_technologies@actcom.co.il> wrote:
>Hello all,
>
>Is there such a thing as a Direct conversion FM receiver, similar to
>designs available for CW and SSB reception? Sensitivity isn't a
>premium.

There are direct conversion FSK receivers used for paging.
I don't see any way this would work for analog (voice) FM,
except, as noted by others, the digitized I and Q technique,
which is more complicated that building a conventional receiver,
and in any event, is unlikely to fit into a watch with present
technology. If anyone knows how to do this, it would be the
paging watch companies like Seiko.

>I've heard about mini FM receivers for the broadcast FM band (such as
>"wrist watch" or "necklace" versions), that might implement such a
>concept.

I have one of those wrist watch radios. The one I have is not direct
conversion, rather it uses a 70 kHz. IF. It gets away with such a
low IF frequency by ignoring the stereo MPX sidebands. This works
because those sidebands have such a low modulation index that they
can be considered to be phase modulation. Of course, the recovered
audio is mono.

>Any pointer in the proper direction (either theoretical or a practical
>design) would be truly appreceated, including if there is a difference
>between a WBFM and a NBFM design.

More like the null pointer.

>
>(PS: When responding, please email directly in addition to posting
>here, so that no responses are missed).
>
>best regards,
>
> Innovative Technologies
> Telecom, Multimedia and VoiceMail products
> and home of the TYIN utilities.
> email: innovative_technologies@actcom.co.il
> WWW: http://www.israel.net/innovative/
>

Rick Karlquist
rkarlqu@scd.hp.com

4067. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <32B83C0D.38C2@arrl.org>
Source record: 99563

I'd recommend buying/using high quality connectors that
are marked with part numbers to avoid problems. I use
UG-88 male BNC connectors for RG-58/223/142. Zack W1VT.

BTW, You want to avoid UG-932s, which sort of look like
BNCs but are actually MHV connectors designed for high
voltage applications.

> <19961211.220346.4383.0.d.nordquest@juno.com>...
> > In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> > 50-ohm types. Could someone more knowledgeable tell us how to
> > distinguish them?
> > Dave KE9ED
> >

4068. Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32b83ced.168157808@news.santafe.edu>
Source record: 99564
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The application is power inverter testing, not commercial resale. My current thinking is to use Carborundum resistors with water cooling. I believe I can get away with 10 X rating with water cooling.

I am planning on using three 1" X 18", 680 ohm resistors in parallel to get 227 ohms. (Unfortunately I'm not dealing with a 50 ohm system and I prefer not to have to mess with a matching network since I may want to use this at any frequency from 200 kHz to 400 kHz.) One end of the load is grounded. The other will see a not quite sinusoidal waveform of about 2 kV peak. The water would be flowing tap water.

The questions are:

Can I really get 10 X rating?
Do I need water on both inside and out?
Are there any problems with connections immersed in water?
What is a good way to connect the water to the resistors?

Any construction tips would be appreciated.

Thanks.

Jim Potter (K9GXC)
James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4069. Realistic WX alert radio mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: petrocjw@ucunix.san.uc.edu
Message-ID: <petrocjw-1812961553150001@192.168.1.2>
Source record: 99565
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Just wondering if anyone has a good idea on how to mod a Realistic WX alert radio model 12-140. It seems to use one crystal as a reference for the 3 WX service frequencies. I would like to know if I could drop a crystal in there to reference something in the 147.00MHz range so I could tune it to rx 147.060 and others in the area. I am also curious what the tones are that actually set off the alarm. I would like to set it to go off if someone does a long-tone zero on our repeater. If I knew what the tones were that set it off, I could program our repeater controler to emit those tones after a LTZ.

Anyone ever try this? Does this make sense. Please reply via email and posting if at all possible.

Thanks,
JWP

--
Joe. That would be me...
----
http://ucunix.san.uc.edu/~petrocjw
petrocjw@email.uc.edu

4070. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <599rek$jhh@dfw-ixnews9.ix.netcom.com>
Source record: 99566

In <32B83C0D.38C2@arrl.org> Zack Lau <zlau@arrl.org> writes:
>
>I'd recommend buying/using high quality connectors that
>are marked with part numbers to avoid problems. I use
>UG-88 male BNC connectors for RG-58/223/142. Zack W1VT.
>
>BTW, You want to avoid UG-932s, which sort of look like
>BNCs but are actually MHV connectors designed for high
>voltage applications.
>
Zack,

For the uninitiated, what sort of visual differences are there between the UG-932 and standard BNC's?

Thanks,

- Jeff, WA6AHL

4071. Technical Information wanted on a ICOM IC-2E handheld portabel.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Geert Pirens <pass@glo.be>
Message-ID: <01bbed2b$8f1c6500$73b630ce@206.48.181.1.206.48.177.1>
Source record: 99567

Hello,

Can someone help me on some Technical information of a ICOM IC-2E 2meter portable?

Also I want to know haw long I mus charge the batery and with wath charger? voltage? mA?

All information is welkom.

On the ICOM homepage is this product information not availeble anymore.

Thanks in advance!!

73!

Geert Pirens

4072. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961218225700.RAA04828@ladder01.news.aol.com>
Source record: 99568

Rich--

It appears you have lost interest in discussing technical matters and now prefer the venue of personal attack. If your technical arguments have as much technical merit as you claim, why would you resort to a less productive strategy such as this?

Rick K1BQT

4073. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961218235100.SAA05748@ladder01.news.aol.com>
Source record: 99569

In article <measures-1712961004520001@port12.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

> In my family, there are two pathological liars, so I am familiar with
how
>such individuals operate. Briefly, EVERYTHING these indivuals say needs
>to be investigated. When one lie gets exposed, they often tell another
>lie to cover the previous lie, on and on. .

I'm sorry to hear that. I'll add your family members to the long list of
people you think are liars.

Throughout my entire life, I can only recall communicating with one
obvious pathological liar. You are as talented at spotting liars as
parasitics.

Tom

4074. Re: Micor VHF, Help!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32B891D8.CAF@ipass.net>
Source record: 99570

Eric Vincent wrote:
>
> Anybody can help me with this serial# (xmt43rtn-1100b), I know it's a Motorola
> Micor VHF radio and no more.
>

Eric,
From the model number, it appears to be a 45 watt unit with carrier squelch and a standard exciter... Not sure how many channels, as some of the characters are not in the standard options.

Take care,
Dave

--
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!

4075. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1812961924510001@port20.vcnet.com>
Source record: 99571

In article <19961218225700.RAA04828@ladder01.news.aol.com>, k1bqt@aol.com (K1BQT) wrote:

> Rich--
>
> It appears you have lost interest in discussing technical matters and now
> prefer the venue of personal attack. If your technical arguments have as
> much technical merit as you claim, why would you resort to a less
> productive strategy such as this?
>
> Rick K1BQT

The diversion was necessitated by the discovery that one of debaters was being somewht less than truthful. IMO, prevarication has no place in a scientific debate. Do you have a diffent opinion, Rick?

Did you see my reply of 16 December? I raised some technical issue is this reply to your post. Have you lost interest in such things?

In case you missed it, here is an instant replay:
Are some amplifier manufacturers incompetent? Consider the cut-and-dry issue of filament voltage. The rated filament voltage for a 3-500Z is 4.75v to 5.25v. Eimac says that the emissive life of a thoriated tungsten filament/cathode varies as E1/E2.^23.4. If you bought a commercial 3-500Z amplifier, Rick, and you subsequently discovered that the filament voltage at pins one and five on the tube sockets was 5.95v with an electric-mains voltage of 240v, would you conclude that the amplifier was competently-engineered? (such fil-v reduces life to under 1 percent of normal) // This is not a figment of anyone's imagination, Rick. The amplifier's manufacturer is Henry Radio Co. Other manufacturers have the same problem. Do you think its okay to run 15V on a 3CX800A7 filament?

Rick: Do you think 48A of filament inrush current is ok for a 3-500Z?

--
--Rich-- ag6k, 805-386-3734

4076. Test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Rick Perry <w7av@wolfenet.com>
Message-ID: <32B883FF.4D2A@wolfenet.com>
Source record: 99572

test

4077. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.226.0011EE87@azstarnet.com>
Source record: 99573

In article <32B83C0D.38C2@arrl.org> Zack Lau <zlau@arrl.org> writes:
>From: Zack Lau <zlau@arrl.org>
>Subject: Re: Coax Connectors Impedance
>Date: Wed, 18 Dec 1996 13:46:37 -0500

[snip]

>BTW, You want to avoid UG-932s, which sort of look like
>BNCs but are actually MHV connectors designed for high
>voltage applications.

But what if I WANT to use them for high voltage applications?<G>

N7WS

4078. Re: components for s.w. homebuilts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Leon@lfheller.demon.co.uk
Message-ID: <850951013snz@lfheller.demon.co.uk>
Source record: 99574

In article <5956ra$ptk@news.enter.net> yorshire@enter.net "yorshire" writes:

> Can anyone recommend a supplier for S.W. components such as r.f. coils,
> oscillators, filters, etc. New at building.

Get a copy of the ARRL Handbook, it's all in there.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)118 9471424 | many years ago in Oxford.

4079. Re: How can I dye plastic enclosures?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <597goa$q05@li.oro.net>
Source record: 99636

jdillon@acsworld.net (John C. Dillon) shared these priceless pearls of wisdom:

->I found some inexpensive plastic enclosures for my electronic
->widgets. Price, fit and form is perfect. Color is anything but.
->These are bright yellow, and I need to dye them olive drab or
->even black.

We dye nylon and HDPE all the time. The thing you need to do is get the temperature of the soak bath up to 150-190F for an hour or so to get the color into the material. Different materials melt at different temperatures, so use the highest temperature you can consistent with dimensional stability of the material you are dying.

With certain light colors into clear plastic, we have also found that the addition of a small amount (~5%) of vinegar seems to make the color less blotchy. Besides, it makes the place smell like you are canning pickles!!

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company -- and I'm damned proud to do so.
Grass Valley CA 95945 | Airport: O17 (Grass Valley Intentional Airpatch)
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---C-182A N73CQ
jim@rst-engr.com | Comm'l/CFI-Airplane/Glider-A&P-FAA Counselor

4080. 6m inverted V - Horiz or Vert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: tyler@cyberia.com
Message-ID: <597cvqkrr1@news3.microserve.net>
Source record: 99637

I hate to sound like a complete moron, but isn't an inverted V antenna horizontally polarized? I'm thinking of getting Ten Tec's 2m to 6m transverter but don't have any room to put up an antenna. I already have an inverted V in the attic. My only 2m rig is my HT. (FM of course) Horizontal polarization won't do me much good on FM. Is that right? Is an inverted V horizontally polarized? Thanks for any help.
73s de N3SPD
Tyler

4081. Returned mail

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-18 00:00:00 UTC
From: Mailer-Daemon@mailbox.enel.IT
Message-ID: <9612180609.AA2601@mail.ctir.enel.it>
Source record: 99638

```
---- message ----

Router: Impossibile aprire il file posta NNAMSR01/NA/ENEL/IT mail.box: Il
server non risponde

---- message ----
Content-Type: Message/rfc822
Content-Description: RFC822

To: Ham-Homebrew <Ham-Homebrew@ucsd.edu>
bcc: 630777 bassano alessandro <630777_bassano_alessandro.na
@mail.ctir.enel.it>
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@UCSD.EDU>
Date: 16 Dec 96 15:00:45
Subject: Ham-Homebrew Digest V96 #580
MIME-Version: 1.0
Content-Type: Text/Plain

Ham-Homebrew Digest Mon, 16 Dec 96 Volume 96 : Issue 580

Today's Topics:
chips for communications (2 msgs)
Coax connectors impedence
Coils wire diameter
Good source for amplifier tips
RS232/TTL for Kenwood

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.
------------------------------------------------------------------------

Date: Mon, 16 Dec 1996 12:14:22 -0800
From: Paul <kelleypf@tiac.net>
Subject: chips for communications

were can I get INFORMATION on specilized chips used in remote
transmitters such as remote door bells or car alarms and the like.

------------------------------
```

Date: Mon, 16 Dec 1996 12:39:15 -0800
From: Dane Westvik <dane.sbm@lnn.com>
Subject: chips for communications

Paul wrote:
>
> were can I get INFORMATION on specilized chips used in remote
> transmitters such as remote door bells or car alarms and the like.Check out
HOLTEK. Their web site (www.holtek.com) has PDF datasheets.
These are also available from Jameco, JDR, etc.

-Dane
KO6YD

Date: Mon, 16 Dec 1996 16:28:39 GMT
From: jeroen@psas01.cern.ch (Jeroen BELLEMAN)
Subject: Coax connectors impedence

In article <32B02D16.41C67EA6@aud.alcatel.com>,
Tom McDermott <mcdermot@aud.alcatel.com> wrote:
>
>If you try to fit a 50-ohm male BNC into a 75-ohm female BNC, you
>will deform the metal contact, making it intermittant, or in the
>worst case, breaking it.
>
>The plastic shroud of the 50-ohm female BNC makes it more difficult
>to mangle or deform the metal contact compared to the 75-ohm female
>BNC connector which offers no protection to the metal contact.
>

I've gone through considerable trouble to rid the lab of broken
75 Ohm sockets, and I never cease to harass newbies here to take
good care of connectors.

In my opinion, the people who designed the 75 and 50 Ohm BNCs to
be so closely alike that only specialists can tell them apart
deserve to be fried to a crisp.

And they did it again with N-connectors, and C, and probably some
others I haven't encountered yet.

Is it laziness, unwillingness to design a *different* interface?
Is it a conspiracy? Will they ever learn?

Jeroen Belleman
Jeroen.Belleman@cern.ch

Date: 16 Dec 1996 18:55:03 GMT
From: tomb@lsid.hp.com (Tom Bruhns)
Subject: Coils wire diameter

Ian White, G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
(in reply to something Wes Stewart wrote)

: None of my British handbooks mentions NBS, and neither did US sources
: such as the 1950 ARRL Handbook or the 1959/60 and 1977/78 editions of
: the Handbook of Chemistry and Physics.

: I finally found it in the 1941 edition of Machinery's Handbook:

: "This Standard Wire Gage (also known as the Imperial Wire Gage and the
: English Legal Standard) is used in England for all wires. The
: abbreviation S.W.G. is sometimes used for Standard Wire Gage, also the
: abbreviation N.B.S. for New British Standard Wire Gage. This gage was
: legalized in Great Britain in 1883."

: It seems that Reference Data for Radio Engineers uses wire tables that
: date back to the days when NBS really was "New"!

The newer 7th edition, dated 1986, and now called "Reference Data for Engineers," has a table, "Courtesy Whitehead Metal Products Co., Inc.," which is a comparison of various gauge standards. It lists "AWG B&S," "Birmingham or Stubs BWG," "Wash. & Moen W&M," "British Standard NBS SWG," "London or Old English," "United States Standard US," and "American Standard Preferred Thickness." (The last one isn't really a gauge number standard...) I'm sure there are others. I would hope the part of the world that's been smart enough to go metric has also converted to simple metric diameters and thicknesses in place of gauge numbers, but I guess old habits die hard. Thank goodness US manufacturers are getting metricized, even though our kitchens and roadways are still miles and ounces and tablespoons...

--
Cheers,
Tom
tomb@lsid.hp.com

Date: Mon, 16 Dec 1996 09:47:03 -0800
From: measures@mail.vcnet.com (R. L. Measures)
Subject: Good source for amplifier tips

In article <592nq8$oj4@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) wrote:

> In article <19961215024901.VAA14236@ladder01.news.aol.com>,
the2x4@aol.com says:
> >
> >In article <19961213151600.KAA14061@ladder01.news.aol.com>,
> >w8jitom@aol.com writes:
> >
> >>
> >>I have no more time for arguments .....snip.....

> It is unfortunate that W8JI's article 19961213151600 that 2X4 is
> responding to above was pulled from this news group before I got
> to read it! Perhaps 2X4 will be kind enough to repost it so we can
> all "sense [W8JI's] resolve in ending this thread." It is like
> reading a novel only to find out someone tore out the last page!
> .

Untruthfulness is probably the surest way to loose public support---and
the fastest way to ruin one's chances of winning a public debate.

It's unfortunate that Mr. Rauch bailed out, Phil. This morning I got
an e-mail from Rick KC0HH, who has had two bandswitches mysteriously
burn up in his Ameritron AL-80A amplifier. Rick said: " I am really
tired of spending all day Sunday re-installing a band switch...."

--
--Rich-- ag6k, 805-386-3734

Date: Mon, 16 Dec 1996 12:33:12 -0500
From: Ed Wolf <wolfie@sgi.net>
Subject: RS232/TTL for Kenwood

Anyone have info on making up an interface cable for a Kenwood850 to
computer using the Maxis series of chips?
Ifso PLEASE e-mail me. Thanks.
--
This be from wolfie@sgi.net Pittsburgh.PA =o&>o
North American 40+ Touring Riders - Pittsburgh Chapter
International Order of Old Bastards
ARS N3WUE - 10X, ARRL, BreezeShooter, Springbok

End of Ham-Homebrew Digest V96 #580
****

---- message ------

4082. BA's for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: tubebuyer@aol.com
Message-ID: <19961219132900.IAA14504@ladder01.news.aol.com>
Source record: 99442

SX-25
SP-400 with original power supply and manual
Command Xmitter
CE Signal Slicer, 458 VFO and Exciter
S-20R (extra nice)
Globe Xmiter
Craftsman RC-10 tube FM tuner
Heathkit SP-2 tube stereo preamp

4083. SW rig wanted....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: -Tony-Gallagher- <kiss@iol.ie>
Message-ID: <59bhe7jnp1@nuacht.iol.ie>
Source record: 99443

I desperatly need help!!!

Do you a QRP AM transmitter, which will
work PROPERLY in the 49MB???

5-10 watts.

(Maybee you know where I can buy one?)

Help is urgently needed!

Mail Tony:

kiss@iol.ie

4084. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: ccurtis@nfsrv.avionics.ITt.COM
Message-ID: <32B94DC2@avint4.avionics.itt.com>
Source record: 99444

John,

My MECA catalog does not list part number 700-MO42. The closest
to your description is 700-MO31 which is specified at
800-900 Mhz, 1500 Watts avg and 25 dB min directivity. Try calling
them at:

MECA Electronics, Inc.
William Davo, Sales Manager
(201) 625-0661
Denville, NJ 07834

Date: Mon, 16 Dec 1996 06:33:33 GMT
From: johnoz@indy.net (Occolowitz John)
Subject: Specs. on MECA bidirectional coupler 700-M042?

I have a MECA bidirectional coupler marked:

KS-21603 L21
COMCODE: 406715219
Coupler
700-M042

It has a -40dB and a -50dB port.

Does anybody know the specs. for this coupler (frequency range,
average allowable power, directivity)?

Thanks. John KB9MIE.

4085. Sound Blaster DTMF Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Brian Padgett <bpadg@uniserve.com>
Message-ID: <32B94E33.4A0@uniserve.com>
Source record: 99445

Does anybody know of software for a DTMF generator for the SB16 sound card? I'd like to be able to input numeric strings and have the sound card output the DTMF's for remotely controlling a repeater controller.

Thanks...

Brian VE7ICX

4086. Sound Blaster DTMF Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Brian Padgett <bpadg@uniserve.com>
Message-ID: <32B94E90.6509@uniserve.com>
Source record: 99446

Does anybody know of software for a DTMF generator for the SB16 sound card? I'd like to be able to input numeric strings and have the sound card output the DTMF's for remotely controlling a repeater controller.

Thanks...

Brian VE7ICX

4087. 600 MHz Divider needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <59bk3n$1ja@kirin.wwa.com>
Source record: 99447

I need a divide by 16 integrated circuit that can count
up to 600 MHz with all the Q's brought out

I am using it for a direct reading frequency counter.

Simon
In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

4088. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961219145500.JAA15700@ladder01.news.aol.com>
Source record: 99448

In article <32B6CC17.2BE0@mail.teclink.net>, "Tom C. Brown, Jr." <madison@mail.teclink.net> writes:

>You've got a lot of nerve to ask Rich for a name, when you have
>catagorically refused to name the mysterious Mr. XXX.

Let me see if I undersatnd what you are saying. Correct me if I'm wrong.

It's ok for you and Measures to demand answers, and OK for Measures to claim some "unnamed engineer" told Foote something that Foote told Measures over the phone, but it isn't OK for me to do anything like that. It's OK for Measures to make something up about Marvin Born, and about Eimac's personnel department, and I can't challange him on it.

In the context of 500 watt 8877 grids, photons, Q reduction at VHF, arcing of low impedance circuit components, and discussions of Richard Nixon and flaming Pintos I guess that makes sense.

>And you really should stop accusing Rich of saying that the dissipation
>rating of an 8877 grid is 500 watts. That's not what he's said, Tom.
>What he said was that it might take that kind of power to elevate an
>8877 grid to the point of boiling gold in the instant of time it takes
>to trash one of those tubes. At least, that's the way I interpreted it.

Richard **VERY plainly** said HF excitation can not damage the grid of an 8877 because it takes 500-700 watts to damage the grid. That claim was at the root of the idiotic suggestion to remove electronic overload and add resistors for "fuses".

Richard claims a 100 watt exciter can not damage a 4 watt 3CX800 grid, or a 20 watt 8877 grid. That's a harmful and misleading claim.

>And your denial of the possibility of cathode damage in some of these
>scenarios is wrong, too. Some of these cathodes are indeed pretty
>vulnerable to certain types of damage.

1.) Measures claims a pair of thoriated tungsten cathodes in 3-500s saturate at 150 watts. This allows him to "prove" the tank can't be overdriven by exciter overshoot.

2.) Measures claims a parasitic or a PHOTON can cause several dozen or hundreds of amperes of current in the same tube. This allows him to "prove" a parasitic causes tube failure.

Which is it, number one or two? Can't be both.

1.) He claims the tank tuning capacitor is a high impedance at VHF so the capacitor and bandswitch can arc.

2.) He claims the addition of nichrome lowers the Q, which means the impedance of the tank tuning capacitor must be very low. The impedance must be close to or less than the impedance of the nichrome wire or the Q won't change much.

Which is it? It can't be both.

He plainly contradicts himself and physics at every turn.

About the cathode damage?

A 3-500Z has a saturated current of just over ten amperes.

While both MOX and tungsten cathodes can saturate, only MOX cathodes are prone to unrecoverable loss of emission from excess cathode current. A thoriated tunsten cathode can stand repeated saturation over and over again with no damage.

The last thing you want to do is reach emission limits in a MOX cathode tube. People read articles (by RLM) suggesting heater voltage be reduced to the minimum required, and they RUIN 8877 and 3CX800 tubes !!! Reducing heater voltage increases the likelyhood of damage nearly as much as excessive voltage does.

You will not strip the cathode of a MOX tube with even twice the rated operating cathode current if the heater voltage is high enough, but if the heater is set too low the cathode can be ruined in normal rated current operation.

This is too complex to discuss here, but the bottom line is it's ok to run a thoriated tungsten filament tube at reduced filament voltage, but not the heater in a MOX cathode tube.

73 Tom

4089. Re: Mods to the Yaesu FT-50R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: grhosler1@mmm.com
Message-ID: <59bluu$idj@dawn.mmm.com>
Source record: 99449
Cross-posted to: alt.radio.amateur,alt.radio.amateur.club,alt.radio.amateur.club.clarc,rec.ham-radio,rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

"Program / Case Manager" <winners@pobox.com> wrote:

>Anyone know of mods to the Yaesu FT-50R?

What is it that you are trying to modify? Something not working
properly? Could you be a bit more specific?

de KN0Z Gary

Opinions expressed herein are my own and may not represent those of my employer.

4090. Collins Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: darrellk@iland.net
Message-ID: <32b95fa0.313625@news.iland.net>
Source record: 99450

WTB Collins 455Khz IF filters. Not Upper/Lower sideband type. Center freq 455Khz @ 500Hz and 1.2Khz. W1TXX darrellk@iland.net

4091. Re: Realistic WX alert radio mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <59bn5r$2k9@sjx-ixn2.ix.netcom.com>
Source record: 99451
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I haven't opened up this version of the radio, but I converted several of the weather cubes that RS used to sell. All that was required on them was changing the resistance of the reostat on the tuning circuit, I don't remember the exact values, but they used a variactor which had enough range to get down to the 2 meter band.

Glenn Sparks

In <petrocjw-1812961553150001@192.168.1.2> petrocjw@ucunix.san.uc.edu (Joe Petrocy) writes:
>
> Just wondering if anyone has a good idea on how to mod a Realistic WX
>alert radio model 12-140. It seems to use one crystal as a reference for
>the 3 WX service frequencies. I would like to know if I could drop a
>crystal in there to reference something in the 147.00MHz range so I could
>tune it to rx 147.060 and others in the area. I am also curious what the
>tones are that actually set off the alarm. I would like to set it to go
>off if someone does a long-tone zero on our repeater. If I knew what the
>tones were that set it off, I could program our repeater controler to emit
>those tones after a LTZ.
>
>Anyone ever try this? Does this make sense. Please reply via email and
>posting if at all possible.
>
>Thanks,
>JWP
>
>--
>Joe. That would be me...
>----------------------
>http://ucunix.san.uc.edu/~petrocjw
>petrocjw@email.uc.edu

4092. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1912960455060001@port29.vcnet.com>
Source record: 99452

In article <19961218225700.RAA04828@ladder01.news.aol.com>, k1bqt@aol.com (K1BQT) wrote:

> Rich--
>
> It appears you have lost interest in discussing technical matters ...snip...

Okay, Rick, back to technical matters.

About 14 hours ago I received a telephone call from Jim, KA3JSO. He wanted to talk about designing suppressors for large amplifier tubes. We talked for over an hour. During the course of the discussion, he told me he once owned an AL-1500 amplifier. As you may recall from a previous post on this thread, the AL-1500 uses no VHF parasitic oscillation suppressor device. Jim told me that during the 12 month warranty period, two 8877s failed suddenly. After 8877 number three was installed, Jim sold the amplifier as soon as possible. Jim said that Ameritron told him that the failures were caused by defective 8877s. Jim told me that K20JL/V31BB had an AL-1500, in which a number of 8877s suddenly failed About 8 days ago, Marvin Born, KF8XU, telephoned me. He said he needed a parasitic suppressor retrofit kit for an AL-1500 because the one he was attempting to repair was producing intermittent VHF oscillations, as seen a a Tek 454 scope. Marvin said he could also see the intermittent VHF oscillations on a spectrum analyzer.

With the exception of Ameritron, all manufacturers of 8877 amplifiers seem to use a VHF parasitic oscillation suppressor device. IMO, there must be a reason.

Rick: Do you feel that the relatively large number of 8877 failures in AL-1500s is due to an 8877 manufacturing defect at Eimac?

--
--Rich-- ag6k, 805-386-3734

4093. Re: How To Program Regency XL2000 Radio???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961219162600.LAA17355@ladder01.news.aol.com>
Source record: 99453

Hi

There is a chart in the service manual with programming
for specific frequencies.

What are the frequencies you wish to program?

Carl
The2x4
N9EFJ

4094. Motorola Snytor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: sdakin1@abacus.tis.tandy.com
Message-ID: <59bi4l$524@abacus.tis.tandy.com>
Source record: 99454

I am looking for some help programming a Motorola Syntor. This is an early 80's vintage UHF mobile that uses PROM chips to store the frequency and PL tone info. I have the tools (PROM burner) to do this, but lack the algorithm. Any help would be appreciated.

Thanks,
Steve Dakin WQ5N
sdakin1@tandy.com

4095. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Paul Mathews <optoeng@whidbey.com>
Message-ID: <32B96E95.5D38@whidbey.com>
Source record: 99455
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Jim Potter wrote:
>
> I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
> application is power inverter testing, not commercial resale. My
> current thinking is to use Carborundum resistors with water cooling. I
> believe I can get away with 10 X rating with water cooling.
.....<snip>
>
> Any construction tips would be appreciated.
>
> Thanks.
.....

There are lots of reasons why oil is the preferred coolant for such
applications. Here are a few:

1. Corrosive characteristics of hot H20
2. Conductive " " "
3. Energy storage " " steam
4. Very high dielectric constant of H20

--

Paul Mathews, consulting engineer
AEngineering Co.
optoeng@whidbey.com
non-contact sensing and optoelectronics specialists

4096. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Don Labriola <dplabriola@ccgate.dp.beckman.com>
Message-ID: <32B96CB9.596E@ccgate.dp.beckman.com>
Source record: 99456

Larry Martin wrote:
>
> bspeed@cyberramp.net () wrote:
> >zclobes@southwind.net (Zack Clobes) wrote:
> >
> >>I was reading an article in the latest copy of QST covering the
> >>theory/construction of a temp compensated VFO. The schematic reminded me of a
> >>PLL with a feedback loop tied to a crystal oscilator. In his article, he made
> >>the statment that his VFO wouldn't have the extra phase noise that a
> >>traditional PLL has because of the loop. Can anyone explain this? I didn't
> >>think that the VCO wouldn't be effected by the locking loop.
> >>Thanks
> >>73s de Zack, W0ZC
> >Within the loop bandwidth of the PLL, the phase noise at the output,
> >is equal to the reference osc. noise multiplied by the total division
> >factor, N. The phase noise outside of the Loop bandwidth is that of
> >the VCO.
> >Reference: PLL Primer, by Andrzej Przedpelski
> >
> >ie, you will decrease phase noise within the loop bandwidth of the
> >PLL.
> >
> Gross oversimplification! :)
> Larry
There was a pretty good write up on one of these in either 73 magazine
or RF design within the last couple of months (I'll try to find the
article and post the reference to it) - It included both the theory and
the measurements. It was basically what they called a "stabilized VCO".
As I remember it, the VCO was built with high Q components so as to
minimize the basic phase noise of the oscillillator, and then a very low
bandwidth correction was used (time constant of several SECONDS) to keep
the oscillator from drifting more than 1-2 Hz from the wanted frequency.
The article professed that the major improvement in close-in phase noise
was primairly due to the high Q of the oscillator tank. The set up was a
bit slow to tune, but the phase noise was apparently quite good! (I know
that this is still a simplification... the article was about 4-5 pages
long! :o)

73's de W6QS - Don Labriola

4097. Re: 600 MHz Divider needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Gerhard Hoffmann <ghf@berlin.snafu.de>
Message-ID: <32B9FFDC.358B@berlin.snafu.de>
Source record: 99457

M Simon wrote:

> I need a divide by 16 integrated circuit that can count
> up to 600 MHz with all the Q's brought out

I used a Motorola MC 100 E 016 FM. It works until 750 MHz or so.
It's even presettable, but gets really hot.

--
Gerhard Hoffmann dk4xp

4098. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Michael Black <blackm00@CAM.ORG>
Message-ID: <Pine.GSO.3.94.961219120337.26776A-100000@Stratus.CAM.ORG>
Source record: 99458
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Superregenerative receivers will detect FM signals. It's been a while since I've read up on them, and I can't remember whether they do the detection due to slope detection (where an AM receiver is used to demodulate an FM signal by mistuning it, so the frequency variation becomes an amplitude variation since it's sweeping back and forth along the skirt of the receiver's selective circuits), or if FM detection is some inherent part of superregenerative detectors.

Superregenerative detectors are among other things, very wide band. They'd probably work for FM BCB signals, indeed I think probably some simpler receivers from days gone by did that, but to use one to detect narrowband FM, such as 2m signals, will result in little or no recovered audio.

You can't get much simpler than a superregen receiver. One transistor detector, followed by an audio amp.

A phase locked loop would qualify as a "direct conversion" fm receiver. But running a PLL at VHF, where I presume you want to detect a signal, might be problematic. First, finding a PLL that runs okay at that frequency. Then, again the recovered audio is a product of how large the deviation is. In a superhet receiver, the signal is moved to a lower frequency where the deviationis a larger percentage of the if signal. Running the PLL at the signal frequency, deviation is a much smaller percentage of the signal frequency. Again, it would work better for the wide band deviation of FM BCB signals.

Michael VE2BVW

innovative_technologies@actcom.co.il (innovative technologies) writes:
>Hello all,
>Is there such a thing as a Direct conversion FM receiver, similar to
>designs available for CW and SSB reception? Sensitivity isn't a
>premium.
>I've heard about mini FM receivers for the broadcast FM band (such as
>"wrist watch" or "necklace" versions), that might implement such a
>concept.
>Any pointer in the proper direction (either theoretical or a practical
>design) would be truly appreceated.

4099. Re: Realistic WX alert radio mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Michael Black <blackm00@CAM.ORG>
Message-ID: <Pine.GSO.3.94.961219121622.26776B-100000@Stratus.CAM.ORG>
Source record: 99459
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

While you have that receiver open, can you give us any details of what's inside? Years ago, I had a Radio Shack weather receiver, and it amounted to a FM BCB receiver, moved to the weather channel. It was varactor tuned, and went to a 10.7MHz if. The filtering there was only IF transformers, no ceramic filters.

I had assumed that the weather receivers of today were a fancier design. But I bought some scrap hand held CB sets recently for parts, and their built in weather receivers had a single conversion design, and the crystal does not translate to any standard IF frequency. I need to do some more calculating to figure out what's going on.

Is there a second conversion in that weather receiver? You should be able to uncover that information by looking for a second crystal elsewhere on the circuit board.

Are there any ceramic filters? If the circuit fits the usual pattern, there'd be one at 10.7MHz (maybe marked with that number), which might look like a ceramic capacitor except it has three leads. Then maybe there'd be another filter, in a square plastic package maybe, most likely running at 455KHz. I have no idea whether this presumption is valid, but if it's a good quality receiver, then it probably would be double conversion 10.7MHz/455KHz and most likely at this date uses an IC for the IF strip, if not for the whole receiver.

This information would be useful to others. If the circuit is double conversion and uses ceramic filters, then they are well worth converting to 2M use, and would provide a cheap means of getting a 2M monitoring receiver, which many seem to desire.

If it's a much simpler circuit, it still might be useful in some cases, but less so and not something that I'd spend much money on.

Michael VE2BVW

In article <petrocjw-1812961553150001@192.168.1.2>, petrocjw@ucunix.san.uc.edu (Joe Petrocy) says:
>
> Just wondering if anyone has a good idea on how to mod a Realistic WX
>alert radio model 12-140. It seems to use one crystal as a reference for
>the 3 WX service frequencies. I would like to know if I could drop a
>crystal in there to reference something in the 147.00MHz range so I could
>tune it to rx 147.060 and others in the area. I am also curious what the
>tones are that actually set off the alarm. I would like to set it to go
>off if someone does a long-tone zero on our repeater. If I knew what the

>tones were that set it off, I could program our repeater controler to emit
>those tones after a LTZ.

4100. Re: Sound Blaster DTMF Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Gary Watts <gwatts@ultra.qni.com>
Message-ID: <Pine.GSO.3.95.961219120630.28396J-100000@ultra.qni.com>
Source record: 99460

Brian,
This might not be a programming way of doing it but
you can use the sound blaster to RECORD the touch tones from your phone
and
save that touchtones to several files

You could then
at dos level
type in
play 1.wav
play 4.wav
or
1.voc
or howevery you recorded in in whatever format you recorded it in

I do believe that there was a program that will generate the touchtones
but I cant remember the name of it

Good luck
Gary Wayys de N0OXV
Kansas City Mo
81 GL1100I

On Thu, 19 Dec 1996, Brian Padgett wrote:

> Does anybody know of software for a DTMF generator for the SB16 sound
> card? I'd like to be able to input numeric strings and have the sound
> card output the DTMF's for remotely controlling a repeater controller.
>
> Thanks...
>
> Brian VE7ICX
>
>

4101. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <59c4i0$nut@hpcvsnz.cv.hp.com>
Source record: 99461

R. L. Measures (measures@mail.vcnet.com) wrote the following piece
of ambiguity::

: Are some amplifier manufacturers incompetent? Consider the cut-and-dry
: issue of filament voltage. The rated filament voltage for a 3-500Z is
: 4.75v to 5.25v. Eimac says that the emissive life of a thoriated tungsten
: filament/cathode varies as E1/E2.^23.4. If you bought a commercial 3-500Z
: amplifier, Rick, and you subsequently discovered that the filament
: voltage at pins one and five on the tube sockets was 5.95v with an
: electric-mains voltage of 240v, would you conclude that the amplifier was
: competently-engineered?

This leaves me with the following questions:

-- Did you indeed measure 5.95 volts, or is that just part of a
hypothetical question?
-- Is that 5.95 volts a true RMS voltage or is it a voltage you read on a
peak-sensing rms-calibrated meter?
-- Is the meter accurately calibrated, and was it read accurately?
-- Was the primary side wired for 200V, 220V or 240V when the measurement
was made?
-- Is the meter accurately calibrated, and was it read accurately? (240V
side)
-- Was the measurement made with a tube in the socket which provided the
expected filament load current?
(-- Which Eimac was it that said that?)

Those may not be all the things that need to be better nailed down in
looking for an accurate answer to the questions posed.

Clearly some subset of all amplifier manufacturers are incompetent by
some measure. (oops, sorry. ;-) But then I suspect a much higher
percentage of posts to this group contain inaccuracies than the
percentage of commercial amplifier manufactureres which are incompetent.

--
Cheers,
Tom
tomb@lsid.hp.com

4102. 2m FM project for Theater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: btbmag@ro.com
Message-ID: <btbmag-1912961503330001@news.ro.com>
Source record: 99462

Being new to ham radio, and having a problem that could be solved with ham radio, I thought I'd ask some help for a litte project.

For a play I am directing, I need to turn on a switch remotely. (BTW, the play is being performed by my Youth Drama Team at my church.) I thought that it might be possible, and simple, to create a reciever that would throw a relay after receiving a code from the tone pad on my handheld.

What I was thinking was a simple little reciever that received on a set frequency. I could then dail in that frequency on my handheld and send the correct tones to the reciever.

Recently I saw a similar plan that used the subaudible tones to turn on two devices. In the example I saw, it was used to turn on a speaker. While I like the idea, and perhaps I should use the subaudible tones as a "safty," I don't want this to be tripped by any FM signal that has those tones. I want to be able to "type in" a tone to activate the switch.

Once I get this figured out, I thought that perhaps that more switch could be added using different "codes."

Anyway, this may be to complicated for my first project. I've got a fairly long timeline, about two months, so any help would be appreciated.

Please feel free to email me or respond here.

Thanks,
Michael Malone
KF4MYX

_____
http://ro.com/~btbmag
http://ro.com/~btbmag/ufo/photo.html
These opinions can float large blimps.

4103. Resurrect this Amp!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: "Ronald D. Lucier" <optics3d@ix.netcom.com>
Message-ID: <32B9D70B.69E7@ix.netcom.com>
Source record: 99463

I have a circa 1936 homebrew (by W1ABY, SK) Class B push pull amp in need of resurrection. Amp was good for 1500W plus plus many years ago. Resides in a 5 foot high open frame cabinet. Has all original tubes but most need to be replaced. Weighs perhaps 75#.

No shipping obviously. If you live in New England and are looking for a challenging boat anchor project, let me know. Price is very cheap (to be negotiated).

73 de WA1UWZ

4104. Re: Packet pgm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Bigdad <Bigdad@Rworld.com>
Message-ID: <59cdn6$otv@kirin.wwa.com>
Source record: 99464

rong@slip.NET (Ron Giuntini) wrote:
>Thanks to all that replied...I am running an old IBM PC and not windows, so
>unfortunatly I cannot use any newer windows packet programs...I found the
>problem that was preventing my system to work..Two actually.,..1 The TNC
>required a reset by removing the lithium battery. Something was not
>compatable with my computer..2 There was a flaky connection in the TNC to
>Radio cable...After finding and correcting these two items the thing went
>right to work...Now, however, I am still looking for suggestions for a more
>efficient terminal program...Bitcom does not allow me to save incoming stuff
>to disc or to scroll back thru stuff that has gone by on the screen..Any
>suggestions? Remember, this is an old system...640K memory & 360K drive. I
>do have a 30Meg hard drive in it...The reason I am using such an old
>computer is because it was free...Thanks.
> Ron
>

Yes ... there is a program called LYNC that should work just
fine..it has all the bells and whistles of a bigtime term program
but is very small in size and easy to set up. Do a search for the
name LYNC and it should pop up

4105. Chautauqua Hamfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: d.NOrdquest@juno.COM
Message-ID: <19961219.170035.4455.2.d.nordquest@juno.com>
Source record: 99465

WESTERN NEW YORK HAMFEST!

The First Annual Chautauqua County Hamfest will be held on Saturday, February 15
at Westfield School on Route 20 in Westfield, NY. The location is between Erie, PA and Buffalo, NY. Admission is $4 in advance or $5 at the door and tables are only $4 each. Setup is at 7 a.m. and the fest itself runs from 8 a.m. to 3 p.m. Refreshments will be available. For more information, please contact John Hagle, AA2GV at esp@epix.net.
Dave KE9ED

4106. Re: 600 MHz Divider needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961219171332.907A-100000@oso.slonet.org>
Source record: 99466

They ALL get hot! Cliff K7RR

On Thu, 19 Dec 1996, Gerhard Hoffmann wrote:

> M Simon wrote:
>
> > I need a divide by 16 integrated circuit that can count
> > up to 600 MHz with all the Q's brought out
>
> I used a Motorola MC 100 E 016 FM. It works until 750 MHz or so.
> It's even presettable, but gets really hot.
>
> --
> Gerhard Hoffmann dk4xp
>
>

4107. Re: 600 MHz Divider needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: mays@indigo
Message-ID: <59cjal$2if@mark.ucdavis.edu>
Source record: 99467

If you can find it still, I like the "Plessy 11C90 or equiv" as it was an
industry standard in the 70's and 80's.
Contact Ramsey Electronics, (ads everywhere) about their prescaler kit also.
Good luck.
skip may
mays@indigo.ucdavis.edu

M Simon (msimon@rworld.com) wrote:

: I need a divide by 16 integrated circuit that can count
: up to 600 MHz with all the Q's brought out

: I am using it for a direct reading frequency counter.

: Simon
: In the end people get the government they deserve.

: Read "The Weapon Shops of Isher" by A.E. vanVogt

: Simon

4108. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Peter Lascell <plascell@inmind.com>
Message-ID: <32BA341C.3974@inmind.com>
Source record: 99468
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> waveform of about 2 kV peak. The water would be flowing tap water.
>
> The questions are:
> Do I need water on both inside and out?
> Are there any problems with connections immersed in water?

Seems like transformer oil would be better and immerse the resistor assemble totally. You didn't say if this needed to be a continuous duty power rating. The old Heathkit Cantenna dummy load did this trick.

If you use water that will get to the connections, I think you will need distilled water so it will not conduct the electrical current, much like the high power broadcast transmitters with water cooled finals and plastic hoses.

Pete Lascell
w4wwq@juno.com

4109. FS: MOTROLOA up DEVELOPMENT SYSTEMS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Richard Kiefer <kiefer@csd.net>
Message-ID: <32BA08D0.5980@csd.net>
Source record: 99469

MOTOROLA
MICROPROCESSOR
DEVELOPMENT
SYSTEMS FOR SALE

We have several microprocessor development systems available for Motorola 68HC05 and 68HC11. They are as follows:

1. Motorola CDS8-Emulation Sytem - For family M68HC05 microprocessors. Emulator, three programming modules, software, manuals, emulation cables. Cost approximately $5000. Price $1000.

2. Motorola M68HC705KICS K-Series In-Circuit Emulator - For 68HC05 family microprocessors. Emulator, programming module, software, manuals, emulation cable. Cost approximately $750. Price $250.

3. Motorola M68HC11EVB Evaluation board - For 68HC11 up. Price $50.

4. Byte Craft C Compiler for M68HC05 family. License cost $800. Will transfer the license to you for $400.

Thanks for your interest. Please respond to:

Richard Kiefer
Kiefer Electronic Development
303/449-4700
kiefer@csd.net

4110. info needed: HP 5381A Freq. Counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Larry Braden <lbraden@mail.utexas.edu>
Message-ID: <32BA23AC.64A8@mail.utexas.edu>
Source record: 99470

Just picked up an HP 5381A Freq Counter. Of course, the manual wasn't available. Anyone have any specs, info or comments regarding this particular unit? Mostly want to put it to work, but with some idea of the expected accuracy, frequency range, and input signal specifications.

4111. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1912962228180001@port43.vcnet.com>
Source record: 99471

In article <19961219145500.JAA15700@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> Richard claims a 100 watt exciter can not damage a 4 watt 3CX800 grid, or
> a 20 watt 8877 grid. That's a harmful and misleading claim.

Take a look at the photos in "Parasitics Revisited", in 9/90 and 10/90 QST magazine, folks. The cathode coating was stripped by overdrive, creating a dead short from the grid to the cathode. However, the gold plating on the grid is undisturbed, and no gold melt-balls were seen through a microscope. Does HF overdrive cause the gold plating to sputter/evaporate? Tom Rauch says absolutely yes, but the photographs say no. What does Eimac say? Eimac told me, both on the phone and in a letter, that gold evaporation is caused by an "oscillation condition". // Take a guess whether or not Tom Rauch took me up on my offer to dissect and photograph, for everyone here to see, a 3CX800A7 which Tom says was ruined by overdrive? If you guessed that he did not take me on, congratulations. Apparently, Tom does not have the courage of his convictions. // Next Question: Rich: Do you enjoy arguing with schmucks?

> A 3-500Z has a saturated current of just over ten amperes.
>
Not according to Eimac. Saturation begins around 1.3 amperes. Does Tom Rauch know better than Eimac? Wait a minute. We've been here before. Am I talking to a brick wall?

I think part of Mr. Rauch's problem is rooted in his reluctance to admit mistakes. Here's an example from an e-mail he sent me:
===============
Hi Rich,

I don't want to keep trashing you technically in front of people. Please consider what you say before you post it. People will think you are an idiot if you keep this stuff up.

Isn't there a way we can just end all this crap? I'd gladly agree your nichrome isn't harmful, and even may be a good solution in some special cases, if you'll just drop all the other idiotic suggestions.

Coming after me will get you nowhere, I've done this stuff for 25 years and don't often make mistakes. You might catch me once or twice out of a few dozen tries, but mostly these arguments will make you look dumb. Neither one of us likes that.

Think about it please,
Tom

==========
Some differences between Tom and me:
I have doing this for 41 years, I have made plenty of mistakes, and I know
that good science does not involve lying.

--
--Rich-- ag6k, 805-386-3734

4112. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1912962312360001@port14.vcnet.com>
Source record: 99472

In article <19961220040600.XAA28540@ladder01.news.aol.com>, k1bqt@aol.com (K1BQT) wrote:

> Hi Rich--
>
> In your post, you wrote: "Rick, and you subsequently discovered that the
> filament
> : voltage at pins one and five on the tube sockets was 5.95v with an
> : electric-mains voltage of 240v, would you conclude that the amplifier
> was
> : competently-engineered?"
>
> I might do many things--including discussing the matter with the
> manufacturer's customer service engineer before making assumptions about
> the amplifier's "airworthiness" or condeming the designer's petigree.
.....snip.....
>
> -- Rick K1BQT
>

It's apparently not a fluke. More than one model is involved. No way to adjust the filament voltage is incorporated.

A while back, I got a phone call from a fellow who owns a Commander 3CX800A7 amplifier. He told me that he had just measured 15 volts at the heater pins on the tube sockets. He asked me what I thought about it. I told him that 15v was greater than Eimac's maximum rated filament voltage. He phoned the manufacturer of the amplifier and discussed the matter as you recommended, Rick. He was told that 15 volts is perfectly okay.

However, when 15 volts is applied to the 3CX800A7 heater, barium boils off the cathode and redeposits on the grid, greatly shortening tube life.

--
--Rich-- ag6k, 805-386-3734

4113. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-1912962338140001@port14.vcnet.com>
Source record: 99473

In article <59c4i0$nut@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns) wrote:

> R. L. Measures (measures@mail.vcnet.com) wrote the following piece
> of ambiguity::
>
> : Are some amplifier manufacturers incompetent? Consider the cut-and-dry
> : issue of filament voltage. The rated filament voltage for a 3-500Z is
> : 4.75v to 5.25v. Eimac says that the emissive life of a thoriated tungsten
> : filament/cathode varies as E1/E2.^23.4. If you bought a commercial 3-500Z
> : amplifier, Rick, and you subsequently discovered that the filament
> : voltage at pins one and five on the tube sockets was 5.95v with an
> : electric-mains voltage of 240v, would you conclude that the amplifier was
> : competently-engineered?
>
> This leaves me with the following questions:
>
> -- Did you indeed measure 5.95 volts, or is that just part of a
> hypothetical question?

It was not a hypothetical question. The first time I worked on one of
these amplifiers, I noticed that 3-500Z filament was so bright I could
read a newspaper with the light from it. This was no fluke, Tom. At the
time, the line voltage measured 240v with my John Fluke DMM.

snip......

> Clearly some subset of all amplifier manufacturers are incompetent by
> some measure. (oops, sorry. ;-) But then I suspect a much higher
> percentage of posts to this group contain inaccuracies than the
> percentage of commercial amplifier manufactureres which are incompetent.
>
You are only guessing until YOU make the measurements, Tom. I made the
measurements. I wrote about them in "The Nearly Perfect Amplifier" in the
January 1994 issue of QST magazine.

Have you noticed that QST NEVER measures filament voltage, and NEVER
measures filament inrush current in amplifier product reviews.

--
--Rich-- ag6k, 805-386-3734

4114. How much are BLW96 trannies ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Steve <Steve@tenchy.demon.co.uk>
Message-ID: <4Lgx9AAo0buyEw2K@tenchy.demon.co.uk>
Source record: 99474

Hi,

Those of you who take radcom know whats coming....

I'm interested in building an amplifier which uses BLW96 transistors.
How much do these cost (in the UK preferably) ??

Those who have Radcom, what do you think of the 6m amp project ?
I wondered about leaving out the pre-amp, as my 6m output is supposed to
be 10 or 15W or so.Not read the (so far) articles in depth together to
see whether this is feasable..

73
--
Steve FOR SALE: Suzuki GSX1100EFE,D reg,only 12500miles,XGC.

Turnpike evaluation. For Turnpike information, mailto:info@turnpike.com

4115. Re: Two meter reciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: pe1prx@xs4all.nl
Message-ID: <599ahq$26k@news.xs4all.nl>
Source record: 99575

dabell@aloha.NET (David and Shari Abell) wrote:
try a 3362
it is made by motorola and has everyting in it
good luck with it

>I am looking for a simple, single frequency FM reciever schematic to
>accompany my two meter transmitter project. Thanks in advance for the help. 73's
>_____

>With warm aloha,
>D A V I D A N D S H A R I A B E L L
>P.O. Box 974
>Kalaheo, Kauai, Hawaii 96741
>e-mail: dabell@aloha.net
>_____

4116. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Peter Parker <parkerp@pcug.org.au>
Message-ID: <Pine.SOL.3.91.961219065013.10115A-100000@supreme>
Source record: 99576

On 14 Dec 1996, TIEMANN BRUCE wrote:

> In article <850505838snz@lfheller.demon.co.uk>,
> Leon Heller <Leon@lfheller.demon.co.uk> wrote:
> >
> >I remember reading a review of a VHF matching unit in Radcom a few years
> >ago, which successfully matched the Tx to a steel dustbin. 8-)
>
> ... I always find a perfect match when feeding my VHF/UHF antennas with a
> few hundred feet of RG-58, or better, RG-174. They won't take 1 kW
> though; so how about a mile of RG-8? Perfect 1:1 SWR every time...
>
> Bruce
> N6URH
>
>

1:1 maybe, but not much RF out the other end. Better to use much less
cable and properly match at the antenna.

73, Peter VK1PK

4117. CB to Ten

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Peter Parker <parkerp@pcug.org.au>
Message-ID: <Pine.SOL.3.91.961219070114.10115B-100000@supreme>
Source record: 99577

Hi All... I have an old Johnson Viking 352D 23 channel CB that I would like to get going on ten metres. I know that they can be converted to 28 Mhz and that a switch to provide a 5kHz offset can be provided.

Does anyone know how to do this? I have a similar set I bought that was already modified, and it's a real good radio - the receiver is better than my Kenwood TS120V.

73, Peter Vk1PK

WE DO MORE WITH LESS: CW OPS QRP CLUB #66

4118. Re: Realistic WX alert radio mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <59a15q$qd3@dallas1.connect.net>
Source record: 99578
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <petrocjw-18129615531500001@192.168.1.2>, petrocjw@ucunix.san.uc.edu (Joe Petrocy) says:
>
> Just wondering if anyone has a good idea on how to mod a Realistic WX
>alert radio model 12-140. It seems to use one crystal as a reference for
>the 3 WX service frequencies. I would like to know if I could drop a
>crystal in there to reference something in the 147.00MHz range so I could
>tune it to rx 147.060 and others in the area. I am also curious what the
>tones are that actually set off the alarm. I would like to set it to go
>off if someone does a long-tone zero on our repeater. If I knew what the
>tones were that set it off, I could program our repeater controler to emit
>those tones after a LTZ.
>
> The tone is 1050 hz. Sorry, can't help you on the crystal freq.

Season's Greetings

Phil, K5PC

4119. Re: Coax Connectors Impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32B90DFB.769F@worldnet.att.net>
Source record: 99579

The "snout" (center pin/insulator/ground fingers) protrude beyond the bayonet ring more (about .06 to .1 inch as I remember) on the plug. It will not readily mate w/ standard BNC. There is also a SHV connector which is rated for even higher voltages - the insulator/gnd fingers extend further yet and center contact is recessed... _Woody_

Jeff Anderson wrote:
>
> In <32B83C0D.38C2@arrl.org> Zack Lau <zlau@arrl.org> writes:
> >
> >I'd recommend buying/using high quality connectors that
> >are marked with part numbers to avoid problems. I use
> >UG-88 male BNC connectors for RG-58/223/142. Zack W1VT.
> >
> >BTW, You want to avoid UG-932s, which sort of look like

> >BNCs but are actually MHV connectors designed for high
> >voltage applications.
> >
> Zack,
>
> For the uninitiated, what sort of visual differences are there between
> the UG-932 and standard BNC's?
>
> Thanks,
>
> - Jeff, WA6AHL

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

4120. Need: Cross-ref. on Motorola FET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <59a1ot$qd3@dallas1.connect.net>
Source record: 99580

I have a Collins Spectrum 2000 H.F. amp, Model PA-2000 (yes, the Dessert Storm surplus is hitting the market!). It uses 8 SRF-3513B devices in the final. This is a proprietary number made my Motorola for Rockwell. I need data on the devices in order to construct a power supply for the amp. Surely there is a generic "MRF" equivalent number for these devices. Any leads or tips will be appreciated and acted upon.

Thanks!
Phil, K5PC philk5pc@connect.net

4121. Packet pgm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: rong@slip.NET
Message-ID: <E0vaWqe-0006Pc-00@fox>
Source record: 99581

Thanks to all that replied...I am running an old IBM PC and not windows, so unfortunatly I cannot use any newer windows packet programs...I found the problem that was preventing my system to work..Two actually.,..1 The TNC required a reset by removing the lithium battery. Something was not compatable with my computer..2 There was a flaky connection in the TNC to Radio cable...After finding and correcting these two items the thing went right to work...Now, however, I am still looking for suggestions for a more efficient terminal program...Bitcom does not allow me to save incoming stuff to disc or to scroll back thru stuff that has gone by on the screen..Any suggestions? Remember, this is an old system...640K memory & 360K drive. I do have a 30Meg hard drive in it...The reason I am using such an old computer is because it was free...Thanks.
Ron

4122. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <59adti$3n@ordeal.cts.com>
Source record: 99582

Richard Karlquist (rkarlqu@scd.hp.com) wrote:
: In article <5996a5$kiu@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
: >Richard Karlquist (rkarlqu@scd.hp.com) wrote:
: >: In article <58vrag$4rg@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
: >: >
: >The last PLL design I did (years ago), I used a capacitor at the end of
: >a ~ 1/4 wavelength piece of coax to replace the inductor to obtain a
: >higher Q. Worked pretty well in an oscillator that tuned from 40-50 MHz.

: A rule of thumb is that a coaxial resonator has the same Q as an air
: coil of half the diameter. To get a Q of 50 at 50 MHz. with an air
: coil requires a diameter of about 1/14 of an inch. Hence, you would
: need coax of 1/7 inch to get a Q of 50, i.e. 0.141 semi rigid coax.
: A Q of 50 is close to what you get with an ordinary 10 cent molded
: inductor. So there is no free lunch here.

I don't think that rule of thumb applies in this case - The 1/4
wavelength inverts the reactance of the C so that it looks like
an L. I wasn't making an inductor by winding the coax into a circle.

John

4123. How To Program Regency XL2000 Radio???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: "W.S.H." <shane@multipro.com>
Message-ID: <01bbed6a$07480fa0$71b278cf@shane.multipro.com>
Source record: 99583

Seeking knowledge on how to program the Transmit / Receive frequencies into
a Regency XL2000 Radio.

Any knowledge on the process may be sent to the e-mail address below.

Thanks in Advance!
--
Shane H.
shane@multipro.com

4124. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Ayman El-Khashab <ayman@ccwf.cc.utexas.edu>
Message-ID: <01bbed73$31769ea0$6ef95380@crust.utexas.edu>
Source record: 99584
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Jim Potter <jpotter@jpaw.com> wrote in article
<32b83ced.168157808@news.santafe.edu>...
: I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
: application is power inverter testing, not commercial resale. My
: current thinking is to use Carborundum resistors with water cooling. I
: believe I can get away with 10 X rating with water cooling.

You can use a dielectric fluid to cool the system, basically, you would run this fluid through the resistors and possibly on the outside as well (it's obviously non-conductive) and then the heat generated will evaporate the fluid which is then run through a heat exchanger and a pump which generates enough pressure to spray the fluid on the resistors.

FYI: the fluid is a derivative of freon but with a much lower boiling point so the compresser and evaporator is unneccesary. In either case, because the fluid is converted to a gas its heat transfer capabilities are exceptional.

- ayman

4125. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: Al Woodward <woodward@ix.netcom.com>
Message-ID: <01bbed77$4f630080$5d7abacd@#woodward>
Source record: 99585
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Most PC Power Supplies require a load on the 5volt or they shut down due to over-voltage on the 5 volt line. I have seen them work fine this way with just a
1/4 amp load. For the non-electronic folks, that a 20 ohm resistor, 2 watt minimum.

The +12v and -12v lines don't require a load.

Garry P. Adkins <adkinsg@piranha.ianet.net> wrote in article <58vtc4$tnb@piranha.ianet.net>...
> Hi.
>
> I have an older 286 computer that doesn't work anymore. It's
> a non-standard case, so I can't put a new motherboard in it.
>
> Since the power supply puts out many amps at 12v on this
> particular one... Could I use it to power a mobile radio?
>
> I realize I would have to apply the "power-good" signal (either
> ground it or raise it, don't remember which) to get the supply
> to work.. (at least that's how I remember it working, haven't
> played with computer power supply in a while)
>
> Would it be stable with no load on the 5v side? Could I hook a
> big transistor to the 5v size (to ground) to let it see a little
> load?
>
> If anyone has done this, I'd appreciate any pointers!
>
> Thanks,
> Garry
>

4126. Re: PLL's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <32b90ce6.2754104@news.lin.foa.se>
Source record: 99586

Hi
using a 0.141 semi-rigid cable would make sense if one is concerned
of microphonics. Using "normal" inductors mecanical stability can be a
real pain
73 Lasse /SM5GLC
rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>In article <5996a5$kiu@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
>>Richard Karlquist (rkarlqu@scd.hp.com) wrote:
>>: In article <58vrag$4rg@ordeal.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
>>: >
>>: >A varacter tuned VCO has very high phase noise sidebands compared
>>: >to one tuned with a good variable cap as in a general coverage
>>: >receiver. Phase noise within the loop bandwidth can be canceled by
>>
>>: Not necessarily. If the unloaded Q of the varactor is much higher
>>: than the unloaded Q of the inductor, the inductor will be the
>>: limiting factor, and there will be no advantage to replacing the
>>
>>The last PLL design I did (years ago), I used a capacitor at the end of
>>a ~ 1/4 wavelength piece of coax to replace the inductor to obtain a
>>higher Q. Worked pretty well in an oscillator that tuned from 40-50 MHz.
>>
>>John
>
>A rule of thumb is that a coaxial resonator has the same Q as an air
>coil of half the diameter. To get a Q of 50 at 50 MHz. with an air
>coil requires a diameter of about 1/14 of an inch. Hence, you would
>need coax of 1/7 inch to get a Q of 50, i.e. 0.141 semi rigid coax.
>A Q of 50 is close to what you get with an ordinary 10 cent molded
>inductor. So there is no free lunch here.
>
>Rick Karlquist N6RK
>rkarlqu@scd.hp.com

4127. Re: Coils wire diameter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <32b90d9e.2938762@news.lin.foa.se>
Source record: 99587

Great news

US/UK moving over to metrics - inch by inch!!!!!

/SM5GLC
tomb@lsid.hp.com (Tom Bruhns) wrote:

>Ian White, G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
>(in reply to something Wes Stewart wrote)
>
>: None of my British handbooks mentions NBS, and neither did US sources
>: such as the 1950 ARRL Handbook or the 1959/60 and 1977/78 editions of
>: the Handbook of Chemistry and Physics.
>
>: I finally found it in the 1941 edition of Machinery's Handbook:
>
>: "This Standard Wire Gage (also known as the Imperial Wire Gage and the
>: English Legal Standard) is used in England for all wires. The
>: abbreviation S.W.G. is sometimes used for Standard Wire Gage, also the
>: abbreviation N.B.S. for New British Standard Wire Gage. This gage was
>: legalized in Great Britain in 1883."
>
>: It seems that Reference Data for Radio Engineers uses wire tables that
>: date back to the days when NBS really was "New"!
>
>The newer 7th edition, dated 1986, and now called "Reference Data for
>Engineers," has a table, "Courtesy Whitehead Metal Products Co., Inc.,"
>which is a comparison of various gauge standards. It lists "AWG B&S,"
>"Birmingham or Stubs BWG," "Wash. & Moen W&M," "British Standard
>NBS SWG," "London or Old English," "United States Standard US,"
>and "American Standard Preferred Thickness." (The last one isn't
>really a gauge number standard...) I'm sure there are others. I
>would hope the part of the world that's been smart enough to go metric
>has also converted to simple metric diameters and thicknesses in place
>of gauge numbers, but I guess old habits die hard. Thank goodness US
>manufacturers are getting metricized, even though our kitchens and
>roadways are still miles and ounces and tablespoons...
>
>--
>Cheers,
>Tom
>tomb@lsid.hp.com

4128. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-19 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32b8f6b1.215721342@news.santafe.edu>
Source record: 99588
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Massoud.Ajami@sdsu.edu (Massoud Ajami) wrote:

>
>Water would conduct at that voltage. Get transformer oil and immerse the
>load in it, and then, use copper tubing coiled in the oil, with cold water
>running in it. That would cool the oil and transfer the heat out. The amount
>of power that you can comsume in the load, depends on how fast you can cool
>the oil.
>
>You always can match it as a parallel circuit for the required frequency.
>
>
Water is not as good a conductor as you might imagine. Some of the
most compact 50 ohm rf dummy loads have ordinary tap water directly on
the load resistor. I don't know the details of how it is constructed,
but I own a 5 kW 50 ohm load mad that way. The load I need for this
project is about 250 ohms.

Someone suggested a transformer to match a 50 ohm load. I'm looking at
that possibility. It won't be cheap, but it looks cost competitive
with both a custom resistive load and a matching network, even
considering that I have to buy another 5 kW 50 ohm load.

Thanks for your input.

Jim Potter

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4129. Re: 2m FM project for Theater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: ve7ldh@amsat.ORG
Message-ID: <199612201756.JAA13130@BC.net>
Source record: 99392

btbmag@ro.com (Michael W. Malone) wrote:

> Being new to ham radio, and having a problem that could be
> solved with ham radio, I thought I'd ask some help for a
> little project.

> For a play I am directing, I need to turn on a switch remotely.
> (BTW, the play is being performed by my Youth Drama Team at my
> church.) I thought that it might be possible, and simple, to
> create a reciever that would throw a relay after receiving a
> code from the tone pad on my handheld...

Sure. Look in back issues of 73 for the Intelligent Relay, a little doodad that plugs into a receiver, listens to DTMF tones and controls things for you. It uses a DTMF decoder and a Parallax Basic Stamp, so you can program more-or-less any access code you want for multiple functions. I don't have the issue details handy, but poking around Parallax's web site (www.parallaxinc.com) might provide a pointer.

> What I was thinking was a simple little receiver that received
> on a set frequency. I could then dial in that frequency on
> my handheld and send the correct tones to the receiver.

Yes. For what you want, maybe one of Ramsey's VHF FM receiver kits would get the job done? Or creatively retune an FM broadcast receiver? Cheapie portables are cheap enough to blow up if you goof.

> (snip...)
> Once I get this figured out, I thought that perhaps that
> more switch could be added using different "codes."

This is where the Intelligent Relay shines, because you can add more codes and functions by reprogramming it.

> Anyway, this may be too complicated for my first project.
> I've got a fairly long timeline, about two months, so any
> help would be appreciated.

Too complicated? No. Take it a step at a time. Obtain, build (or modify) and test the receiver. FTP the Basic Stamp documentation and programs and order a Stamp - either a pukka one from Parallax, or one of the many clones. Program it. Control things with it.

Above all, have fun...

Laura Hallidau VE7LDH
lhalliday@creo.com
ve7ldh@amsat.org
Locator: CN89mg

"C'est une femme mutine, assez elegante, grave et legere, ayant le sens du confort et du plaisir en tout." - C. Deneuve

4130. Technican information wanted on ICOM IC-BP3 batery pack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Geert Pirens <pass@glo.be>
Message-ID: <01bbeeaf$8b7049a0$LocalHost@206.48.181.1.206.48.177.1>
Source record: 99393

Hello

Can someone tell me more of the ICOM IC-BP3 battery pack?

I only know that I can charge this pack with 13.8 volt, but haw long must I charge this pack ?

And what for charger do I need charge this type battery pack? 13.8 v / ?mA ????????

4131. WHITE CHRISTMAS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.94.961220153533.13438A-100000@polaris>
Source record: 99394

From: Santa Claus <santa@thunderhead.com>
Subject: BLAM! Snowball Fight!

```
SSSSSSS NNN NNN OOOOO WWW WWW
SSS SSS NNNN NNN OOOOOOO WWW WWW
SSS SSS NNNNN NNN OOO OOO WWW WWW
SSS NNNNNN NNN OOO OOO WWW WWW
SSS NNN NNN NNN OOO OOO WWW WW WWW
SSS NNN NNN NNN OOO OOO WWW WW WWW
SSS NNN NNNNNN OOO OOO WWWWWWWWW
SSS SSS NNN NNNNN OOO OOO WWWW WWWW
SSS SSS NNN NNNN OOOOOOO WWW WWWW
SSSSSSS NNN NNN OOOOOO WWW WWW

BBBBBBB AAAAA LLL LLL !!!
BBB BBB AAA AAA LLL LLL !!!
BBB BBB AAA AAA LLL LLL !!!
BBB BBB AAA AAA LLL LLL !!!
BBB BBB AAA AAA LLL LLL !!!
BBBBBB AAAAAAAA LL LLL !!!
BBB BBB AAAAAAAA LL LLL !!!
BBB BBB AAA AAA LLL LLL
BBB BBB AAA AAA LLLLLLLLLL LLLLLLLLL !!!
BBBBBBB AAA AAA LLLLLLLLLL LLLLLLLLL !!!
```

Consider yourself hit by a snowball. I win!

****
Send this message to as many people as possible, in the first

E-MAIL SNOWBALL FIGHT!

Send it back or to people already listed above. send it to your
parents, siblings, politicians, teachers, bullies or anyone else you've
wanted to hit with a snowball. Have fun, but don't blame me if you're
hit.
Remember: e-mail snowballs don't hurt, don't get you soaked and
don't melt away. Throw one today!
****

And have a Merry Christmas!

Best wishes from the elves, reindeer, and of course Mrs. Claus as well.

Santa "St. Nick" Claus

4132. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Andy Heninger <andy@barbwired.com>
Message-ID: <32BAED5C.564A@barbwired.com>
Source record: 99395

R. L. Measures wrote:
>

> Take a look at the photos in "Parasitics Revisited", in 9/90 and 10/90 QST
> magazine, folks. The cathode coating was stripped by overdrive, creating
> a dead short from the grid to the cathode. However, the gold plating on
> the grid is undisturbed, and no gold melt-balls were seen through a
> microscope. Does HF overdrive cause the gold plating to
> sputter/evaporate? Tom Rauch says absolutely yes, but the photographs
> say no. What does Eimac say? Eimac told me, both on the phone and in a
> letter, that gold evaporation is caused by an "oscillation condition".
>

I have to say that none of the above makes sense at all to me.

First, there is no difference between a tube in an "oscillation condition" and a non-oscillating amplifier, so far as the tube itself and its ratings are concerned. The external difference is the source of the drive (or over-drive) - either from an external source or from feedback - but the same level of drive is going to look the same to the tube no matter where that drive came from. Look in old transmitting tube manuals and you will find operating conditions specified for "RF Power Amplifier and Oscillator." Archaic technology, but still valid.

Then there is the question of whether VHF overdrive is signficantly more damaging to the tube than HF (or audio, or DC) overdrive. In a tube that is specified for use at full ratings into the lower UHF range, as is the 3CX800A7 being discussed here, this seems unlikely.

When you say "The cathode coating was stripped by overdrive" do you mean that the grid current was excessive or that the cathode current was excessive?

You have two specimens of trashed tubes, with different failure mechanisms. I don't see how you are able to associate the failures with HF vs. VHF damage - it seems much more plausible that the grid was damaged by excess grid dissipation (independently of frequency), and that the cathode was damaged by excess cathode current, perhaps combined with low filament voltage.

-- Andy Heninger WB6MPT

4133. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32bafba4.348079741@news.santafe.edu>
Source record: 99396
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

lprevo@rulhe1 (Leendert Prevo) wrote:

>Jim Potter (jpotter@jpaw.com) wrote:
>: I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
>.............
>
>
>It may be possible to use 2 plates, immersed in water, as the contacts
>of a resistor. As the water gets hot and evaporates, the barrel has to
>be refilled after some time.
>leendert prevo
>
Thanks for the suggestion. I once made a waveguide load for a few kW
at 425 MHz with a tilted waveguide partially filled with water. It
worked great. I hadn't thought of it here because one of the waveguide
load was that it was tapered over may wavelengths and didn't require
complicated adjustments to get a good match.

I also remember that the father of a friend of mine told me about make
dimmers for 1 kW lights in the 30's by dipping 2 electrodes into a
container of salt water. And, of course, most of us are familiar with
the water "vaporizers" that are just two electrodes in a container of
slightly salt water. So, it might work.

Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4134. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: brian@nothing.ucsd.edu
Message-ID: <59f3gv$ck2@news1.ucsd.edu>
Source record: 99397
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

My test-bench 12 volt supply is three 5-volt 120-amp switching power supplies wired in series. I've turned each one of them down to 4.5 volts giving me a very nice clean 13.5 volt supply. The ones I have seem to regulate properly even with no load.
- Brian

4135. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2012961548280001@port8.vcnet.com>
Source record: 99398

In article <32BAED5C.564A@barbwired.com>, andy@barbwired.com wrote:

> R. L. Measures wrote:
> >
>
> > Take a look at the photos in "Parasitics Revisited", in 9/90 and 10/90 QST
> > magazine, folks. The cathode coating was stripped by overdrive, creating
> > a dead short from the grid to the cathode. However, the gold plating on
> > the grid is undisturbed, and no gold melt-balls were seen through a
> > microscope. Does HF overdrive cause the gold plating to
> > sputter/evaporate? Tom Rauch says absolutely yes, but the photographs
> > say no. What does Eimac say? Eimac told me, both on the phone and in a
> > letter, that gold evaporation is caused by an "oscillation condition".
> >
>
> I have to say that none of the above makes sense at all to me.
>
> First, there is no difference between a tube in an "oscillation
> condition" and a non-oscillating amplifier, so far as the tube itself
> and its ratings are concerned.

The difference is that at HF there is a load. At VHF there is virtually
no load. In a high mu triode, when there is no load, the grid current is
going to be astronomical.

>The external difference is the source of
> the drive (or over-drive) - either from an external source or from
> feedback - but the same level of drive is going to look the same to the
> tube no matter where that drive came from. Look in old transmitting
> tube manuals and you will find operating conditions specified for "RF
> Power Amplifier and Oscillator." Archaic technology, but still valid.

Very good, Andy. Modern tubes still use the same terminology. Modern
tubes can oscillate.

> Then there is the question of whether VHF overdrive is signficantly more
> damaging to the tube than HF (or audio, or DC) overdrive. In a tube
> that is specified for use at full ratings into the lower UHF range, as
> is the 3CX800A7 being discussed here, this seems unlikely.
>
> When you say "The cathode coating was stripped by overdrive" do you mean
> that the grid current was excessive or that the cathode current was
> excessive?

Excess grid current does not cause the cathode's strontium oxide and
barium oxide emissive-coating to separate from the cathode. Cathodes are

principally damaged by excessive cathode current density in the
emissive-coating, or by operating the heater voltage outside the
recommended range, or by an insufficient preheat period.
>
> You have two specimens of trashed tubes, with different failure
> mechanisms. I don't see how you are able to associate the failures with
> HF vs. VHF damage - it seems much more plausible that the grid was
> damaged by excess grid dissipation (independently of frequency), and
> that the cathode was damaged by excess cathode current, perhaps combined
> with low filament voltage.
>
The amplifier that produced the tubes with the damaged cathodes and
undamaged grids was a Henry Radio 2K Ultra, which uses two 8873s. The
filament voltage was reportedly normal (K5JV). The drive power was
reportedly around 200wpep, as supplied by a Drake T4 (K5JV). The rated
drive power for an pair of 8873s is about 55wpep. The owner of the
amplifier had been warned that 200wpep of drive might damage the tubes.
Eventually, the tubes shorted from flakes of cathode coating that lodged
between the grid and filament. However, the grids appeared to be in
perfect condition. No gold melt-balls were seen. The point is this: If
a tube is overdriven by HF energy, the first thing to go is the cathode
coating.

The amplifier that produced the tubes with gold sputter damaged grids was
an Alpha. Two of the 8874s were severly gold sputtered, and one of the
8874s was apparently undamaged. The cathodes of the two gold sputter
damaged 8874s were largly intact. To me, this suggests that that the
tubes were not being overdriven when the failure occured. Eimac says that
gold sputtering is caused by an oscillation condition. I believe it. //
Since all three tubes were connected in parallel, equal HF drive was
applied to the three tubes. How is it that two tubes were suddenly
destroyed and one tube was undamaged? IMO, an anomaly is indicated.

It may be possible to cause gold sputtering by HF overdrive, however, if
the first thing that occurs during HF overdrive is a dead short between
the cathode and the grid, how is it possible to continue driving the tubes
into other failure modes, Andy? .
---
e-mail copy to author of post

--
--Rich-- ag6k, 805-386-3734

4136. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2012961833560001@port8.vcnet.com>
Source record: 99399

In article <19961219145500.JAA15700@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> In article <32B6CC17.2BE0@mail.teclink.net>, "Tom C. Brown, Jr."
> <madison@mail.teclink.net> writes:
>
> >You've got a lot of nerve to ask Rich for a name, when you have
> >catagorically refused to name the mysterious Mr. XXX.
>
> Let me see if I undersatnd what you are saying. Correct me if I'm wrong.
>
> It's ok for you and Measures to demand answers, and OK for Measures to
> claim some "unnamed engineer" told Foote something that Foote told
> Measures over the phone, but it isn't OK for me to do anything like that.
> It's OK for Measures to make something up about Marvin Born, and about
> Eimac's personnel department, and I can't challange him on it.
>
Not at all, Mr. Rauch. You can challenge me on anything you like. BTW, I never demand answers, I only request them. How many times did I ask you whether or not your AL-1500 8877 amplifier design uses a VHF parasitic oscillation suppressor. You never did answer. Are you hoping that nobody noticed? What were you trying to hide, Mr. Rauch?

So you expect people to believe I made it all up.
MARVIN C. BORN's callsign is KF8XU. He lives at 7956 GREENSIDE LN WORTHINGTON OH 43235. He is in the process of repairing/modifying an AL-1500 that he says currently has an intermittent parasitic oscillation. Anyone who thinks I made it up should contact Mr. Born directly. He has an assortment of test equipment and he appears to know what he is doing. We shipped vhf suppressor retrofit kit s/n 4548 to him about a week ago.
// Jim, KA3JSO is yet another amateur radio opeator who apparently had parasitic oscillation problems in an AL-1500. When he was on his third 8877, he decided to sell the troublesome amplifier ASAP. Jim told me that K2OJL/V31BB also had multiple 8877 failures in his AL-1500.

Mr. Brown recently noted that Mr. Rauch seems to have the uncanny ability to promote and demote Eimac personnel. For example, Willis B. Foote was demoted from Eimac's Chief Specifications Engineer, Power Grid Division to a lowly letter writer by the formidable Mr. Rauch. What is even more amazing is that Mr.Rauch was somehow able to demote Mr. Foote some ten years after he retired from Eimac. Mr. Myklos is another example. According to the personnel department at Eimac's Salt Lake City plant , Mr. Myklos was an "Engineer B" during his employment. However, thanks to Mr. Rauch, Mr. Myklos was retroactively promoted to "R+D engineering manager". The power of our "recognized amplifier experts" is totally

awesome.

After the good luck I had talking to the personnel department at Eimac's Salt Lake City plant , I decided to try San Carlos to see what I could find out about the mysterious Mr. Reid Brandon.

Mr. Brandon works in marketing. I wonden why Mr. Rauch was trying to keep this a secret?

--
--Rich-- ag6k, 805-386-3734

4137. Re: Plans for 70cm duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Rick Perry <w7av@wolfenet.com>
Message-ID: <32BB91C3.7EA8@wolfenet.com>
Source record: 99400
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

Gary Coffman wrote:
>
> In article <32BA9AD8.38B6@ziplink.net> hobbes99@ziplink.net writes:
> >I am trying to find blueprints for the construction of a 70cm duplexer.
> >The ARRL Antenna book has a great set of directions for a 2M duplexer,
> >but I have not been able to find the 70cm equivilant. A co-worker of
> >mine owns his own machine shop, so I can get one made fairly cheaply
> >(better than paying $500+ for a commercially made one, anyway). If
> >anyone can suggest (or even supply) construction directions for this I
> >would certainly appreciate it! Email replies would be preferred but I
> >will try and check back in the newsgroups in a couple of days.
>
> You should be able to simply scale those plans, IE reducing every
> dimension by 3 would yield a set of 432 MHz duplexers. To reach
> 440 MHz, you'd reduce everything by slightly more than 3.
> Depending on the power level (and environment) of the repeater you might get by with a mobil duplexer, I've done it on several 440 machines. Sinclair has one rated for 50 watts and does an excellent job. Might cost less than building one, although I've seen alot of the same type at hamfests. Just an idea.

73's Rick W7AV
> Gary
> --
> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

4138. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961220040600.XAA28540@ladder01.news.aol.com>
Source record: 99475

Hi Rich--

In your post, you wrote: "Rick, and you subsequently discovered that the filament
: voltage at pins one and five on the tube sockets was 5.95v with an
: electric-mains voltage of 240v, would you conclude that the amplifier was
: competently-engineered?"

I might do many things--including discussing the matter with the manufacturer's customer service engineer before making assumptions about the amplifier's "airworthiness" or condeming the designer's petigree. A problem such as this, if indeed the incident occurred exactly as you represent, could just as easily be the consequence of a transformer manufacturing problem--or a failure on the part of the owner to read the manual. And, even if the problem was "real", it may be due to manufacturing substitutions or production changes the designing engineer knew nothing about. Your anecdote is provocative (as I'm sure you intend), but I have no confidence that it is complete. Like Paul Harvey, I don't think I could even comment without hearing "the rest of the story".

-- Rick K1BQT

4139. WTB: Old SB-xxx chassis for homebrew project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <59d07e$1br@sjx-ixn6.ix.netcom.com>
Source record: 99476
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.boatanchors

Hi! I just bought an old SB-102 chassis with all of the parts removed for $15 to use as a homebrew project chassis. I plan to repaint, and cover the faceplace with a new thin sheet of aluminum for my new rig to live in. (2 stage, 30 watt all band CW rig with built-in VFO)

Well, I need another and possibly 2 more - one for a matching receiver I'm planning, and another for a small amplifier.

So I am looking for ANY SB-xxx chassis, completely stripped of parts or not - don't care what the model was - even could maybe use smaller boxes, like old SB-610 scopes or speaker boxes, or whatever. Again, I am after the boxes and the innards are not important (although if any parts still remain, they would be put away for future homebrew)

Cheap is kind of important, though. That's why I am specifying no parts and looks are unimportant, as long as no dents or cutouts that would be tough to paint over. $10 to $20 is the range I was thinking.

email to Dave gekko95@ix.netcom.com

Thanks to anyone who replies!

(PS - I now have 2, and the transmitter is coming along. Gathering parts for the receiver. Now if I can find another SB-xxx box for the 811 amp, and maybe a speaker box, or other similar SB-xxx.... 73's

4140. Need meter repair

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfE2p252.HEJ@netcom.com>
Source record: 99477

Looking for someone to repair a weston panel meter that is not deflecting
but still has DC continuity at the terminals. Pls e-mail any suggestions!

Thanx,

73 Dave WB0GAZ dgf@netcom.com
~
~

4141. Re: Sound Blaster DTMF Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: vvv@radio.stack.net
Message-ID: <59db9d$kr4@ns.serpukhov.su>
Source record: 99478

Brian Padgett (bpadg@uniserve.com) wrote:
> Does anybody know of software for a DTMF generator for the SB16 sound
> card? I'd like to be able to input numeric strings and have the sound
> card output the DTMF's for remotely controlling a repeater controller.

> Thanks...

> Brian VE7ICX

Hi Brian!

Check out: http://www.funet.fi/pub/ham/misc/

dtmff100.zip 29-Sep-96 20:57 55K

dtmff100.zip DTMF & CTCSS generator & decoder & audio analyzer. SB/SB16

Interesting, anybody hear about software for making voice mailbox based on
PC, SB and radio ?

73! de RX3DIN Victor
---
http://www.stack.net/~victor/hamradio/

4142. TR7 modifications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Kovacs Karoly <karoly@ws6a26.gud.siemens.co.at>
Message-ID: <32BA456E.731A@ws6a26.gud.siemens.co.at>
Source record: 99479

Can anybody send me a copy from the COMMUNICATIONS QUARTERLY Summer92
in article "TR-7 MODIFICATIONS".

If yes please e-mail DIRECT me then I will write my address & others...

Karoly, HA2EOF

4143. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec20.101648.4081@ke4zv.atl.ga.us>
Source record: 99480
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <58vtc4$tnb@piranha.ianet.net> adkinsg@piranha.ianet.net (Garry P. Adkins) writes:
>I have an older 286 computer that doesn't work anymore. It's
>a non-standard case, so I can't put a new motherboard in it.
>
>Since the power supply puts out many amps at 12v on this
>particular one... Could I use it to power a mobile radio?
>
>I realize I would have to apply the "power-good" signal (either
>ground it or raise it, don't remember which) to get the supply
>to work.. (at least that's how I remember it working, haven't
>played with computer power supply in a while)
>
>Would it be stable with no load on the 5v side? Could I hook a
>big transistor to the 5v size (to ground) to let it see a little
>load?

All of the PC supplies I've seen require a load on the 5 volt bus to operate correctly. Usually a couple of amps draw is enough to allow them to maintain regulation. A pair of 10 watt 4.7 ohm power resistors in parallel forms a good load. They're switchers, of course, and need a load to operate correctly. Usually the regulation is done on the 5 volt bus, and the other voltages just follow this.

Most PC supplies only have about 2 amps capacity on the +12 volt bus, and that isn't enough to power much of an amateur radio. The bulk of the current capacity is on the 5 volt bus, which may be able to source 20 amps. Newer supplies also often have a 2 amp capacity on the -12 volt bus, but older supplies could only source a few hundred milliamps on the -12 volt bus.

Mostly, I consider PC supplies merely as a source of parts for amateur radio work. They aren't of much use as power supplies except in computers and other things which need lots of 5 volt current. They also often generate a lot of RF noise, and RF ingress can cause them to lose regulation and allow the output voltage to soar to very high values. That's a recipe for fried radio.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses

534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4144. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: lprevo@rulhe1
Message-ID: <59e1vd$q9t@highway.leidenuniv.nl>
Source record: 99481
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Jim Potter (jpotter@jpaw.com) wrote:
: I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
....

It may be possible to use 2 plates, immersed in water, as the contacts
of a resistor. As the water gets hot and evaporates, the barrel has to
be refilled after some time.
leendert prevo

4145. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961220131000.IAA04989@ladder01.news.aol.com>
Source record: 99482

In article <59c4i0$nut@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns) writes:

>
> -- Did you indeed measure 5.95 volts, or is that just part of a
> hypothetical question?
> -- Is that 5.95 volts a true RMS voltage or is it a voltage you read on a
> peak-sensing rms-calibrated meter?
> -- Is the meter accurately calibrated, and was it read accurately?
> -- Was the primary side wired for 200V, 220V or 240V when the measurement
> was made?
> -- Is the meter accurately calibrated, and was it read accurately? (240V
> side)
> -- Was the measurement made with a tube in the socket which provided the
> expected filament load current?
>(-- Which Eimac was it that said that?)
>
>
Hi Tom,

I agree with all your points.

I'd like to add an area I consider of major concern to the list. In spite of all the free-flowing "carte blanche" criticism of everybody else in the world, technical descriptions of how to measure things are almost totally missing. The "helpful" suggestions are based on the author's view "everyone else is incompetent and a liar".

Important data is often left out of the "suggested improvements".

Over the past year I have seen three PA's with metal oxide cathode tubes (two 8877's, one pair of 3CX800A7) ruined because someone reduced filament voltage to "improve" tube life. Unlike the "intermittent parasitics" claim, this problem is repeatable and directly traceable to a modification.

Briefly, while reducing cathode temperature does improve emission life it pushes the tube closer to emission saturation. This has two deleterious efffects.

1.) In metal oxide cathode tubes it increases the required warm up time as well as lowers the peak emission capability. If the user pushes the tube current (on peaks, not on the current the panel meter indicates) to this limit, the cathode suffers slow irreversible deterioration. This causes

unrecoverable loss of emission.

2.) In a thoriated tunsten tube reduced filament voltage does not decrease tube life (the tube is not harmed when the catode is operated at its' peak emission capability). Warm up time is also inconsequential. But reduced filament voltage does decrease linearity and increase IMD products long before a reduction in power is noted.

It's best to run all amateur service tubes within the range specified, unless the user knows exactly what to do and how to measure it. If it were my PA, and Eimac gave an operating range of 4.8 to 5.2 volts, I'd be sure the voltage never went outside that range. I'd measure voltage at the pins with a good true-RMS averaging meter.

If I had a tube running at 1/4 its rating, as BC stations do, I would reduce voltage below the recommended values (while being very careful to not go too close to the edge of emission). If I was using the tube at its published rating, I'd run it at the rated voltage.

73 Tom

4146. Plans for 70cm duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Jeff Gregor <hobbes99@ziplink.net>
Message-ID: <32BA9AD8.38B6@ziplink.net>
Source record: 99483
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

I am trying to find blueprints for the construction of a 70cm duplexer. The ARRL Antenna book has a great set of directions for a 2M duplexer, but I have not been able to find the 70cm equivilant. A co-worker of mine owns his own machine shop, so I can get one made fairly cheaply (better than paying $500+ for a commercially made one, anyway). If anyone can suggest (or even supply) construction directions for this I would certainly appreciate it! Email replies would be preferred but I will try and check back in the newsgroups in a couple of days.

Thanks!
Jeff Gregor, N1UDS
hobbes99@ziplink.net

4147. Re: Ham-Homebrew Digest V96 #560

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: rwexelba@suffolk.lib.ny.US
Message-ID: <Pine.SV4.3.92.961220104503.13922A-100000@bookworm>
Source record: 99484

Pyramid clubs are not legal and do not belong here. They should certainly
not be encouraged by intellegent hams or computer buffs.
Vy 73, Bob W2ILP

4148. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Sid Boyce <Sid.Boyce@juts.ccc.amdahl.com>
Message-ID: <32BA70FE.34C1AF28@juts.ccc.amdahl.com>
Source record: 99485
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Gary Coffman wrote:
>
> In article <58vtc4$tnb@piranha.ianet.net> adkinsg@piranha.ianet.net (Garry P. Adkins)
writes:
> >I have an older 286 computer that doesn't work anymore. It's
> >a non-standard case, so I can't put a new motherboard in it.
> >
> >Since the power supply puts out many amps at 12v on this
> >particular one... Could I use it to power a mobile radio?
> >
> >I realize I would have to apply the "power-good" signal (either
> >ground it or raise it, don't remember which) to get the supply
> >to work.. (at least that's how I remember it working, haven't
> >played with computer power supply in a while)
> >
> >Would it be stable with no load on the 5v side? Could I hook a
> >big transistor to the 5v size (to ground) to let it see a little
> >load?
>
> All of the PC supplies I've seen require a load on the 5 volt
> bus to operate correctly. Usually a couple of amps draw is
> enough to allow them to maintain regulation. A pair of 10
> watt 4.7 ohm power resistors in parallel forms a good load.
> They're switchers, of course, and need a load to operate
> correctly. Usually the regulation is done on the 5 volt bus,
> and the other voltages just follow this.
>
> Most PC supplies only have about 2 amps capacity on the +12 volt
> bus, and that isn't enough to power much of an amateur radio. The
> bulk of the current capacity is on the 5 volt bus, which may be able
> to source 20 amps. Newer supplies also often have a 2 amp capacity on
> the -12 volt bus, but older supplies could only source a few hundred
> milliamps on the -12 volt bus.
>
> Mostly, I consider PC supplies merely as a source of parts for
> amateur radio work. They aren't of much use as power supplies
> except in computers and other things which need lots of 5 volt
> current. They also often generate a lot of RF noise, and RF
> ingress can cause them to lose regulation and allow the output
> voltage to soar to very high values. That's a recipe for fried
> radio.
>
> Gary

> --
Don't remember where I saw it, but some time ago I saw an article with
details of converting the +5 Volt to +13.8 Volt for use with a
transceiver, can't remember if it was a UK or a USA mag, I'll have a dig
around.
Regards

--
... Sid Boyce...Amdahl(UK)...szb50@juts.ccc.amdahl.com

Any opinions expressed above are mine and do not necessarily represent
the opinions or policies of Amdahl Corporation.

4149. Need info about 1.2 helix Ant.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: JungHo Yu <kc8djq@amsat.org>
Message-ID: <32BABD65.57FD@amsat.org>
Source record: 99486
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amteur.antenna,rec.amateur.space
Body handling: Binary attachment payload not displayed: p3dgif

```
i'm looking for info which enable me to make 1.2 GHz helix Ant.
thanks in any advance.
pse email me "kc8djq@amsat.org"

--
KC8DJQ/DS5RTN
The Ohio State Univ.
"Make your Dream Bigger even if you can't accomplish it in future"

[One or more binary attachments are retained only in the source text.]
```

4150. Re: Sound Blaster DTMF Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <59eeej$7hv@service3.uky.edu>
Source record: 99487

In article <32B94E90.6509@uniserve.com>, Brian Padgett <bpadg@uniserve.com> says:
>
>Does anybody know of software for a DTMF generator for the SB16 sound
>card? I'd like to be able to input numeric strings and have the sound
>card output the DTMF's for remotely controlling a repeater controller.
>
>Thanks...
>
>Brian VE7ICX
You might want to check out Coolwave. Syntrillium has a web page where
you can get Coolwave. Coolwave will allow you to generate single tones,
DTMF or those odd CCIT DTMF like tones. While Coolwave is "crippled" as
shareware (you can register it for $50), you are allowed to use any 2
of its' many functions as shareware. I think there are versions for both
Windows 3.1 and Windows 95.
Good luck.

4151. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: jim@rst-engr.com
Message-ID: <59efad$li2@li.oro.net>
Source record: 99488
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

tomb@lsid.hp.com (Tom Bruhns) shared these priceless pearls of wisdom:

Tom -- help me here (I'm an analog cat in a room full of digital rocking
chairs)

->You can also convert to a very low IF,

Understand. Mix it with an LO that is close to the desired. One small
problem is desense of the RF stage with the LO, but that is an RF problem
and not a digital one. That I can handle.

-> digitize it

in what sense digitize? Sample at some higher frequency than the IF and
recreate the IF frequency as a bunch of analog dots? I honestly don't
understand what it means to digitize an analog signal other than sampling
and recreating the same analog signal as a whole potful of digital levels.

, and process it
->with an algorithm which is very similar to an analog quadrature detector:
->just convert to, say, 20kHz IF, digitize at 80k samples/second, and
->multiply each sample by the previous sample.

Multiply digital numbers together? I'm not sure what we are trying to
achieve.

Normalize for amplitude
->(essentially the analog of a limiter stage).

Take the highest digital number and normalize all the signal samples to
that?

Run the output thru a
->lowpass filter to remove things above half the IF or so.

A digital lowpass or have you gone back through a D/A converter to get an
analog signal back?

There is a
->90 degree phase shift if the sig is exactly on 20kHz = fs/4, and the
->output is zero.

Why?

If the sig is above or below that, there is more or
->less than 90 degrees phase shift, and the output will be above or below
->zero.

Sounds like a digital discriminator. I'd really like to learn more about this technique. Got a reference that doesn't get too deeply into the theory and is more of a practical engineering cookbook?

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company -- and I'm damned proud to do so.
Grass Valley CA 95945 | Airport: O17 (Grass Valley Intentional Airpatch)
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1st phone---C-182A N73CQ
jim@rst-engr.com | Comm'l/CFI-Airplane/Glider-A&P-FAA Counselor

4152. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: davem@cs.ubc.ca
Message-ID: <59eic1$kcs@harpo.cs.ubc.ca>
Source record: 99489

d.NOrdquest@juno.COM writes:
>In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
>50-ohm types. Could someone more knowledgeable tell us how to
>distinguish them?
> Dave KE9ED

Many people have described how to tell BNC connectors designed for RG-59 cable by the larger clamp diameter. However, these are still 50-ohm connectors being used on 75 ohm cable.

There *are* BNC connectors with a characteristic impedance of 75 ohms, and you will find them on some high-quality video equipment. You can identify them because the dielectric inside the connector itself is air, not Teflon. The physical dimensions of the mating parts are the same, so the 50- and 75-ohm versions will connect to each other. But the female 75-ohm connector has a bare center conductor socket without the usual Teflon cylinder around it, while the male connector has no Teflon cylinder just inside the ground contact barrel.

I guess keeping the conductor diameters the same but changing the dielectric to air shifts the impedance to 75 ohms. Of course, the voltage rating is reduced - but these connectors are used with 1 V signals.

Dave

4153. AEA2232 help needed-SOS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: pc_honde@jet.es
Message-ID: <59eo9fhfu4@diana.ibernet.es>
Source record: 99490

Dear friends,

My AEA DSP 2232 doesn't work right.
I'm getting on the LCD of the TNC the following,
Packet
Packet
and both lights DCD and CMD are on.

On the screen of the computer appears the following message when i communicate with the TNC,

cmd: 3d: DSP failed load software and sometimes cmd: 2d: DSP failed load software.

I dont know if the Microchip Motorola 56001zl20 is doing wrong or some statics on it or other.
How can I solve this problem..
AEA they say is in processof closing, so they can not help me.
Please some one do it.
Awaiting your kind comments, have my best.
E-mail me pc_honde@jet.es
Christian-Pedro EA2AFI

Christian M. Hondeville Urrutibeheity

Particular de club 2 Phone: +34-4-463 0587
Las Arenas-48930 Fax: +34-4-463 0587
Spain-Espa'a E-mail: pc_honde@jet.es

4154. Re: TR7 modifications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-20 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32BB54E9.476@worldnet.att.net>
Source record: 99491

Anyone know what mods were covered? _Woody_ , TR7 owner.

Kovacs Karoly wrote:
>
> Can anybody send me a copy from the COMMUNICATIONS QUARTERLY Summer92
> in article "TR-7 MODIFICATIONS".
>
> If yes please e-mail DIRECT me then I will write my address & others...
>
> Karoly, HA2EOF

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

4155. Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: s56a@s55tcp.ampr.ORG
Message-ID: <35524@s55tcp.ampr.org>
Source record: 99401

The best thing I did to my SB-220 was increasing heather voltage to 4.95V from
4.65V caused by EU 220V mains. Second mod was grounding grids directly and
now I can get 700 mA of tuned plate current. Once againg, thanks Dick, K4XU
for pointing me to the EU weakness :-)
I am glad this debate takes more sensible direction with K1BQT, N7WS and others
giving support to W8JI technical claims against Hollywood magic (I might be
influenced by "Escape from L.A." I saw last night :-).
Merry Xmass & HNY & 73 de Mario, S56A, N1YU.

4156. Re: Computer Power Supply for 12v mobile?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: woody white <woody.white@worldnet.att.net>
Message-ID: <32BBB381.4460@worldnet.att.net>
Source record: 99402
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Hi Brian,

Glad to hear of someone doing that. Is my plan also if my h'brew linear
13.6v, 100amp supply ever hopelessly blows up...(has been >19 yrs so far,
no failure). I'll bet yours is lighter! :-)
Woody

Brian Kantor wrote:
>
> My test-bench 12 volt supply is three 5-volt 120-amp switching power
> supplies wired in series. I've turned each one of them down to 4.5
> volts giving me a very nice clean 13.5 volt supply. The ones I have
> seem to regulate properly even with no load.
> - Brian

--
de Woody (WB4QXE) - woody.white@worldnet.att.net
Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

4157. Re: Technical Information wanted on a ICOM IC-2E handheld portabel.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec21.022154.8252@ke4zv.atl.ga.us>
Source record: 99403

In article <01bbed2b$8f1c6500$73b630ce@206.48.181.1.206.48.177.1> "Geert Pirens" <pass@glo.be> writes:
>Can someone help me on some Technical information of a ICOM IC-2E 2meter
>portable?

The IC-2E is the European version of the IC-2AT.

>Also I want to know haw long I mus charge the batery and with wath charger?
>voltage? mA?

If it has the stock battery, a BP-3, charge at 40 mA with a constant current charger through the jack in the side of the battery. You can also bottom charge the battery with a BC-35 drop in charger. Icom also sold rapid charge batteries for this radio, BP-2, BP-8, etc. If you have one of these, you can charge at a much higher rate. The BC-35 will automatically sense what type of battery you've inserted and charge at the proper rate. Aftermarket companies still offer batteries and chargers for this radio. The same batteries also work on the Radio Shack radios.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4158. Re: Plans for 70cm duplexer?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec21.022410.8328@ke4zv.atl.ga.us>
Source record: 99404
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

In article <32BA9AD8.38B6@ziplink.net> hobbes99@ziplink.net writes:
>I am trying to find blueprints for the construction of a 70cm duplexer.
>The ARRL Antenna book has a great set of directions for a 2M duplexer,
>but I have not been able to find the 70cm equivilant. A co-worker of
>mine owns his own machine shop, so I can get one made fairly cheaply
>(better than paying $500+ for a commercially made one, anyway). If
>anyone can suggest (or even supply) construction directions for this I
>would certainly appreciate it! Email replies would be preferred but I
>will try and check back in the newsgroups in a couple of days.

You should be able to simply scale those plans, IE reducing every
dimension by 3 would yield a set of 432 MHz duplexers. To reach
440 MHz, you'd reduce everything by slightly more than 3.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4159. WTB: HP8444 Trac. Gen. need Output module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: ehaskell@airmail.net
Message-ID: <32bf6060.98816381@news.airmail.net>
Source record: 99405

Please state 8444 price and condition.
Eric Haskell
ehaskell@airmail.net

4160. UHF/VHF books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: wmackey@cpcnet.com
Message-ID: <32bb55f9.23427828@LUZSKRU.technetplus.net>
Source record: 99406

Can anybody point me at some good reference books for UHF/VHF design techniques. I'm particularly interested in the gigahertz range circuitry. Thanks

Wade, N3JLA

wmackey@cpcnet.com

4161. FS: NOS Jerrold vacuum tube Post Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: fisherdoc@aol.com
Message-ID: <19961221083100.DAA21354@ladder01.news.aol.com>
Source record: 99407

NEW Jerrold vacuum tube Post Amp model No. SCA 213 CR
Absolutely pristine! Rack mount never used.

Any reasonable offer accepted!

Thanks,
AL
Fisherdoc@aol.com

4162. Transistor-data wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: md13042@dredd.swipnet.SE
Message-ID: <199612211012.LAA05169@dredd.swip.net>
Source record: 99408

Looking for data on a PT8750 from TRW. It's an RF-power.
Found it in a commercial power -module and would like to know the
freq and output power. (know that this kind of amps where made for
70, 160,450 MHz)

73 and a Merry X-mas to all !
// SM5NPV - Tobbe

4163. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: Tom Rauch <w8jitom@worldnet.att.net>
Message-ID: <32BBE1B4.26AE@worldnet.att.net>
Source record: 99409

Date: Fri, 20 Dec 1996 15:48:28 -0800
Message-ID: <measures-2012961548280001@port8.vcnet.com>
References: <32B6CC17.2BE0@mail.teclink.net>

>> R. L. Measures wrote:
>>> Take a look at the photos in "Parasitics Revisited", in 9/90 and 10/90 QST
>>> magazine, folks. The cathode coating was stripped by overdrive, >>>creating a dead short from the grid to the cathode. However, the gold >>>plating on the grid is undisturbed, and no gold melt-balls were seen >>>through a microscope. Does HF overdrive cause the gold plating to
>>> sputter/evaporate? Tom Rauch says absolutely yes, but the >>>photographs say no. What does Eimac say? Eimac told me, both on the >>>phone and in a letter, that gold evaporation is caused by an >>>"oscillation condition".

Andy wrote: >>
>>I have to say that none of the above makes sense at all to me.
>>First, there is no difference between a tube in an "oscillation
>>condition" and a non-oscillating amplifier, so far as the tube itself
>>and its ratings are concerned.

Let's examine the Pathological Science in Rich's reply. We can learn something again (finally):

>The difference is that at HF there is a load. At VHF there is virtually
>no load. In a high mu triode, when there is no load, the grid current >is going to be astronomical.

Excessive grid current occurs whenever the anode's load impedance is higher than the optimum value at that operating point. This does NOT occur in a neutralized grid driven PA. As a matter of fact, grid current shift (when adjusting loading and tuning) is a good test for unwanted feedback in a grid driven PA.

In a grounded grid PA, grid current increases because the output and input are in series. That provides heavy negative feedback in normal operation. If tank impedance is increased, negative feedback is reduced. If tank impedance is reduced, negative feedback is increased. Exciter power contributes less to output and more to grid current (and heating).

This is why the gain of a grounded grid PA is almost totally dependent on the ratio of anode load impedance to driving impedance. With the same operating anode voltage and current, a tube with lower cathode impedance will have more gain. A 3-1000Z has lower driving impedance (~60 ohms) than a 4-1000 (~85 ohms), and hence higher gain. A 3CPX5000 has a 20 ohm cathode driving impedance, and will deliver almost 7000 watts in grounded grid with 100 watts drive with tha same anode impedance!!

While it is true that a PROPERLY loaded PA has normal grid current, high load impedance presented to the anode reduces negative feedback. The effect is exactly the same as increasing drive power.

Assume a tube with very high transconductance (like the 3CX800A7). If the anode is loaded for peak output (and normal grid current) with 50 watts of drive, and if the drive power is increased to 100 watts, most of the additional drive power goes directly into heating the grid!! Nearly 35
watts of additional grid dissipation occurs in this example!

If the drive is held at 50 watts and the anode impedance soars from an arc in an antenna tuner or antenna system, the effect is the same. Nearly ALL (~40 watts) of the original 50 watts of drive heats the grids!

The grid dissipation of a 3CX800A7 is 4 watts. Eimac determines this value by driving the grid with an AC signal while measuring secondary emission. When the grid approaches temperatures where material in the grid starts to fail from heat, secondary emission begins to climb. It's almost like watching the thermal runaway on a transistor!

At 4 watts grid dissipation, the 3CX800A7 shows the beginnings of destructive failure. Gold migration is rapidly accelerated if the tube is operated beyond this point. As a rule of thumb, at about two to three times the power where secondary emission climbs the grid will become incandescent. The gold plated tungsten grid will actually glow, and any gold on the grid will boil off.

Of course this is time related, since the thermal mass of the grid must be overcome. As little as 8 to 12 watts of dissipation for a few seconds can ruin a 3CX800A7. This power always shows up as grid current.

It's absolute non-sense to claim a 100 watt exciter can not damage a 3CX800A7 grid.

Moreover, excessive VHF current requires the tube is loaded with a high impedance, much greater than a few thousand ohms. If the HF tank presented such an impedance to the tube, any parasitic suppressor installed between the tube and the tank would do no good at all. In order for the suppressor to function, the tube to tank to ground path must be a low impedance. The very attainment of high VHF grid current would rule out the use of any suppressor! Once again Measures argues against his own claims. Once again the claims fall apart under examination.

Now consider this. Richard actually suggests people remove electronic grid overload circuits.

73 Tom

4164. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2112960250290001@port1.vcnet.com>
Source record: 99410

In article <35524@s55tcp.ampr.org>, S56A@s55tcp.ampr.org wrote:

> The best thing I did to my SB-220 was increasing heather voltage to 4.95V from
> 4.65V caused by EU 220V mains. Second mod was grounding grids directly and
> now I can get 700 mA of tuned plate current. Once againg, thanks Dick, K4XU
> for pointing me to the EU weakness :-)
> I am glad this debate takes more sensible direction with K1BQT, N7WS and
others
> giving support to W8JI technical claims against Hollywood magic (I might be
> influenced by "Escape from L.A." I saw last night :-).
> Merry Xmass & HNY & 73 de Mario, S56A, N1YU.

The only magic I have seen around here lately is the way people who no
longer work at Eimac can magicly be promoted and demoted. For instance,
the Chief Specifictions Engineer, Power Grid Division got demoted to
letter writer guy. An Engineer B got promoted to 'R+D engineering
manager' (whatever that is). Both actions took place years after they
left Eimac.

--
--Rich-- ag6k, 805-386-3734

4165. RAPID CASH

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: Free Money <money@money.com>
Message-ID: <32BBAEED.7C6A@money.com>
Source record: 99411

This is the fairest, most honest way I have seen to share in the wealth of the world.!

Take five minutes to read this and it WILL change your life. If you want to know how to make thousands of dollars quickly, legally, and with NO CATCH, then keep reading.

The Internet has grown tremendously. It doubles in size every 4 months. Think about it. You see those 'Make Money Fast' posts more and more. That's ... because it WORKS ! So I thought, all those new users might make it work. And I decided to try it out, a few months ago. Besides, what's $5.00, I spend more than that in the morning on my way to work on coffee and cigs for the day. So I sent in my money and posted. Everyone was calling it a scam, but there are SO many new users from AOL, Netcom, etc. they will join in and make it work for you.

Well, two weeks later, I began receiving bucks in the mail! I couldn't believe it! Not just a little, I mean big bucks! At first only a few hundred dollars, then a week later, a couple of thousand, then BOOM. By the end of the fourth week, I had received nearly $47,000.00. It came from all over the world. And every bit of it perfectly legal and on the up and up. I've been able to pay off all my bills and still had enough left over for a nice vacation for me and my family.

Not only does it work for me, it works for other folks as well. Markus Valppu says he made $57,883 in four weeks. Dave Manning claims he made $53,664 in the same amount of time. Dan Shepstone says it was only $17,000 for him. Do I know these folks? No, but when I read how they say they did it, it made sense to me. Enough sense that I'm taking a similar chance with $5 of my own bucks. Not a big chance, I admit--but one with incredible potential, because $5 is all anyone ever invests in this system. Period. That's all Markus, Dave, or Dan invested, yet their $5 netted them tens of thousands of dollars each, in a safe, legal, completely legitimate way. Here's how it works in 3 easy steps:

STEP 1.
Invest your $5 by writing your name and address on five separate pieces of paper along with the words: "PLEASE ADD ME TO YOUR MAILING LIST." (In this way, you're not just sending a dollar to someone; you're paying for a legitimate service.) Fold a $1 bill inside each paper, and mail them by standard U. S. Mail to the following five addresses:

1. Michael Barratt - 27 Park Ave. - Poughkeepsie, NY 12603

2. Brian Truter - 101 N. Park Avenue - Springfield, IL 62702

3. J. Campbell - 1040 C Winners Circle - Bowling Green, KY 42104

4. Joost Walter - P.O. Box 259 - 2870-AG Schoonhoven The Netherlands

5. S. Thomas - P.O. Box 4945 - Tampa, FL 33677-4945

STEP 2.
Now remove the top name from the list, and move the other names up. This way, #5 becomes #4 and so on. Put your name in as the fifth one on the list.

STEP 3.
Post the article to at least 250 newsgroups. There are at least 19000 newsgroups at any given moment in time. Try posting to as many newsgroups as you can. Remember the more groups you post to, the more people will see your article and send you cash!

STEP 4.
You are now in business for yourself, and should start seeing returns within 7 to 14 days! Remember, the Internet is new and huge. There is no way you can lose.

Now here is how and why this system works:

Out of every block of 250 posts I made, I got back 5 responses. Yes, that's right, only 5. You make $5.00 in cash, not checks or money orders, but real cash with your name at #5.

Each additional person who sent you $1.00 now also makes 250 additional postings with your name at #4, 1000 postings. On average then, 50 people will send you $1.00 with your name at #4,....$50.00 in your pocket!

Now these 50 new people will make 250 postings each with your name at #3 or 10,000 postings. Average return, 500 people= $500.

They make 250 postings each with your name at #2= 100,000 postings=5000 returns at $1.00 each=$5,000.00 in cash!

Finally, 5,000 people make 250 postings each with your name at #1 and you get a return of $60,000 before your name drops off the list. And that's only if everyone down the line makes only 250 postings each! Your total income for this one cycle is $55,000.

>From time to time when you see your name is no longer on the list, you take the latest posting you can find and start all over again.

The end result depends on you. You must follow through and repost this article everywhere you can think of. The more postings you make, the more cash ends up in your mailbox. It's too easy and too cheap to pass up!!!

So that's it. Pretty simple sounding stuff, huh? But believe me, it works. There are millions of people surfing the net every day, all day, all over the world. And 100,000 new people get on the net every day. You know that, you've seen the stories in the paper. So, my friend, read and follow the simple instructions and play fair. That's the key, and that's all there is to it. Print this out right now so you can refer back to

this article easily. Try to keep an eye on all the postings you made to make sure everyone is playing fairly. You know where your name should be.

If you're really not sure or still think this can't be for real, then don't do it. But please print this article and pass it along to someone you know who really needs the bucks, and see what happens.

REMEMBER....HONESTY IS THE BEST POLICY. YOU DON'T NEED TO CHEAT THE BASIC IDEA TO MAKE THE BUCKS! GOOD LUCK TO ALL, AND PLEASE PLAY FAIR AND YOU WILL WIN AND MAKE SOME REAL INSTANT FREE CASH!

*** By the way, if you try to deceive people by posting the messages with your name in the list and not sending the bucks to the people already included, you will not get much. I know someone who did this and only got about $150 (and that's after two months). Then he sent the 5 bills, people added him to their lists, and in 4-5 weeks he had over $10,000!

4166. Re: 2m antenna tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: Jim <jim.parnell@nzart.org.nz>
Message-ID: <32BCE742.49AA@nzart.org.nz>
Source record: 99412

Peter Parker wrote:
>
> On 14 Dec 1996, TIEMANN BRUCE wrote:
>
> > In article <850505838snz@lfheller.demon.co.uk>,
> > Leon Heller <Leon@lfheller.demon.co.uk> wrote:
> > >
> > >I remember reading a review of a VHF matching unit in Radcom a few years
> > >ago, which successfully matched the Tx to a steel dustbin. 8-)
> >
> > ... I always find a perfect match when feeding my VHF/UHF antennas with a
> > few hundred feet of RG-58, or better, RG-174. They won't take 1 kW
> > though; so how about a mile of RG-8? Perfect 1:1 SWR every time...
> >
> > Bruce
> > N6URH
> >
> >
>
> 1:1 maybe, but not much RF out the other end. Better to use much less
> cable and properly match at the antenna.
>
> 73, Peter VK1PK

I use a small pi coupler mounted in a diecast box to match my 90 ohm
(more or less) RG62/U coax feeders to the 50 ohm antenna connection on
my 2 metre transceiver.

At the antenna - a 6 element yagi, I have used a coax balun matched to
the driven element at the appropriate point.

Why do I use RG62/U? Because I had a good quantity of it.

To set up the system, I terminated the coax balun with a 90 ohm set of
composition resistors (saved from the 1940s) and with an SWR bridge,
adjusted the pi coupler. Then I experimented with a stub match to the
driven element.

The pi coupler coil is about 3 turns of #20 gauge wire about 1/4 inch
dia. The capacitors are about 25 pF Johnson variables.

I hope that that helps.

73,

Jim, ZL2APE.
jim.parnell@nzart.org.nz

4167. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: am432@FreeNet.Carleton.CA
Message-ID: <59gq41$6k@freenet-news.carleton.ca>
Source record: 99413

I missed the beginning of this thread but here is an idea for a simple fm receiver from a British magazine about 40 years ago: Pass the modulated rf signal thru a clipper to give square waves. Now thru a pipper (differentiator> to give pulses spaced at every zero crossing. (Keep only one polarity). Now integrate and you have a demodulated signal.

--
==========
Brice Wightman am432@freenet.carleton.ca
Ottawa, Canada VE3EDR
==========

4168. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2112960811410001@port23.vcnet.com>
Source record: 99414

In article <19961220131000.IAA04989@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> In article <59c4i0$nut@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns)
> writes:
>
> >
> > -- Did you indeed measure 5.95 volts, or is that just part of a
> > hypothetical question?
...snip...
> Hi Tom,
>
> I agree with all your points.
>
> I'd like to add an area I consider of major concern to the list. In spite
> of all the free-flowing "carte blanche" criticism of everybody else in the
> world, technical descriptions of how to measure things are almost totally
> missing. The "helpful" suggestions are based on the author's view
> "everyone else is incompetent and a liar".

I am aware of only one person who was caught lying in this debate. One
person is not "everybody", and one person is hardly "everyone else", Mr.
Rauch. Is this a case of misery loves company?

"Criticism of everybody else in the world" certainly sounds impressive.
That's a lot of people. Who is criticising all these people Mr. Rauch?

I have found most of the participants here to be forthright individuals
who are interested in science.

IMO, any manufacturer of a 3CX800A7 amplifier who uses 15v on the heater,
who tells customers that 15v is perfectly okay (even through Eimac
specifications state otherwise) is incompetent. However, if you have a
different opinion, Mr. Rauch, I fully support your right to that opinion.

--
--Rich-- ag6k, 805-386-3734

4169. Re: AEA2232 help needed-SOS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: gfiber@cmc.net
Message-ID: <59h3nd$30c@news.cmc.net>
Source record: 99415

pc_honde@jet.es wrote:

>Dear friends,

>My AEA DSP 2232 doesn't work right.
>I'm getting on the LCD of the TNC the following,
>Packet
>Packet
>and both lights DCD and CMD are on.

>On the screen of the computer appears the following message when i
>communicate with the TNC,

>cmd: 3d: DSP failed load software and sometimes cmd: 2d: DSP failed
>load software.

>I dont know if the Microchip Motorola 56001zl20 is doing wrong or some
>statics on it or other.
>How can I solve this problem..
>AEA they say is in processof closing, so they can not help me.
>Please some one do it.
>Awaiting your kind comments, have my best.
>E-mail me pc_honde@jet.es
>Christian-Pedro EA2AFI
>--
>Christian M. Hondeville Urrutibeheity

>Particular de club 2 Phone: +34-4-463 0587
>Las Arenas-48930 Fax: +34-4-463 0587
>Spain-Espa'a E-mail: pc_honde@jet.es

Try pressing down on the DSP chip. many times the chip will become loose in
the socket due to the heating and cooling of the DSP-2232. Also the DSP chip
could be in trouble.

Gary

4170. Re: Technican information wanted on ICOM IC-BP3 batery pack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: gfiber@cmc.net
Message-ID: <59h3r2$30c@news.cmc.net>
Source record: 99416

"Geert Pirens" <pass@glo.be> wrote:

>Hello

>Can someone tell me more of the ICOM IC-BP3 battery pack?

>I only know that I can charge this pack with 13.8 volt, but haw long must I
>charge this pack ?

>And what for charger do I need charge this type battery pack? 13.8 v / ?mA
>????????

The BP-3 is a 8.4 volt 250 mAh pack. You need to use a 13.8 volt source that is over 100 mAh to cjarge the battery. It takes 15 hours to reach a full charge.

Gary

4171. HF Linear Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: mentor@cin.net
Message-ID: <32bc44ba.3166481@news.cin.net>
Source record: 99417

Happy Holidays and thank you for reading this. I would like to buy a high-power linear amplifier that is well built and looks commercial. The power supply should be heavy duty and I would like the amp to cover 160-10 meters. 8877s, 3X500Zs, 3-1000Zs, or similar tubes are preferred. I'm sure someone has an excellent homebrew amp at a reasonable price. Thanks in advance for your reply.

Jim mentor@cin.net

4172. Re: Sound Blaster DTMF Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: pdg@cam.org
Message-ID: <32bc515d.142779870@nntp.hip.cam.org>
Source record: 99418

On Thu, 19 Dec 1996 06:16:19 -0800, Brian Padgett <bpadg@uniserve.com>
wrote:

>Does anybody know of software for a DTMF generator for the SB16 sound
>card? I'd like to be able to input numeric strings and have the sound
>card output the DTMF's for remotely controlling a repeater controller.

HI Brian!

Well, quite simply get a hold of a program called COOLEDIT, it's on
the web, so you shouldn'T have any problems websearching it.

It allows you to generate Touch tones, or any other possible tones you
might want to generate. I used it to generate my FD's two tones to
test my minitor pager.

Hope this helps

Pat

--
\/ Scouter Pat - Patrick De Gagne - Montreal, Canada
/\ Dollard Des Ormeaux Scouts & Venturers
/ \ http://www.cam.org/~pdg IRC: I-Spy on #Scouting
/ \ PDG@CAM.ORG - VE2VFD - I used to be a Flying Frog!

4173. WTB: Coil Stock - B&W 3012

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <59hovv$7rj@sjx-ixn6.ix.netcom.com>
Source record: 99419
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment

I am looking for a couple lengths of B&W 3012 coil stock for
a receiver project. I know I could wind my own, but there are
4 interlinked coils in the project and I doubt I'd have a very
easy go of trying to get them all on the money.

It's 3/4" in diameter, 32 tpi. I know there must be some old stock
lying around out there somewhere.

If you have any you can part with for a price fair to all, email me
at:

Dave gekko95@ix.netcom.com

Many thanks in advance to any who reply.

Dave

4174. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2112961845480001@port24.vcnet.com>
Source record: 99420

In article <19961222015500.UAA07838@ladder01.news.aol.com>,
matich1@aol.com wrote:

> >The only magic I have seen around here lately is the way people who no
> >longer work at Eimac can magicly be promoted and demoted. For instance,
> >the Chief Specifictions Engineer, Power Grid Division got demoted to
> >letter writer guy. An Engineer B got promoted to 'R+D engineering
> >manager' (whatever that is). Both actions took place years after they
> >left Eimac.
> >
> >--
> >--Rich-- ag6k, 805-386-3734
>
> I sell tubes to broadcasters for a living.
>
> In the late 80's I had problems with some Eimac tubes. When I called Eimac
> they transfered me to the manager of tube engineering at Varian. His name
> was Miklos.
>
> In 1990 I went to the NAB show. I met a ham wa4gpm who worked VHF DX. His
> name was Miklos and his card said R and D manager. He was there with John
> Button from Varian.
>
> Bill Foote is in poor health now, he broke his hip. He is retired, but
> when he worked at Varian he handled answering customer return letters at
> Varian. Reid Brandon is a applications engineer, like Bill Orr was.
> Brandon and Button still work for Eimac.
>
> WA9NVN, Mike

The personnel department at Eimac's Salt Lake City plant told me that
Joseph Miklos was not the R and D engineering manager.

Does Reid Brandon work in engineering or does he work in marketing?

--
--Rich-- ag6k, 805-386-3734

4175. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: Tom Woolner <Tom@woolner.demon.co.uk>
Message-ID: <sBXt6NA0pBvyEw9y@woolner.demon.co.uk>
Source record: 99421
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article <32b90fa9.156567962@news.santafe.edu>, Jim Potter
<jpotter@jpaw.com> writes
>innovative_technologies@actcom.co.il (innovative technologies) wrote:
>
>>Hello all,
>>
>>Is there such a thing as a Direct conversion FM receiver, similar to
>>designs available for CW and SSB reception? Sensitivity isn't a
>>premium.
>Many years ago (about 33!) I built a simple FM radio using an RCA
>tunnel diode. I believe the circuit was in one of their semiconductor
>data books, but I don't remember the name of it.
>
>The tunnel diode served as a mixer and an oscillator, but there was
>only one tuned circuit. The if was essentiallly 150 kHz or so. There
>were no tuned elements in the IF stages. The IF circuit was several
>(4) cascadeded limiters of two transistors each. The output of the
>limiter stages triggered a one shot with fixed pulse width for every
>zero crossing. The one-shot output was averaged to provide the
>detected audio.
>
>The circuit occupied a 4" X 9" perf board when made from discrete
>components. I still have it. It actually worked pretty well. The
>biggest problem was interference from AM stations overloading the
>front end if you made the antenna lead too long. I used it for
>background music in my shop for several years with just a twin lead
>dipole.
>
>The neatest thing about it was that it didn't take any fancy equipment
>to get it going. One could probably duplicate it more compactly with
>modern IC's, but you'd probably want to do something different than
>the tunnel diode front end.
>

Hi Jim,

That circuit appeared in the GE Transistor Manual (I have my copy ,the 7th ed. 1964) It is on page 385 and has a note against the front end section which says: "Converter oscillates at one half signal frequency" You might have difficulty getting that past the CE and FCC assessments!

It has an AFC loop which can only work if the tunnel diode oscillates at signal +/- 200KHz or so. As you say there is no precise definition of the IF. The 300R antenna feeder couples via a 1:1 transformer arrangement so

high signal strength is needed and no isolation easily acheived.

Regards,
--
Tom Woolner

4176. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <i7Cl3FAECCvyEwv$@ifwtech.demon.co.uk>
Source record: 99422

Like K1BQT, I'm another uninvolved observer, trying to sift and weigh the mountains of evidence in this long-running thread.

Rich Measures wrote, a few days ago:
> I phoned
>Eimac's Salt Lake City division at 801-972-5000. I explained what has
>been taking place in this debate. I said that certain claims about Mr.
>Miklos were being made in his absence, and that I would like to verify
>these claims.

Some written evidence is available here. According to the profiles of the authors in the ARRL UHF/Microwave Experimenter's Manual:

"Buzz Miklos... is currently the manager of R&D for RF cavities and tubes at VARIAN EIMAC in Salt Lake City, Utah."

Note that that the word "currently" in that quotation probably meant 1989-90, just before the book was published. Tom, W8JI did say that Mr Miklos has since moved on from that position and relocated.

If there is any inconsistency between the written record and information that some person at Eimac Human Resources gave out by telephone, we'll have to decide which source to trust more. Ask yourself: would anybody supply ARRL with false information about his employment position, knowing that it would be printed for everybody to see? (In most companies, "promoting" yourself into your boss's shoes is a severely career-limiting move.)

Again referring to the written record, by courtesy of Rich's own Web pages, the letter from Mr Foote of Eimac described the gold-sputtered tubes as:

"both have been badly overheated internally, the apparent result of an oscillation condition."

Note two things. 1. Mr Foote consciously decided to insert the word "apparent", implying a judgement rather than a statement of verifiable fact. 2. He did not say anything about the frequency of the apparent oscillation condition.

That letter was dated 1986, but it seems that Eimac staff no longer support Mr Foote's view. In QST for September 1994, Reid Brandon of Eimac opposed Rich's interpretation of the Foote letter. Although he did not say outright that "This is Eimac's corporate view," he did identify himself clearly, publicly and in detail as an Eimac employee. Would he then have stated views that his company did not support? (In most companies, that would be another career-limiting move.)

There seems to have been no further change in Eimac's position since
then.

Still sifting and weighing...

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4177. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-21 00:00:00 UTC
From: Mark Robinson <robotech@ihug.co.nz>
Message-ID: <32BC782E.7DEA@ihug.co.nz>
Source record: 99423
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> : I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The

Given the low frequency, what about a few toaster elements, or 1kW
linear quartz halogen flood lamp bulbs (adjust impedance by adjusting
drive :)

--
Mark G Robinson | fax +64-9-849-7408 | Phone +64-9-846-3296
robotech@ihug.co.nz | Box 8770, Auckland 1035, New Zealand
---
21 Dec 1953 Former Iranian leader Mohammed Mosadegh sentenced to three
years
in jail.
21 Dec 1970 Elvis Presley is designated an honorary anti drug campaigner
by
President Nixon.

4178. WTB 3-1000Z tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: bigjim@voicenet.com
Message-ID: <59hvbu$hn3@news1.voicenet.com>
Source record: 99424

I am in search of a 3-1000Z tube. If any has a good pull or a new
surplus tube please email me at bigjim@voicenet.com
Thanks, Jim KA3JSO

4179. Merry Christmas to everyone in the group!, and THANK YOU!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <59i1ik$2ih@dfw-ixnews6.ix.netcom.com>
Source record: 99425
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment

I just wanted to wish everyone a very Merry Christmas. I have posted
a number of articles recently looking for homebrew parts, and the
responses have been a downright pleasure to read. It's nice to know that
the spirit of Ham Radio, contrary to the opinions so often found
in some of these groups, is VERY much alive and well.

After 12 years out of the hobby, I am DELIGHTED to be back in, and I have
alot of you folks to thank.

MERRY CHRISTMAS, AND HAPPY NEW YEAR.

A VERY merry 73's

Dave WB7AWK

4180. High Precision Synthesizers for sale. Cheap

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Wave@mindspring.com
Message-ID: <59i38e$in4@camel5.mindspring.com>
Source record: 99426

I have two high quality direct analog synthesis synthesizers for sale. These are Programmed Test Sources PTS160. They cover .06 to 159,999,999 in steps of 1Hz. They have the built in TCXO or can be referenced to an external source of 5 or 10 MHz. Power is AGCed and can be varied from about 0 to 16 dBm. Switching time is between 5 and 20 microseconds depending on the frequency. All the units have the rack mount and GPIB and parallel interface allowing them to be fully computer controlled. Spurious outputs are down -75dBc(discrete), -35dBc(Harmonics). Phase noise is -63dBc(.5 Hz to 15KHz),-105dBc (100Hz), -115 dBc(1KHz). Power is within 0.5 dB flatness between .1 and 160 MHz. Price is $550 shipped. Current price on identical units is around $7000. These units are surplus from used NMR imaging equipment and are in great shape. For more information please e-mail me. Thanks

Pieter Ibelings
N4IP

4181. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: matich1@aol.com
Message-ID: <19961222015500.UAA07838@ladder01.news.aol.com>
Source record: 99427

>The only magic I have seen around here lately is the way people who no
>longer work at Eimac can magicly be promoted and demoted. For instance,
>the Chief Specifictions Engineer, Power Grid Division got demoted to
>letter writer guy. An Engineer B got promoted to 'R+D engineering
>manager' (whatever that is). Both actions took place years after they
>left Eimac.
>
>--
>--Rich-- ag6k, 805-386-3734

I sell tubes to broadcasters for a living.

In the late 80's I had problems with some Eimac tubes. When I called Eimac they transfered me to the manager of tube engineering at Varian. His name was Miklos.

In 1990 I went to the NAB show. I met a ham wa4gpm who worked VHF DX. His name was Miklos and his card said R and D manager. He was there with John Button from Varian.

Bill Foote is in poor health now, he broke his hip. He is retired, but when he worked at Varian he handled answering customer return letters at Varian. Reid Brandon is a applications engineer, like Bill Orr was. Brandon and Button still work for Eimac.

WA9NVN, Mike

4182. HELP WITH BATTERY CHARGING

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: hq54@aol.com
Message-ID: <19961222040900.XAA10285@ladder01.news.aol.com>
Source record: 99428

Hi,

I need some helpwith a project. Recently I have been running a mobile repeater in my car off the car battery. After a couple months of use, the car battery began to die. It got to the point that after it running down a couple of times, the repeater would completely drain the battery in less than twelve hours. Of course, this was not good for my battery. Recently replaced it at a cost of $70.00 because if I stooped to get gas and shut off my engine, I could not restart. I'd like to get a battery and install it in the car for the repeater to use. I'v found some very inexpensive (the most important word here after upsetting the MRS. with the purchase of the new battery due to MY repeater, since the car, and battery, were only a year old) 12 volt 17 Ah and 24 Ah lead acid batteries. I need a way to charge the batteries quickly and safely. The other problem is that the car is rarely driven more than 20-40 minutes per trip. If the batteries only recieve a partial charge and then are discharged, will that adversly affect the batteris. Long term damage is quite insignificant as the batteries are just 10 dollars, but I don't want to have to replace them every week or month. Any help in a charger or suggestions as to better batteries, or even a different or better idea would be most appreciated. Please E-Mail me with the info.

Thanx advance for your help.

Mike

HQ54@Aol.Com

4183. Need Schematic: Santec LS-202a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: David Little <dalite01@sprynet.com>
Message-ID: <01bbefc6$b91a6b20$36a4aec7@node2>
Source record: 99429
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have a Santec LS-202A VHF SSB/FM HT that I am trying to find a schematic for.
A service manual would be nice also, I would even settle for a owner's manual.

The unit receives properly, transmits properly, tx audio is good, rx signal is good,
rx audio is gone..... You can see the receive signal on the s-meter, and if you listen
very closely you can hear clear audio from the speaker, only very faint. I have bypassed
the speaker and replaced the audio IC, and now want to get some service info to go
further.

Any help appreciated, A current address for Santec or it's remains would also be a big
help. A copy of a manual and schematic would be a blessing.

Seasons greetings

David KD4NUE

4184. Need Schematic - R105/ARR-15 Military

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: David Little <dalite01@sprynet.com>
Message-ID: <01bbefc7$a6960300$36a4aec7@node2>
Source record: 99430
Cross-posted to:
rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

I have a military HF receiver that covers 1.5 to 18.5 MC in 6 bands, with an original
power input of 28.5 Volts DC. It was modified by adding a power transformer, bridge
circuits and filters for AC operation, and the power transformer decided give up. It
looked a bit small to do the job, and seems like it did a long, slow core meltdown
before dying. I would like to get the proper voltage and current requirements so I
can try this my way. Any help appreciated.

Thanks
Seasons Greetings

David KD4NUE

4185. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961222062700.BAA13068@ladder01.news.aol.com>
Source record: 99431

Hi Rich,

At the end this will get useful again to people trying to understand PA's. I'm going to "assume" we can believe a few parts of your posting, and comment on them first.

In article <measures-1912960455060001@port29.vcnet.com>, measures@mail.vcnet.com (R. L. Measures) writes:
>About 14 hours ago I received a telephone call from Jim, KA3JSO. He >wanted to talk about designing suppressors for large amplifier tubes. We >talked for over an hour. During the course of the discussion, he told me >he once owned an AL-1500 amplifier. As you may recall from a previous >post on this thread, the AL-1500 uses no VHF parasitic oscillation >suppressor device. Jim told me that during the 12 month warranty period, >two 8877s failed suddenly. After 8877 number three was installed, Jim >sold the amplifier as soon as possible. Jim said that Ameritron told him >that the failures were caused by defective 8877s. Jim told me that >K20JL/V31BB had an AL-1500, in which a number of 8877s suddenly failed

It was probably V31B (not BB), a guy who eventually got electrocuted by wiring an external transformer into his PA to boost the voltage, that had the 8877 problems. I'm not sure if his PA was the fault of tubes, or his operation. He did operate it beyond our ratings by adding an external transformer. Unfortunately, the problem was self-eliminating. He came in contact with a bare wire on the exposed HV transformer, and someone eventually in his shack roasting away.

This is a good time to remind others that external transformers and power supplies are VERY dangerous. SO-239's and even the Millen HV connectors are NOT safe means of running HV around the shack. Both are idiotic.

During three or four periods of time in the 80's, Eimac had trouble with 8877's. That's what drove ETO out of the contract business with GE medical, they couldn't get reliable tubes either. I rememvber visiting ETO and discussing the problem with Ray Heaton.

The 8877's of that time were so unreliable, I built a fixture that would cycle the filaments of ten tubes (at a time) off and on. If the grid shorted to the cathode in any individual tube, a relay would trip and illuminate an indicator. Even though we weeded through tubes that way, we still had a high G/K field failure rate.

The problem was eventually traced to two causes, contamination of a material used in the tube and a heat dam problem. It was unfortunate, but Eimac was very good about warranty adjustments.

That problem nearly ruined sales of the 8877, and put ETO virtually out of the medical MRI business. People are still shy of the 8877 because of those 1980's problems.

>About 8 days ago, Marvin Born, KF8XU, telephoned me. He said he needed
a
>parasitic suppressor retrofit kit for an AL-1500 because the one he was
>attempting to repair was producing intermittent VHF oscillations, as seen
>a a Tek 454 scope. Marvin said he could also see the intermittent VHF
>oscillations on a spectrum analyzer.

No, that is untrue. As I said before, that PA belongs to KC8MK. Marvin Born said you absolutley know better than to claim he said that, he very clearly told you the amp he measured the parasitic in was a 3CX3000 by Create Electronics or someone like that.

Of course when this claim is weighed along with your claims about Miklos and others, it is understandable why you say that. Sometimes you seem to present things as facts when they are not true. I assume it's because you are honest, but a little over enthusiastic in trying to support your theories.

Unfortunately Rich, your accusations that I was "lying" about Miklos appear to have backfired. It really is a poor idea to drag personal comments into a technical discussion, it just detracts from the issues. I suggest that we all forget all these little personal attacks, and just consider you made a mistake in your enthusiasm to support what you really believe is true. I'm sure you now regret implying I am a liar, and I am willing to let bygones be bygones. Anyone can make a mistake.

By the way, Jim Hurt said that PA (built from a prototype chassis I gave him) worked flawlessly for ten years until he plugged in a 1978 date code pull-out 8877. Then with the PA on standby, something arced over. I suspect the 1978 tube was gassy or had debris or gold deposits on the insulation inside. It's a good idea to use only tubes of known origin, and read the little dates on the tubes. The code date is a four digit number with yyww, 8822 would be the 22nd week of 1982. Stay away from 8877's made in the mid to late 80's.

>With the exception of Ameritron, all manufacturers of 8877 amplifiers
seem
>to use a VHF parasitic oscillation suppressor device. IMO, there must be
>a reason.

There indeed is. That PA is unconditionally stable without one. The grid ring is grounded to the chassis with finger stock, and the anode resonant frequency is many times lower than the self-neutralizing frequency of the tube, and the S21 parameters indicate complete stabilty with almost 20 dB of feedback headroom.

Here's something useful to consider.

The 8877 is used as a VHF PA in several designs. In those PA's, the anode is coupled to a resonant hi-Q VHF stripline WITHOUT any suppression. The

input is tuned to the same frequency as the output. These PA's operate with complete stability. This points out the weakness in Measure's claims that resonance indicates instability. Very plainly, it does not!

Of course we could NEVER use a 3CX1200A or D7, 3CX3000, or any glass internal anode tubes in an upper VHF PA. The most unstable tubes have large grid structures, and when the large grid structures are coupled to ground via long thin leads (as opposed to a cone) in the tube, stability is poor.

In a proper layout, tubes that make good VHF amplifiers are the most stable tubes to operate. Tubes that were designed for low frequencies (572B, 811A, 3CX1200A and D7, 3-1000Z, 4-1000A) are the most unstable tubes to use in any layout.

One excellent example of this is the 3CX1200D7 when compared to a 3CX1200Z7. The Z7 uses a grid flange instead of long ribbons that connect to the pins. A Z7 is useful at two meters, and unconditionally stable on HF without any suppression. The very same tube, without the grid flange (the D7), is very difficult to stabilize at HF.

73 Tom

4186. Re: Packet pgm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: George Baker <w5yr@swbell.net>
Message-ID: <32BCD551.7F0@swbell.net>
Source record: 99432

Ron Giuntini wrote:
>
> Thanks to all that replied...I am running an old IBM PC and not windows, so
> unfortunatly I cannot use any newer windows packet programs...I found the
> problem that was preventing my system to work..Two actually.,..1 The TNC
> required a reset by removing the lithium battery. Something was not
> compatable with my computer..2 There was a flaky connection in the TNC to
> Radio cable...After finding and correcting these two items the thing went
> right to work...Now, however, I am still looking for suggestions for a more
> efficient terminal program...Bitcom does not allow me to save incoming stuff
> to disc or to scroll back thru stuff that has gone by on the screen..Any
> suggestions? Remember, this is an old system...640K memory & 360K drive. I
> do have a 30Meg hard drive in it...The reason I am using such an old
> computer is because it was free...Thanks.
> Ron

Get a copy of TELIX (shareware). Although designed for telco links it is
excellent for ham radio comm purposes - has most of the bells and
whistles and is a DOS program that will run well on the older computers.

--
73, George
W5YR (original, not vanity)
Fairview, TX

4187. Re: 2m FM project for Theater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: codeman@gj.net
Message-ID: <59jckg$npi@news.xmission.com>
Source record: 99433

ve7ldh@amsat.ORG (laura halliday) wrote:

>btbmag@ro.com (Michael W. Malone) wrote:

>> Being new to ham radio, and having a problem that could be
>> solved with ham radio, I thought I'd ask some help for a
>> little project.

>> For a play I am directing, I need to turn on a switch remotely.
>> (BTW, the play is being performed by my Youth Drama Team at my
>> church.) I thought that it might be possible, and simple, to
>> create a reciever that would throw a relay after receiving a
>> code from the tone pad on my handheld...

Another solution is the use of radio controled airplane-boat servos, motors and radio transmitters. Thats kind of what they do. You push a button, and the motor on the other end is activated and moves an arm that controls something. I do not know what the cost may be. Worth checking out.

Ross
N7VWX

4188. Source for Toshiba TC518512AFT-80V Pseudo SRAM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: daniel@pandora.lugs.org.sg
Message-ID: <59jefo$218_001@singnet.com.sg>
Source record: 99434
Cross-posted to: comp.arch.embedded,comp.robotics.misc,rec.radio.amateur.homebrew

Hi,

I am having a hard time finding a source for the
Toshiba TC518512AFT-80V 512kb Pseudo SRAM (flat pack) version.
I would really appreciate it if someone here could tell
me where I can get them in small quantities. Thanks in
advance.

73 de 9V1ZV Daniel

*------------+-------------------------------------+
Daniel Wee	daniel@pandora.lugs.org.sg
9V1ZV	danwee@singnet.com.sg
QRP-L #667	daniel.wee@f516.n600.z6.fidonet.org
+------------+-------------------------------------+

4189. Re: RADIO SHACK MODS PRO 51]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Bill Beekman <string@ix.netcom.com>
Message-ID: <32BCDCBA.2F91@ix.netcom.com>
Source record: 99435
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equiptment,rec.radio.swap

yatkonj@ibm.net wrote:
>
> yatkonj@ibm.net wrote:
> >
> > I am interested in getting a scanner thast has the best bang for the
> > buck. A few people have recommended the RS Pro-51. Presently it is
> > under $200. I was wondering what other people think. Is this a bargin.
> > Are there any mods for this item. Can you recomend another scanner our
> > source for scanners? Any help would be greatly appreciated.
> >
> > Nick Yatko
> > yatkonj@ibm.net;
I have two buddies who both own the Pro51, They both like it. Only
problem is, RS changed the pro51 in mid production to include and
permanent cell block. The earlier version only needed a keyed sequence
on the pad.

4190. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: matich1@aol.com
Message-ID: <19961222081100.DAA14634@ladder01.news.aol.com>
Source record: 99436

You asked me
>Does Reid Brandon work in engineering or does he work in marketing?

Mr. Measures sir.

I ansd that question before

I desire to not be involved in a direct conversation with you
I notice the way you treat and talk about others and it is not the sign of
a healthy person

Sign me out
Mike 9NVN

4191. FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: "Joe B. Clark" <kc5itc@tcac.com>
Message-ID: <32BD0C7B.5764@tcac.com>
Source record: 99437
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

Already the days are not as bright as before. It seems that the light is failing, and the brooding, heavy clouds are completely covering the sky as the thick fog wells up from the dank, cold, nether regions of the earth. Tonight, in the early morning hours, between midnight and 4:00 a.m., while you lie in your "secure", warm bed---hold your breath and listen ever so carefully. "Outside in the cold distance", the faint soul-chilling howl of the slowly approaching demon can already be heard! If not by some "miracle", science and logic will soon be devoured and torn asunder by this monster of ignorance and superstition. And, the light of knowledge and learning will forever be extinguished.

Yesterday we lost a great man of science and the scientific method. We lost an exceptional teacher, not only to the students who were lucky enough to attend his varied classes at the university, but an exceptional teacher who could teach the "masses" the most complicated and exotic theory of physics, astronomy, cosmology, etc. with the ease of teaching first grade math! A man whose "magical" speaking voice could transport any and all of us, spellbound, to another star system or galaxy--or even another dimension, and we could actually see and feel the far distant surroundings. We lost "the pride of American science", a good and moral man, the likes of which we will probably never see again in this country, where the disciplines of the sciences are fast losing ground in our present decaying educational system.

If we would honor Dr. Sagan, and wish to leave a memorial to him and what he stood for, let us not forget the "kind" of science he believed, lived, and taught----The science of Einstein, Oppenheimer, Hawking, Chandrasakar, and their fellows. The REAL science!

Though he never lived to see the turn of the century, nor the verification of the elusive extra-terrestial civilization that he searched for with every fiber of his being for so very long, let US continue the search with a vigorous, new campaign. Let us all signal our respective congressmen and senators that this search is the single most important quest on which mankind has ever embarked! Our very existence may very well depend upon the success of such a search, and our place in the universe most certainly does!

I have read a couple of posts that indicated maybe it was fortunate that Dr. Sagan was no longer with us. I dismiss these with the thought that the posters have no real knowledge of the Dr.. It's true, to some he may have been a "debunker", but if pseudoscience, ignorance, and hoaxes

aren't debunked, then people, we are inviting the demon of darkness right into our personal world.

If, and I say a big "if", there's life after death, then we now have one of the very best researchers, ever, on it--- full time! Goodbye, Dr. Sagan.I will miss your sane analysis in an increasingly insane world.

Respectfully,

Joe Bryan Clark, kc5itc

4192. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2212960343570001@port19.vcnet.com>
Source record: 99438

In article <19961222081100.DAA14634@ladder01.news.aol.com>,
matich1@aol.com wrote:

> You asked me
> >Does Reid Brandon work in engineering or does he work in marketing?
>
> Mr. Measures sir.
>
> I ansd that question before

Mike---I reviewed all posts from you on this thread. There is no such answer.

> I desire to not be involved in a direct conversation with you
> I notice the way you treat and talk about others and it is not the sign of
> a healthy person
>
> Sign me out
> Mike 9NVN

Ok, Mike. You are out. BTW, that's a pretty unusual callsign you have.

--
--Rich-- ag6k, 805-386-3734

4193. Re: Want Kenwood IF-10D Computer Interface.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: ngaggiolir@etrurianet.it
Message-ID: <ngaggiolir-2212961614110001@slip4.etrurianet.it>
Source record: 99439
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

Hello mike,I own a kenwood ts 50,and I would like if there is a 'home made' version of IF-10D ,usable with our rtx:any help?
73,cu on 40 & 80 fm IK5WQO Riccardo

4194. WTB: Coil Stock - B&W 3012

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <59jpu2$h88@sjx-ixn4.ix.netcom.com>
Source record: 99440
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment

I am looking for a couple lengths of B&W 3012 coil stock for
a receiver project. I know I could wind my own, but there are
4 interlinked coils in the project and I doubt I'd have a very
easy go of trying to get them all on the money.

It's 3/4" in diameter, 32 tpi. I know there must be some old stock
lying around out there somewhere.

If you have any you can part with for a price fair to all, email me
at:

Dave gekko95@ix.netcom.com

Many thanks in advance to any who reply.

Dave

4195. HAM TOOL-KIT CD ROM...HERE!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: murphy@sphynx.com
Message-ID: <32cc6859.3744245@news.indigo.ie>
Source record: 99441

An AWSOME collection of amateur radio related software.
Simply surf to http://sphynx.com/murphy
Plastic Accepted.

M U R P H Y E L E C T R O N I C S
GSM Mobile Phones & Accessories. Satellite TV and Decoding Systems
CD Rom Multimedia Computer Accessories
http://sphynx.com/murphy Email: murphy@sphynx.com

Tel: +353 87 527182 (SMS WELCOMED)

4196. Re: Home brew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Michael Black <blackm00@CAM.ORG>
Message-ID: <Pine.GSO.3.94.961222105838.443D-100000@Ocean.CAM.ORG>
Source record: 99492

Check with TAPR, the originators of the tnc now known as TNC-1 and the
TNC-2. They may not still offer it, but a few years ago you could get
the schematic for the TNC-2 from them for a few dollars, and you could
also get a circuit board and/or the ROM.

I don't have the TAPR address handy. I think their web page is
www.tapr.org
but if that doesn't work, use one of the search engines.

Michael VE2BVW

On Tue, 17 Dec 1996, Francis Lee wrote:

> Does it possible make a home brew TNC (not Baycom)? If yes, where can
> find the circuit ?
> Rgds
>
> Lee
>
>

4197. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961222173000.MAA21300@ladder01.news.aol.com>
Source record: 99493

In article <measures-1912962338140001@port14.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>It was not a hypothetical question. The first time I worked on one of
>these amplifiers, I noticed that 3-500Z filament was so bright I could
>read a newspaper with the light from it. This was no fluke, Tom. At the
>time, the line voltage measured 240v with my John Fluke DMM.

Rich is correct here IF (big if) his information is accurate. I've seen
this problem in some PA's, but I have never measured (no pun intended) a
Command PA or a Henry.

I can't speak for Richard's claims in those cases, but if it is true the
manufacturers should be VERY concerned about correcting that problem.

>You are only guessing until YOU make the measurements, Tom. I made the
>measurements. I wrote about them in "The Nearly Perfect Amplifier" in
the
>January 1994 issue of QST magazine.

I do wonder where Richard got the formula [E1/E2]^23.5. Is the answer in
hours, percent, seconds, or ratio? Where does it come from?

>Have you noticed that QST NEVER measures filament voltage, and NEVER
>measures filament inrush current in amplifier product reviews.

That is a good suggestion.

73
Tom

4198. FS inverter,tubes,connectors++

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: shiso@ici.net
Message-ID: <shiso-2212962015200001@d-ma-fallriver-69.ici.net>
Source record: 99494

BEST, 3000 Watt 32vdc to 120 vac power inverter, with load demand start has all manuals and complete set of documentation. $350 Plus shipping (90lbs from RI). Thanks, Bruce. shiso@ici.net

4-250, pulse rated vacuum tubes, New, GE. $45 each shipped most places USA. Thank You, Bruce. shiso@ici.net

N (M), connectors, crimp type, silver plated, by King Electronics Co. Part # KN-59-309-MO7. Good for RG 6 Foam size coax. $15 for 10 connectors shipped most places USA. Thank You, Bruce. shiso@ici.net

Several solid state High Voltage Diode blocks. 2.625"x 2.625"x .625" 60KV @.1 amp, UNITRODE 86-526. Also 45KV @.3 amp UNITRODE 86-525. $10 ea.
Shipped most places
USA
Thanks for interest. Bruce. shiso@ici.net

Barker & Williamson Model 425 Low Pass Filter. 1.5- 30 MC, @1KW, with instructions. $25+ shipping or Best offer.
Thank You All. Bruce, KD1MW...

4199. Re: CB to Ten

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: J&J Mac <jmacd@wco.com>
Message-ID: <32BDE14D.4A47@wco.com>
Source record: 99495

Peter Parker wrote:
>
> Hi All... I have an old Johnson Viking 352D 23 channel CB that I would
> like to get going on ten metres. I know that they can be converted to 28
> Mhz and that a switch to provide a 5kHz offset can be provided.
>
> Does anyone know how to do this? I have a similar set I bought that was
> already modified, and it's a real good radio - the receiver is better
> than my Kenwood TS120V.
>
> 73, Peter Vk1PK

Hi Peter, The article for conversion to 28.5 - 28.8 is in 73' Magazine, November 1979. page 82.

All it has is some crystal changes and allignment procedures.. I didn't see anything there for the FM
portion on the band. .

If you wish I can fax you a copy of the article.

Jim.. KB6ZOP

4200. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <59jt54$hip@dallas1.connect.net>
Source record: 99496

In article <19961222062700.BAA13068@ladder01.news.aol.com>, w8jitom@aol.com says:
>
>snip...
>
>During three or four periods of time in the 80's, Eimac had trouble with
>8877's. That's what drove ETO out of the contract business with GE
>medical, they couldn't get reliable tubes either. I remember visiting ETO
>and discussing the problem with Ray Heaton.
>

This is a well known fact...the problem was so bad that a procedure was
set up between Eimac and GE Medical to specially select 8877 tubes to be
used in GE MRI machines. The "selection" criteria is a gray area at the
moment, as Eimac has refused to answer my inquiries about the process.
This is obviously done at the Eimac factory before delivery to GE and its
MRI amplifier suppliers. In the late 1980's, after the "selection" program
began. 8877 tubes appeared on the market (even as OEM units in Alpha amps)
that were in plain brown boxes with blue labels marked "Industrial Tube".
The tubes themselves were no longer labeled 8877, but "YU158". This process
continues to this day. I suppose GE and ETO do not intend to get stung again!
If you inquire at Eimac, they will tell you the YU158 is a "selected" tube,
and is completely compatible with any 8877 application. I have tested several
YU158's, and my experience is that the tubes put out the same power as the
8877, but with slightly less plate current, much less grid current, and
therefore less exhaust plenum temperature.

snip....
>
>That problem nearly ruined sales of the 8877, and put ETO virtually out of
>the medical MRI business. People are still shy of the 8877 because of
>those 1980's problems.
>
>I would think purchasing a tube marked "YU158" would help to cure any
remaining shyness.

Season's greetings to all!
Phil, K5PC

4201. FS COMMAND SETS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: gwilljo@cwo.com
Message-ID: <59k1j9$4mg@news.xmission.com>
Source record: 99497
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.boatanchor,rec.radio.amateur.swap,rec.radio.amateur.homebrew,rec.radio.swap

(G4BXD,106312,1035@compuserv.com) posted a message to
rec.radio.swap (8 dec 1996 16:57:51 GMT) looking for Command set bits
and
pieces. I tried to respond but cannot reach your email.
I tried using the Ham Callsign search servers but couldn't find
you listed there either..

This is what I have. All responses welcome.
I have a command set - R-27/ARC-5. It's got the following six tubes:
Tube Nr. Condition
12SK7 - good
12SF7 - good
12V6 - good
12SQ7 - good
12SK8 - Unknown*
12SK7 - Bad**

*TV-7D/U nor the Simpson Model 1000 tube tester has setting to test the
12SK8.
** One of the 12SK7 Tubes is bad.

The cabinet is still intact, but it's missing the lid(?) that goes on
top over the tube compartment, and there is no dynamotor. The inside is
clean - no burned parts, etc. Don't know if it works or not.

The whole thing weighs 7 pounds.I'm asking $45.00 plus shipping and
handling.

I also have two of the large three-ganged variables from a couple
of Command sets that were parted out. I am asking
$5.00 ea + shipping and handling.

I've another R-27 chassis with caps, a few Coils,
and the varible condenser tuning unit and dial.
$8.00 + Shipping and handling.

Greg
KB6WKW

4202. PRO 26 MOD ? is there one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: yatkonj@ibm.net
Message-ID: <32BDFA0E.41BA@ibm.net>
Source record: 99498
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.swap,alt.radio.scanner

Is there a mod for cellular for the Pro 26? I have one source that says there is. I would like to get a few more references before I attempt it. Any help would be greatly appreciated. Thank you.

Nick Yatko
yatkonj@ibm.net

4203. Sell/Trade 4-1000A RF Deck

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Jerry Booth <jerryjtb@pennet.net>
Message-ID: <32BDFE1C.4B94@pennet.net>
Source record: 99499

Will sell or trade 4-1000A RF Deck complete. Set up for 80, 40, 20, 15 and ten. Vacuum plate and load tuning. Tuned input, full output tube and SK406 chimney. Has switch installed accomidate either 4-1000A or 3-1000Z. Meters and power line all filtered. Deck is 17W X 17D X 16H. The front panel is 19 X 17 this fits inside of a cabinet about two inches larger in all directions. I also have a optional supply capable of 4.5 KVDC @ 1 amp. The supply needs some work. The variac presently in the supply is to small in current rating. I have the replacement units for the supply. The RF deck is fully metered plate amps, plate volts, grid current and rf output volts. Asking $550.00 for the RF Deck and 225.00 for th supply and new 20 amp variacs. Thanks Jerry W0ZD.

4204. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961222212000.QAA26102@ladder01.news.aol.com>
Source record: 99500

In article <32BAED5C.564A@barbwired.com>, Andy Heninger
<andy@barbwired.com> writes:

>First, there is no difference between a tube in an "oscillation
>condition" and a non-oscillating amplifier, so far as the tube itself
>and its ratings are concerned.

Andy

I would have to disagree with this statement. The assumption being
the "non-oscillating amplifier" would be properly tuned and loaded
and the tube operating within rated specifications.

In a VHF "oscillation condition" what mechanism exists to provide
a proper load for the generated VHF RF energy in an HF
amplifier? What would limit the tube's dissipation, or RF voltages?

73

Peter

4205. 2 Ghz VCO's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: mlyon@mvhs.fuhsd.org
Message-ID: <mlyon-2212960316310001@205-173-43-245.fuhsd.org>
Source record: 99501

Does anyone know where I could obtain a 2411 MHZ VCO or oscillator?
Thanks in advance,
Mike

--

////////////////////////////////
| Mike Lyon |
| Amateur Radio Callsign |
| KE6MRE |
| E-Mail Addresses |
| mlyon@mvhs.fuhsd.org |
| ke6mre@wvara.org |
| education@wvara.org |
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

4206. Video Titler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: mlyon@mvhs.fuhsd.org
Message-ID: <mlyon-2212960319250001@205-173-43-245.fuhsd.org>
Source record: 99502

I was wondering if anyone out there have any plans on how to build a video titler where the characters overlay the video, I need something so i can put my call sign on an atv transmitter.

Thank You,
Mike LYon

--

////////////////////////////////
| Mike Lyon |
| Amateur Radio Callsign |
| KE6MRE |
| E-Mail Addresses |
| mlyon@mvhs.fuhsd.org |
| ke6mre@wvara.org |
| education@wvara.org |
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

4207. Re: Where is Jay? I'm here! RE:CirCAD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <59kfj6ioh1@mhadf.production.compuserve.com>
Source record: 99503

Humm. Well as I said before there is a program "called" Circad on a CD rom. This is not the Circad that I'm talking about. Of course I don't know which one you are talking about. I honestly think you have that other program as I think Circad (the real one) is a pretty good program. Nice, easy to use and fast. How many programs are written 100% in assembler now aways?
I have some friends who use it on 386 and even 286 machines. The autorouter runs faster on these old junkers than other programs run on current speed demons! But that takes us into the world of Bloatware <grin>. As to the points on ease of use the entire manual is online in HyperText. Of course you get a nice written one if you buy the program but it IS nice to be able to look up things when the manual is stuffed under a pile of books. Everything is menu driver. With those Windows type menus that you mentioned. One point about Circad I perfer is that all the functions are also keyboard-able. This way you can touch type designs as well as pointing and clicking. The mouse is great when you don't know the commands but once you pass that you can really fly! I've done a good pile of PCBs with Circad and I've come up the ranks with the "other" programs as well. I like Circad because it addresses the shortcomings of so many of the other programs. Sure OrCAD SDT was ok in its day. I don't think any of the programs I used (and there were a few) went from A-Z well at all. And all of the PCB programs were pretty sad. Today it is not enough to have a good PCB program or a good Schematic editor. You have to have both to make it science not art. Otherwise you spend too much time manualy verifying connections and that sort of rubbish.
If you do get a chance check and see which Circad you have. If you have the Holophase program that I guess we have to agree to disagree. I suspect from your comments that it is the Qbasic? (or some other rubbish) thing I saw on one of the Sharware CDROMs.
--
73, Jay WB0VNE - AAV5TH

4208. Like a Lafayette HA-600, man...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: nilsbull@aol.com
Message-ID: <19961222233500.SAA28909@ladder01.news.aol.com>
Source record: 99504

I'd almost forgotten about this, but my brother-in-law and I were talking about whiskey and swimsuit calendars when suddenly he remembered something.
"I've got an old radio you gave me years ago. You want it back?"
"Sure," says I, dumber 'n a post.
So after we looked at the swimsuit calendar (it was a Yule gift from his uncle...), we got the radio out of the box.
Now I have in my paws -- dust and all -- the Lafayette HA-600 receiver that I'd bought off of Chuck Gelm (amateur call garbled in transmission over time) for $5 one year when I was sober and Chuck weren't. What a trip.
First, I'd forgotten how fussy rotary switch contacts can be. I have to jiggle every knob a couple times back & forth to get anything to come out of the headphone hole. And it ain't all that great at workin' either. But the real shocker to me was opening it up again, after all these years, to discover that it's only got one little circuit board inside. Like some sort of AM radio on a chunk of bakelite(tm) in the back of this anodized, folded by a punch-press, heavier-n-me chassis & box. I mean, this sucker is a monster next to my ICF-SW7600G.
Heck, even the ICF-SW7600G has more letters in its name!

Whaddya think it's worth? At the Dayton flea market, I mean. And yes, I'm serious. There's gotta be a demented, decerebrated-frog-type radio loonie out
there somewheres what wants this piece of RADIO HISTORY(!!!![trumpet fanfare
in the background as the dragsters rev up]!!!!!)

73
Nils
WB8IJN &c

4209. Re: Clamping Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.227.00D3AFE1@azstarnet.com>
Source record: 99505

In article <59l13l$9dm@boursy.news.erols.com> mhorowit@erols.com (Michael Horowitz) writes:
>From: mhorowit@erols.com (Michael Horowitz)
>Subject: Clamping Diode
>Date: Mon, 23 Dec 1996 07:13:30 GMT

>How are 'clamping diodes' described in the stores? Is 'clamping' part
>of the nomenclature, or is it describing one of several functions the
>diode can perform? The reason I'm asking this NG is that I have an 80%
>probability of walking into the local parts store and getting a blank
>stare, so I gotta go in armed!

This describes a function. There won't be any diodes labeled "clamping diodes" on your dealer's shelf.

The term might describe many things. For instance, a common function is to clamp (limit) the reverse voltage spike generated in a switched inductive load (such as a relay) when the current is turned off. A transistor switch in this case might be destroyed by the reverse polarity voltage applied to the collector. The diode across the coil limits this voltage to approximately .65V and saves the transistor.

Wes -- N7WS

4210. Icom IC-245 alignment manual needed !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Michael Gladu <mgladu@warwick.net>
Message-ID: <32BE1103.5500@warwick.net>
Source record: 99506

I am looking for a formal alignment prodecure for an ICOM IC-245 2M mobile transceiver. The unit I am working on has a PLL / display problem. Please email me at: mgladu@warwick.net with any helpful information. Thanx de N1fbz - mgladu@warwick.net

4211. Help! Re Heathkit Wx STN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-22 00:00:00 UTC
From: Michael Kassay <mkassay@sympatico.ca>
Message-ID: <32BD8DA3.4A94@sympatico.ca>
Source record: 99507

Hi... I just purchased a unbuilt Heathkit model ID-5001 Weather Station.
The kit was opened at one time, and a few peices have gone a stray... So
far Ive found out that the Aluminum boom that holds the wind direction
and speed indicator is missing...and the key pad buttons...
Can anyone advise the lenght of the peice of aluminum, so I can make one
up..and poss tell me where I can poss buy a set of the keypad buttons??
Oh yes... I did get an assembly , operation and a large illustration
booklet... It seems that Im missing another illustration booklet,,,one
for parts?????
If anyonew can help me out with any info on the above, or any hints,
do's or donts while building this stn it would be appreciated...

Thanks

Mike
VE3MKX

4212. Icom switching problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: "Will, KN6DV" <kn6dv@qnet.com>
Message-ID: <01bbf064$945c66a0$36229bcf@kn6dv.qnet.com>
Source record: 99508

I have a Icom 775DSP and a Icom 706.
Both have the acc. Plug # 1 and 2.
I am using pin # 3 of the acc #2 to switch my amplifier (with the Ameritron ARB-700 relay buffer)
using pin # 3 of acc plug1 to swath the radio TX on and off from the computer via a level converter.
I am using this future for RTTY (I am using RITTY by K6STI)

Here is the problem I am having.
As soon I connect acc plug #1 (the one from the computer level converter) the amplifier switch on, it does this even with the level converter disconnected from the computer.

I also have tried a different relay buffer for the amplifier but the same thing happens again.
So far I have tried anything I could think of an no result (It drives me nuts) I even build a second level converter.

Any help would be appreciated.
Thanks 73 Will, KN6DV

--
http://www.av.qnet.com/~kn6dv

REFORM
Unless the reformer can invent something which substisutes attractive virtues for atractive vices, he will fail.
(Walter Lippmann)

4213. Re: Video Titler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Andy <muldowne@wilde.oit.umass.edu>
Message-ID: <01bbf07a$992c1520$05b37780@oit.umass.edu.umass.edu>
Source record: 99509

mike lyon <mlyon@mvhs.fuhsd.org> wrote in article
<mlyon-2212960319250001@205-173-43-245.fuhsd.org>...
> I was wondering if anyone out there have any plans on how to build a
video
> titler where the characters overlay the video, I need something so i can
> put my call sign on an atv transmitter.
>
> Thank You,
> Mike LYon
>
> --
>
> ////////////////////////////////////
> | Mike Lyon |
> | Amateur Radio Callsign |
> | KE6MRE |
> | E-Mail Addresses |
> | mlyon@mvhs.fuhsd.org |
> | ke6mre@wvara.org |
> | education@wvara.org |
> \\
>
I just got a book (Encyclopedia of Electronic Circuits, Volume 6) which has
a schematic for one in it. I don't have a scanner, and it's pretty big.
If you really need it, I will draw it in. I could send you a photo copy.
Andy, KB0MMU.

4214. Re: 2 Ghz VCO's?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Gerhard Hoffmann <ghf@berlin.snafu.de>
Message-ID: <32BE4210.5361@berlin.snafu.de>
Source record: 99510

mike lyon wrote:

> Does anyone know where I could obtain a 2411 MHZ VCO or oscillator?

I used VCOs from Synergy that covered 2.0 - 3.0 GHz.

Their address is : 201 McLean Blvd, paterson, NJ 07504
tel 201 881 8800

Gerhard

--
Gerhard Hoffmann dk4xp

4215. Clamping Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <59l13l$9dm@boursy.news.erols.com>
Source record: 99511

How are 'clamping diodes' described in the stores? Is 'clamping' part of the nomenclature, or is it describing one of several functions the diode can perform? The reason I'm asking this NG is that I have an 80% probability of walking into the local parts store and getting a blank stare, so I gotta go in armed!

4216. FS 3CX3000A7 socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: bigjim@voicenet.com
Message-ID: <59l3s5$jv2@news1.voicenet.com>
Source record: 99512

I have a brand new 3CX3000A7 tube socket from eimac. I paid $295 for
it from rf parts and will sell it for any resonable offer or possibly
trade it for some other amp parts. Let me know what you have.
Thanks, Jim KA3JSO
bigjim@voicenet.com

4217. Re: WTB: Coil Stock - B&W 3012

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32bf2d4a.557429574@news.santafe.edu>
Source record: 99513
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment

gekko95@ix.netcom.com (Dave) wrote:

>
>
>I am looking for a couple lengths of B&W 3012 coil stock for

Try Surplus Sales of Nebraska in Omaha. 1-800-244-4567 or
402-346-4750. They are showing 3012 coils for $9. That seems high to
me, but then a dollar isn't what it used to be.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4218. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2312960402070001@port19.vcnet.com>
Source record: 99514

In article <19961222212000.QAA26102@ladder01.news.aol.com>,
commquart@aol.com wrote:

> In article <32BAED5C.564A@barbwired.com>, Andy Heninger
> <andy@barbwired.com> writes:
>
> >First, there is no difference between a tube in an "oscillation
> >condition" and a non-oscillating amplifier, so far as the tube itself
> >and its ratings are concerned.
>
> Andy
>
> I would have to disagree with this statement. The assumption being
> the "non-oscillating amplifier" would be properly tuned and loaded
> and the tube operating within rated specifications.
>
> In a VHF "oscillation condition" what mechanism exists to provide
> a proper load for the generated VHF RF energy in an HF
> amplifier? What would limit the tube's dissipation, or RF voltages?
>
> 73
>
> Peter

Good point, Peter. I have seen large air gaps arc for no apparent
reason. An arced TL-922 tune capacitor is currently being shipped to me
from NM for testing. I will test it and post the results here. When this
tune capacitor was replaced with a new unit, it also arced. IMO, the
mysterious intermittent arcing is VHF parasitic related. The owner of the
amplifier, David Holtcamp, K5KH, is currently trying to arrange for having
the amplifier tested with a spectrum analzer at the lab where he works.

--
--Rich-- ag6k, 805-386-3734

4219. Re: Where is Jay? I'm here! RE:CirCAD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961223121800.HAA11345@ladder01.news.aol.com>
Source record: 99515

In article <59kfj6ioh1@mhadf.production.compuserve.com>, Jay Craswell <73016.27@CompuServe.COM> writes:

>If you do get a chance check and see which Circad you have. If you have the
>Holophase program that I guess we have to agree to disagree. I suspect from
>your comments that it is the Qbasic? (or some other rubbish) thing I saw
>on one of the Sharware CDROMs.

For sake of argument, I downloaded CirCad from the Holophase BBS. I tried to
get it from the WEB site but the copy was corrupted.

What I unzipped was the not exactly like the one I had previously tried. The menus were still crummy. Just like I said before they look as if a beginner made them. The look of the program seems like it was made at least 10 years ago. Just like I said before.

When I said not exactly, I did find a few things were changed. Your library are a little fuller of components and other symbols. Would that be the highly touted work you added to the program?

I also noticed another change. The version I had, and I'm still sure it was from a shareware CD-ROM ; NIGHT OWL I think, was a demo with a preset time period. I could defeat that by setting my CPU date back to the date of the program. Everything was renewed. The time limit I mean. Seems like ya'll corrected that. Would that be why you don't support or recommend the shareware version?

Well anyway you are wrong about the learning curve for CirCad. It is steep!

Oh...answer my question about how you get over $700 off the cost of the program.
Details are Okay. I got time. That is 70 % of the cost....

There are freeware programs out there that are a whole lot easier to learn. Anyway hams can get construction PCBoards and layouts from the author of most homebrew projects. 1 of 1000 hams, maybe, experiment in radio design. CAD
ain't no household word yet.

Carl

4220. Re: Like a Lafayette HA-600, man...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961223121800.HAA11346@ladder01.news.aol.com>
Source record: 99516

In article <19961222233500.SAA28909@ladder01.news.aol.com>,
nilsbull@aol.com (Nils Bull) writes:

>
>Whaddya think it's worth? At the Dayton flea market, I mean. And yes, I'm
>serious. There's gotta be a demented, decerebrated-frog-type radio loonie
>out
>there somewheres what wants this piece of RADIO HISTORY(!!!![trumpet
>fanfare
>in the background as the dragsters rev up]!!!!!)
>
>

Mine still works fine.

4221. Re: Like a Lafayette HA-600, man...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: the2x4@aol.com
Message-ID: <19961223121800.HAA11347@ladder01.news.aol.com>
Source record: 99517

In article <19961222233500.SAA28909@ladder01.news.aol.com>,
nilsbull@aol.com (Nils Bull) writes:

>
>Whaddya think it's worth? At the Dayton flea market, I mean. And yes, I'm
>serious. There's gotta be a demented, decerebrated-frog-type radio loonie
>out
>there somewheres what wants this piece of RADIO HISTORY(!!!![trumpet
>fanfare
>in the background as the dragsters rev up]!!!!!)
>
>

Mine still works fine. I use it occasionally.
I might take $100 for mine. Maybe before I add a frequency display to it.
I really enjoy using old analog SW receivers. During my childhood we had
those big console radios that stood five feet high and lit up like
firworks when they were on. I loved to set in the dark and tune in the
world dreaming about those far away places and was amazed at how the
signal got here from there.

N9EFJ

4222. FS: The Complete RF TECHNICIAN'S Handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: utilitynam@aol.com
Message-ID: <19961223145700.JAA13507@ladder01.news.aol.com>
Source record: 99518

THE COMPLETE RF TECHNICIAN'S HANDBOOK

(Published by Howard W. Sams, Inc.)

"The Complete RF Technician's Handbook" is THE book for the radio communication's beginner, student, or experienced technician, and supplies priceless information on not only wireless fundamentals, but also the advanced concepts vital to a successful career in RF communications.

Included are over 400 informative ILLUSTRATIONS and tables

The handbook includes everything a technician needs to know in real-world RF electronics -- from the fundamental concepts to the more advanced explanations of modern ANALOG and DIGITAL RADIO circuits and modulation methods. Furthermore, operational instructions on RF TEST EQUIPMENT, as well as identifying proper and improper signal waveforms, and AM, FM, PM, and SSB theory are included. In addition, transmitter and receiver testing methods and TROUBLESHOOTING TECHNIQUES are solidly covered.

For Further Information Please View the Web Site at:
http://members.aol.com/COTTERSAY/rftech.htm

4223. Re: FS COMMAND SETS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: herndon@texas.net
Message-ID: <59m85j$p5n@news3.texas.net>
Source record: 99519
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.boatanchor,rec.radio.amateur.swap,rec.radio.amateur.homebrew,rec.radio.swap

In article <59k1j9$4mg@news.xmission.com>, you say...

>12SK8 - Unknown*
>12SK7 - Bad**
>
>*TV-7D/U nor the Simpson Model 1000 tube tester has setting to test the
>12SK8.
>Greg
>KB6WKW

Greg,
You would have better luck if you looked at the tube tester's entry for a 12K8 (the 12 volt equivalent of the 6K8 converter/oscillator tube). That's probably why you didn't find it in the list. The tube has a grid cap on top; ergo, no 'S' in the name. The 'S' denoted 'single-ended' tubes that had no grid or plate caps.

Hope this helps.

73 de K5FNI
Richard

4224. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32bea669.588441671@news.santafe.edu>
Source record: 99520

measures@mail.vcnet.com (R. L. Measures) wrote:

> So how do we figure total Q when
>the parallel Ls contains series R of its own?
>
One perspective is to convert the parallel resistance to its equivalent series resistance and then calculate Q as XL/RS', where RS' is the new total series resistance.

The result I get is :

Q= XL/((RS(1=RS/RP)+XL^2/RP)

where XL is the inductive reactance, RS is the actual series resistance, and RP is the actual parallel resistance.

Note that if RP goes to infinity the Q goes to the usual expression, XL/RS.

And, if RS goes to 0 the formula goes to RP/XL, which s also correct for that condition.

In general, Q is 2*pi*frequency*stored energy/power. For a complicated circuit, just compute the losses (power) and the stored energy in either the inductive part or the capacitive part of the circuit (they are equal.) This works for trnasmission lines or any circuit whatsoever.

One interesting technique that no one has mentioned in this lengthy "discussion" is the pertrubation method. Ypu can determine the equivalent circuit at any pair of terminals quite simply. First measure the resonant frequency. Then add a known capacitance across the two terminals in question. The change in frequency is delta f. The change in capacitance is delta C. Since delta C over C = - 2 delta f over f for small changes in frequency and we know f, delta f, and delta C, we can calculate C=- (f*delta C)/(2 * delta f).

Now we can calculate the equivalent L at the terminals. To get the resistance, measure Q and calculate Rp=XL * Q.

Now, if you want to know what the impedance transformation is betwen any two pairs of terminals, measure delta f at two places and calculate the corresonding equivalent C's. The impedance transformation is just the ratio of the two capacitive reactances. If you use the same delta C both places the impedance ratio is just the ratio of the two delta f's. The low impedance side is the one with the smallest delta f.

Lots of useful information, no network analyzers required. This works for any resonance in the system, HF or VHF. Warning: The accuracy can be affected by the inductance of the perturbing capacitor.

If you don't have a reasonably well known capacitor, you can use a short length of coax or twin lead and estimate its capacitance, knowing the properties of the coax or twin lead.

The principle requirement here is a way to measure frequency reasonably accurately, a calibrated signal generator or frequency counter are best. Grid dip meters are pretty inaccurate, bumay do for crude estimates.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4225. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec23.155426.21368@ke4zv.atl.ga.us>
Source record: 99521

In article <19961209174200.MAA17298@ladder01.news.aol.com> w8jitom@aol.com writes:
>In article <1996Dec9.032110.14508@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
>(Gary Coffman) writes:
>
>>In a well laid out amplifier using a compact power grid tube, the
>>cathode return path can be less than 25 mm (though it is often longer).
>>That's a high Z at 3 GHz. The path from the plate to the chassis/grid
>>connection point is usually much longer, about 200 mm or even more,
>>and that's a high Z at 325 MHz. Capacitive loading can lower that into
>>VHF, and that's what we have to deal with via suppressors.
>
>Rich's examples were overexaggerated. He made the L/W ratio of the lead 5
>in one case and 2 in another. When the L/W ratio is made lower and lower,
>the lead behaves more and more like a continuation of the groundplane. Z
>is relatively low regardless of lead length.

Right, I know that, Tom, but the 1/4-wave peaks (such as they are) do
fall out to those dimensions. A "groundplane" is never really ground.
That's always a single point, whether you intend it to be or not. And
for tubes with a grid flange, the path to that point is so short that
resonances at VHF are practically impossible for a grounded grid
configuration. (I'm sure you know that.) The problem comes with tubes
with long skinny internal leads. (I'm sure you know that too.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4226. QST AUG-96 2mtr notch filter"L1"?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: kovar@zeus.ia.net
Message-ID: <59mbsq$rhj@hera.ia.net>
Source record: 99522

QST has a great article in AUG 96 page 42 for building your own

notch filter for 2 meter pager inteference problems.

My problem is that I have not been able to find discribed value for L1.

Should I just use the formula for series resonant circuits and put in a

value of 1 to 14 pf for C2?

I have a box of bidirectional couplers with a male to female N connectors.

SMA sampling ports are dented.

A dandy box for this project if anyone is interested in one.

ANYWAY if someone would care to throw a value at me for L1 I will run

and check my math.

Thanks,

Jack Kovar
K0VAR

Toddville, Iowa

4227. MIRAGE B3016 preamp problem!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: kovar@zeus.ia.net
Message-ID: <59mctu$rhj@hera.ia.net>
Source record: 99523

I have a MIRAGE B3016 2mtr amp/preamp that is giving me fits.

I seem to have a bad FET U309 "metal case three legs".

Diagram in book discribes it as a JFET J310 or U309.

I crossed J310 with a NTE326 or ECG326, Three legs plastic JFET.

Sound great right! Part is discribed as P channel General purpose

AF AMP. I know my hearing range won't make it to 144mhz.

Circuit is S is grounded, G is input with 120 ohm to ground,

D is output with .15 ohm and +13.6 vdc.

ANY ideas ?

The ECG/NTE shoots the top off like pinball machine!

Thanks,
Jack Kovar
K0VAR
Iowa

4228. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961223165600.LAA15789@ladder01.news.aol.com>
Source record: 99524

Hi Peter,

In article <19961222212000.QAA26102@ladder01.news.aol.com>,
commquart@aol.com writes:

>I would have to disagree with this statement. The assumption being
>the "non-oscillating amplifier" would be properly tuned and loaded
>and the tube operating within rated specifications.

I can't speak for Andy, but there is no difference between the voltages and currents induced by self-excitation and those induced by excitation. If I looked at a tube that failed, I would have no idea what caused excessive dissipation of breakdown of an element, unless I found a abnormality in the mechanical construction of the tube.

This is the reason Eimac had such difficulty curing the 1980's problems in the 8877.

>In a VHF "oscillation condition" what mechanism exists to provide
>a proper load for the generated VHF RF energy in an HF
>amplifier?

I tried to cover that, but it may have been lost in the effort to avoid the pathological bullets being fired. Let me try again.

Let's assume we have a properly constructed tube. Short of mechanically damaging the tube by external forces or excessive peak emission current in a metal oxide cathode, the only thing that can permanently damage the tube is heating of materials used in the tube. This is true of everything from inrush failures through grid damage to melted glass. It's all heat, and the heat is only caused by current flow.

If the tube arcs, the damage caused by the heat of the arc. If the grid evaporates gold, it is caused by heating of the gold. If the glass melts, it is caused by heating of the glass.

There is one thing that is very important to remember. If the time is long enough and energy high enough to cause damage to the large thermal masses inside the tube, the cause of failure is always detectable outside the tube. There are no mysterious ghost-like things that damage the tube without indications on a meter. If it is inrush, you can measure it. If it is grid current (from an intermittent oscillation or excessive drive) you can probably see it on the meters and CERTAINLY detect it and remove the cause with an electronic overload system. It takes time to heat things, so damage is a function of the amount of overload and the length of the overload.

For example, a filament can take 1000 % overload over and over again if the duration is so short that the thermal mass of the filament is able to absorb the heat. It is the DURATION of inrush plus the amount that causes the problems, not just tyhe fact there is inrush. Assume we have an inrush of 30 amperes in a 15 ampere filament 3-500Z for two minutes, we know that would be damaging. If we have an inrush of 100 amperes for one half cycle of 60 Hz AC, it would be virtually harmless.

>What would limit the tube's dissipation, or RF voltages?

To repeat an earlier point, if the tube oscillates the anode impedance would likely be high, the feedback path capacitive, and the grid in a high impedance mode at that frequency. It would be a TPTG oscillator, or at least a TG oscillator. The gain of a grid driven stage (as this would be) is dependent on the ratio of a divider comprised of the anode to ground shunt impedance, the anode to grid series impedance, and the grid to ground driving impedance.

When the grid draws current, the impedance of the grid circuit falls through the floor. This limits the gain. If the amplifier is on the edge of oscillation, feedback falls below the level required to sustain an increase in output, and the stage limits. The anode impedance also falls with increased plate current. Both of these mechanisms work to limit the peak voltages and currents during oscillation.

This is the very reason why self biased LOW mu tubes are used in self-excited oscillators. If the mu is low, feedback can be set much higher and the tube bias resistance set to provide optimum drive current over widly varying loads and tuning conditions. The feedback is closer to unity and only the self bias limits the current.

A conventional high mu triode would fall in and out of oscillation if used in the same circuit.The hoax of a high-mu (or any) tube being stable almost all the time and then suddenly exploding from an oscillation is exposed once this is understood.

73 Tom

4229. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961223165600.LAA15793@ladder01.news.aol.com>
Source record: 99525

Hi Phil,

Thank's for confirming something that is very important. And Ian, thank's for point out Miklos' profile in the book. I have a letter on the way from Eimac's Personnel department since I don't enjoy being called a pathological liar, but that issue is completely resolved now with both your and Mike's comments.

I'd like to focus on important areas highlighted by Phil's comments.

I hope time spent here corrects damage done to people trying to learn how PA's work.
The tragidy of the false claims presented by only one individual is they hurt many people trying to learn. That is a crime far worse than calling me a name, and one I find totally unforgivable (if intentional).

In article <59jt54$hip@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) writes:
>In article <19961222062700.BAA13068@ladder01.news.aol.com>, w8jitom@aol.com
>says:
>>During three or four periods of time in the 80's, Eimac had trouble with
>>8877's.
>
> This is a well known fact...the problem was so bad that a procedure was
> set up between Eimac and GE Medical to specially select 8877 tubes to be
> used in GE MRI machines. The "selection" criteria is a gray area at the
> moment, as Eimac has refused to answer my inquiries about the process.
> This is obviously done at the Eimac factory before delivery to GE and its
> MRI amplifier suppliers.

The problem was unclear because it was complex in cause. Eimac worked hard to solve the problem, and they did. Service history indicates current 8877's are virtually free from these problems.

(The failure displayed itself as a sudden grid to cathode short in the 8877.)

Unfortunately, while manufacturers were busily working working with tube design and manufacturing process engineers to solve the problem, one individual was using a platform in QST to give completely false data to users. He was on the outside of everything, but he was telling everyone manufacturers were lying (thank goodness I was not alone on the liar-list, hi!) and the cause was parasitics. He single handedly set back the cure of the 8877 by stopping the free exchange of information between

customers and manufacturers. He caused customers to believe Ameritron and others were lying about problems, when customers were actually being given the full truth.
Eimac would replace the defective 8877's and WANTED to get defective tubes back, Ameritron wanted to get any PA with multiple failures back in untouched condition, but someone was busily convincing customers to not co-operate. Instead of a team working together, amateurs refused manufacturer's help. Instead of no-cost repair, customers sent money to the fellow on the outside with all the answers.

When customers found a tube that finally worked, Eimac couldn't trace the batch. Customers thought the "cure" was the chicken claws and bag of bones the shook over the amplifier, when they really just finally got a tube from a good batch.

Eimac couldn't trace the batch. Customers paid for tubes they could have gotten for free, and we all were losers... except one guy.

>In the late 1980's, after the "selection" program
> began. 8877 tubes appeared on the market (even as OEM units in Alpha amps)
> that were in plain brown boxes with blue labels marked "Industrial Tube".
> The tubes themselves were no longer labeled 8877, but "YU158". This process
> continues to this day. I suppose GE and ETO do not intend to get stung >again!

Even the selected tubes were no sure cure. The problem was eventually traced to a getter and heat dam problem. The suspicions ranged from air pollution at Salt Lake City (Eimac was trying to tie batch failures to the air pollution index during the manufacturing process) to material and assembly defects.

> If you inquire at Eimac, they will tell you the YU158 is a "selected" tube,
> and is completely compatible with any 8877 application. I have tested >several
> YU158's, and my experience is that the tubes put out the same power as the
> 8877, but with slightly less plate current, much less grid current, and
> therefore less exhaust plenum temperature.

That is true, because the batch selection process guarantees closer tolerances in performance.

People should NOT be afraid of new 8877 tubes, but they should avoid buying used 8877 tubes from the 1980's. Penta Labs was also somehow obtaining and relabeling bad batch 8877 tubes as new tubes "made in China". Use only current code date 8877 tubes made by Eimac, with the stamped in logo.

Some defective tubes never made it back to scrap piles, and are still sold as surplus 8877's. Some old tubes are even out with new plating and labeling, a fellow in California (*not* Richard Measures) actually spent some time in jail for relabeling and selling used tubes as new tubes.

The less than honest behavior of individuals out to make a buck on people's problems hurts all of us. I hope the time spent here by everyone steers us away from magic and voodoo, or as someone coined (a name I like much better).....Pathological Science.

Have a Merry Christmas, and a Happy New Year!

Tom

4230. Re: WTB: Coil Stock - B&W 3012

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Schiwapew Woapalanne <willi6@erols.com>
Message-ID: <32BEECBD.73A2@erols.com>
Source record: 99526
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment

Dave wrote:
>
> I am looking for a couple lengths of B&W 3012 coil stock for
> a receiver project. I know I could wind my own, but there are
> 4 interlinked coils in the project and I doubt I'd have a very
> easy go of trying to get them all on the money.
>
> It's 3/4" in diameter, 32 tpi. I know there must be some old stock
> lying around out there somewhere.
>
>< snip ><

Dave,
Ocean State Electronics also sells the whole line of B&W Miniductor and
AirDux.
In the 1993 Catalog, 3012 listed at $5.90.

Address: POB 1458, 6 Industrial Drive, Westerly, RI 02891

PH: 1 401-596-3080
FAX: 1 401-596-3590
ORDERS: 1 800-866-6626

FYI: They appear to work some "flexible" days/hours as I've had trouble
getting through on the phone numbers. There always seems to be voice
message that they are closed that particular day or afternoon.

Good Luck with your project. 73 Dave K7HMP

4231. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec23.181449.22007@ke4zv.atl.ga.us>
Source record: 99527
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

I haven't yet seen a reply from Tom (and I'd like to), so I'll
take a few pot shots at answering some of this.

In article <59efad$li2@li.oro.net> jim@rst-engr.com writes:
>tomb@lsid.hp.com (Tom Bruhns) shared these priceless pearls of wisdom:
>
>Tom -- help me here (I'm an analog cat in a room full of digital rocking
>chairs)
>
>->You can also convert to a very low IF,
>
>Understand. Mix it with an LO that is close to the desired. One small
>problem is desense of the RF stage with the LO, but that is an RF problem
>and not a digital one. That I can handle.

The bigger problem is the nearby image. That's tough to deal with in a
tunable design.

>-> digitize it
>
>in what sense digitize? Sample at some higher frequency than the IF and
>recreate the IF frequency as a bunch of analog dots? I honestly don't
>understand what it means to digitize an analog signal other than sampling
>and recreating the same analog signal as a whole potful of digital levels.

Ok, to digitize an analog signal, we sample it at or above the Nyquist
limit, IE with a sample repetition rate at least 2x the highest frequency
component of the signal being sampled. Nyquist showed that you can fully
represent a sinewave by two or more measurements made per cycle. (Any signal
can be represented as the sum of a series of sinewaves.) These samples are
digital numbers representing the voltage of the signal at the time the
sample is taken.

The sample window is very narrow, as close to zero width as you can get,
so that it represents the true instantaneous value at the time the sample
is taken as closely as possible. This is usually done with a sample and
hold gate. The A/D converter can then convert the sample into a number,
taking as much time as it needs to do so as long as it is done before
the next sample must be taken.

The number of bits used to represent this number determines the dynamic
range of the system. 8 bits can represent 256 levels (counting zero),
so it yields a voltage dynamic range of 48 db. A 16 bit word represents
65537 levels (counting zero), so has a dynamic voltage range of 96 db.
A/D converters with more bits of resolution typically run slower than

A/D converters with fewer bits, so there's a practical limit to how fast
the sample repetition rate can be for a given resolution, IE how high
the frequency can be that you are sampling.

A HF receiver faces a signal environment with a dynamic range of up to
160 db or so. Therefore even 16 bits aren't enough to fully preserve
that range, but an A/D with enough bits that's also fast enough isn't
yet available at a reasonable cost. You can slide the zero reference
up or down so that the A/D "windows" only a part of the full range,
and this is often enough. This is a truncating form of AGC. You can
also use more typical analog AGC on the analog RF front end stage of
course.

Ok, what you wind up with is a series of numbers, each made up of
a number of bits that depends on the resolution of your A/D converter,
and coming at a rate equal to the sample repetition rate, IE at least
2x the highest frequency in the signal you are sampling. This is the
digital equivalent of the analog signal, and you can now process it
with mathematical functions which are the equivalent of analog processes
such as amplification, filtering, mixing, etc.

>, and process it
>->with an algorithm which is very similar to an analog quadrature detector:
>->just convert to, say, 20kHz IF, digitize at 80k samples/second, and
>->multiply each sample by the previous sample.
>
>Multiply digital numbers together? I'm not sure what we are trying to
>achieve.

Multiplying two digital signal streams is equivalent to running two
analog signals through a mixer. What you get from multiplication is
a *product*, just as what you get from an analog mixer is a *product*.
And theory shows it is the *same* product in each case if you've dotted
all the i's and crossed all the t's in sampling to generate the digital
signal streams.

> Normalize for amplitude
>->(essentially the analog of a limiter stage).
>
>Take the highest digital number and normalize all the signal samples to
>that?

Since you are only interested in changes in phase, IE d(cos(wt))/dt,
you want the amplitude to be the unit vector. Normalization accomplishes
this. Though I have a question for Tom. Don't we want to normalize *before*
multiplying too?

> Run the output thru a
>->lowpass filter to remove things above half the IF or so.
>
>A digital lowpass or have you gone back through a D/A converter to get an
>analog signal back?

It depends on how accurate a LP response we need. For an accurate
response, we'd do it in digital and then use a simple RC reconstruction
filter at the analog output. If we don't need a very precise LP function
(and we don't here), we can depend on just the RC reconstruction filter.

> There is a
>->90 degree phase shift if the sig is exactly on 20kHz = fs/4, and the
>->output is zero.
>
>Why?

We have cos(wt[i])*cos(wt[i-1]]-pi/4). If there is no frequency change
between sample i and sample i-1, the product will be a constant, IE
a DC level. If there is a frequency difference, the product will vary
over time, IE our modulation envelope. What I don't see here, however,
is detection of this envelope. We need to take the absolute value of
the product to recover the actual modulation waveform.

> If the sig is above or below that, there is more or
>->less than 90 degrees phase shift, and the output will be above or below
>->zero.
>
>Sounds like a digital discriminator. I'd really like to learn more about
>this technique. Got a reference that doesn't get too deeply into the
>theory and is more of a practical engineering cookbook?

Humph. You have to understand the modulation theory in mathematical
terms before you can know what functions to perform digitally to
get the desired results. So any text that treats this subject has
to get somewhat deeply into signal and modulation theory for discrete
systems.

My constant reference is _Digital Modulation and Coding_ by Stephen G.
Wilson. Now I'm interested mostly in digital modulations, of course,
but Wilson is clear enough and general enough to be used to understand
the process with analog signals too. This is *the* most lucid book I've
found on digital processing and digital signal design and coding.

A more general book is _Digital Communications Techniques, Signal Design
and Detection_ by Simon, Hinedi, and Lindsey. But that thing is a drag to
wade through. Don't use it as an introduction.

Some other books which may have more application to digital processing
of generic analog signals are:

Digital Signal Processing, A Practical Approach by Ifeachor and Jervis
(lots of people like this one)

Analog and Digital Signal Processing by Ambardar
(and this one)

Modern Signals and Systems by Kwakernaak and Sivan
(I like this one)

Digital Signal Processing by Roberts and Mullis
(dry, dry, dry)

There are also a number of "cookbooks" on the market. And several of them are very useful. However, they assume you have the background necessary to know *why* you are executing the recipes they offer. So you really need to read some more theoretical books first.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4232. Re: Direct conversion FM receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <59mjau$763@hpcvsnz.cv.hp.com>
Source record: 99528
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Jim Weir (jim@rst-engr.com) wrote, requesting further info on a digital
FM demod technique I suggested:

: Tom -- help me here (I'm an analog cat in a room full of digital rocking
: chairs)

I sent Jim email on this, since I didn't figure it would be of general
interest. If anyone else would like it, just ask (via email pls.)

--
Cheers,
Tom
tomb@lsid.hp.com

4233. Re: Ideas for Low Frequency Tunable Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: fpm@u.washington.edu
Message-ID: <59mkdg$go8@nntp1.u.washington.edu>
Source record: 99529
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In article <59me5s$6i2@gap.cco.caltech.edu>,
lbliao <lbliao@alumnae.caltech.edu> wrote:
>I am looking for a low frequency tunable filter, in the range of 0.05Hz to
>say 10Hz. The filter could have a response of say double pole, so that it
>is a peaking filter. The Peaking frequency should be variable electronically,
>which means that a variable resistor is ruled out.

The 0.05Hz is pushing it, and not sure what you mean by a 'peaking filter',
but a switched-capacitor filter may fit your needs. Check Linear
Technology, Maxim, National Semiconductor,....

-frank

4234. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: commquart@aol.com
Message-ID: <19961223203801.PAA20184@ladder01.news.aol.com>
Source record: 99530

In article <32BAED5C.564A@barbwired.com>, Andy Heninger
<andy@barbwired.com> writes:

>
>You have two specimens of trashed tubes, with different failure
>mechanisms. I don't see how you are able to associate the failures with
>HF vs. VHF damage - it seems much more plausible that the grid was
>damaged by excess grid dissipation (independently of frequency), and
>that the cathode was damaged by excess cathode current, perhaps combined
>with low filament voltage.
>
>

What do these tubes use for insulation?? Is it B O?

The same dangerous stuff used in RF power transistors?

I hope readers of this thread aren't tempted to break open old
power tubes without knowing the dangers involved in doing so just
to check out the gold balls.

Pete

4235. triplexer schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32BEF9B2.721F@ipass.net>
Source record: 99531
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,triangle.radio,ipass.ham-radio

Looking to build a triplexer to feed 3 antennas with one cable... 2m, 223.5mhz and 440 mhz. Any info appreciated.
Tnx,
Dave

--
==========
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==========

4236. Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: kayvon@hotmail.com
Message-ID: <851381444.25098@dejanews.com>
Source record: 99532
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been looking for some all today on the Internet with no luck, and if anyone has any plans at all, e-mail me: kayvon@hotmail.com and I'd be greatfull. If you do reply to this, make sure to e-mail me as well because I don't get to read Usenet newsgroups as often as I'd like to and I'm likely to miss the posting (especially with Christmas coming up and all.) BTW, this is for IMFORMATIONAL PURPOSES ONLY. Today's not the first day I've been looking for some plans, and I've all but given up.

---
kayvon@hotmail.com
----------==== Posted via Deja News ====----------
http://www.dejanews.com/ Search, Read, Post to Usenet

4237. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961223234100.SAA24162@ladder01.news.aol.com>
Source record: 99533

Like the Energizer Bunny, new charges and claims against the amateur industry to support the sales of a small after-market company could grind forth with tedious repetition until everyone who even remotely cares may stop challenging and go away in a state of dazed disbelief or fatigue. On the other hand, perhaps the new year will be kind to all of us and this hideous thread will go away. I, for one, am totally convinced that Rich's claims have been proven sufficiently "incredible" to dismiss. But, as honest Abe said, "you can fool some of the people some of the time". And. perhaps that's often enough to keep the ole' bunny hopping!

Rick K1BQT

4238. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2312961629190001@port10.vcnet.com>
Source record: 99534

In article <19961223203801.PAA20184@ladder01.news.aol.com>,
commquart@aol.com wrote:

> In article <32BAED5C.564A@barbwired.com>, Andy Heninger
> <andy@barbwired.com> writes:
>
> >
> >You have two specimens of trashed tubes, with different failure
> >mechanisms. I don't see how you are able to associate the failures with
> >HF vs. VHF damage - it seems much more plausible that the grid was
> >damaged by excess grid dissipation (independently of frequency), and
> >that the cathode was damaged by excess cathode current, perhaps combined
> >with low filament voltage.
> >
> >
>
> What do these tubes use for insulation?? Is it B O?

No. The insulation material is aluminum oxide (ceramic).

> The same dangerous stuff used in RF power transistors?
>
> I hope readers of this thread aren't tempted to break open old
> power tubes without knowing the dangers involved in doing so just
> to check out the gold balls.
>
Opening such tubes involves breaking nothing. I hold the kaput tube is a
vice. Using a fine tooth coping saw, I barely cut through the sheet metal
flange that is silver-soldered to the ceramic anode insulator. One must
be careful not to let the saw blade penetrate more than a couple of mm
into the interior, or the grid cage could be damaged.

The tube in the photo was driven so hard that a short circuit developed
between the cathode and the grounded grid---yet no gold-sputtering damage
to the grid occured. How is it possible to drive a shorted tube hard
enough with HF to cause gold sputtering.

--
--Rich-- ag6k, 805-386-3734

4239. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2312961641190001@port10.vcnet.com>
Source record: 99535

In article <19961222212000.QAA26102@ladder01.news.aol.com>,
commquart@aol.com wrote:

> In article <32BAED5C.564A@barbwired.com>, Andy Heninger
> <andy@barbwired.com> writes:
>
> >First, there is no difference between a tube in an "oscillation
> >condition" and a non-oscillating amplifier, so far as the tube itself
> >and its ratings are concerned.
>
> Andy
>
> I would have to disagree with this statement. The assumption being
> the "non-oscillating amplifier" would be properly tuned and loaded
> and the tube operating within rated specifications.
>
> In a VHF "oscillation condition" what mechanism exists to provide
> a proper load for the generated VHF RF energy in an HF
> amplifier? What would limit the tube's dissipation, or RF voltages?
>
This afternoon I tested David Holtcamp's TL-922 tune capacitor. The
breakdown voltage was about 6100V. David observed that this capacitor
arced during operation on the CW tap. The HF voltage present on the CW
tap is around 2000V IMO, the intermittent arcing of the 6000v+ tune cap.
was due to a largely-unloaded VHF parasitic oscillation.

--
--Rich-- ag6k, 805-386-3734

4240. Re: Realistic WX alert radio mods??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Ken Wells <kenwells@kiva.net>
Message-ID: <Pine.LNX.3.95.961223224749.4091A-100000@ansel.intersource.com>
Source record: 99536
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The NWS WX receiver uses a 1050 Hz tone to activate. S-Com repeater controllers are easily set up to send this frequency tone. I have thought about doing the same conversion here in Paoli, IN. But so far have not had enough takers in the club.

73 de Ken - NM9P

kenwells@kiva.net

On Thu, 19 Dec 1996, Michael Black wrote:

> While you have that receiver open, can you give us any details of what's
> inside? Years ago, I had a Radio Shack weather receiver, and it amounted
> to a FM BCB receiver, moved to the weather channel. It was varactor
> tuned, and went to a 10.7MHz if. The filtering there was only IF
> transformers, no ceramic filters.
>
> I had assumed that the weather receivers of today were a fancier design.
> But I bought some scrap hand held CB sets recently for parts, and their
> built in weather receivers had a single conversion design, and the crystal
> does not translate to any standard IF frequency. I need to do some more
> calculating to figure out what's going on.
>
> Is there a second conversion in that weather receiver? You should be
> able to uncover that information by looking for a second crystal elsewhere
> on the circuit board.
>
> Are there any ceramic filters? If the circuit fits the usual pattern,
> there'd be one at 10.7MHz (maybe marked with that number), which might
> look like a ceramic capacitor except it has three leads. Then maybe
> there'd be another filter, in a square plastic package maybe, most likely
> running at 455KHz. I have no idea whether this presumption is valid, but
> if it's a good quality receiver, then it probably would be double
> conversion 10.7MHz/455KHz and most likely at this date uses an IC
> for the IF strip, if not for the whole receiver.
>
> This information would be useful to others. If the circuit is double
> conversion and uses ceramic filters, then they are well worth converting
> to 2M use, and would provide a cheap means of getting a 2M monitoring
> receiver, which many seem to desire.
>
> If it's a much simpler circuit, it still might be useful in some cases,
> but less so and not something that I'd spend much money on.
>

> Michael VE2BVW
>
>
>
> In article <petrocjw-1812961553150001@192.168.1.2>, petrocjw@ucunix.san.uc.edu (Joe Petrocy) says:
> >
> > Just wondering if anyone has a good idea on how to mod a Realistic WX
> >alert radio model 12-140. It seems to use one crystal as a reference for
> >the 3 WX service frequencies. I would like to know if I could drop a
> >crystal in there to reference something in the 147.00MHz range so I could
> >tune it to rx 147.060 and others in the area. I am also curious what the
> >tones are that actually set off the alarm. I would like to set it to go
> >off if someone does a long-tone zero on our repeater. If I knew what the
> >tones were that set it off, I could program our repeater controler to emit
> >those tones after a LTZ.
>
>
>

4241. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Ken Wells <kenwells@kiva.net>
Message-ID: <Pine.LNX.3.95.961223225208.4091B-100000@ansel.intersource.com>
Source record: 99537
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

In Radio Shack's 200 in One electronic project kit there was a circuit for a "spark" transmitter that used a relay, an audio transformer to step up the voltage, and a coil and capacitor to tune to the AM broadcast band. This little transmitter could be heard a number of feet away as it sent morse code. I remember building this on the spring-coil board in the kit and it was fun . (I was in Jr. Hi. at the time.) I think the circuit is still in the project kit.

Good luck.

Ken Wells - NM9P
kenwells@kiva.net

On Mon, 23 Dec 1996 kayvon@hotmail.com wrote:

> I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been looking for some all today on the Internet with no luck, and if anyone has any plans at all, e-mail me: kayvon@hotmail.com and I'd be greatfull. If you do reply to this, make sure to e-mail me as well because I don't get to read Usenet newsgroups as often as I'd like to and I'm likely to miss the posting (especially with Christmas coming up and all.) BTW, this is for IMFORMATIONAL PURPOSES ONLY. Today's not the first day I've been looking for some plans, and I've all but given up.
>
> -----
> kayvon@hotmail.com
> ----------==== Posted via Deja News ====----------
> http://www.dejanews.com/ Search, Read, Post to Usenet
>
>

4242. Re: triplexer schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: "Christopher (Chris) W. Boone" <cboone@earthlink.net>
Message-ID: <32BF6D2E.19CF@earthlink.net>
Source record: 99538
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,triangle.radio,ipass.ham-radio

Comet and Diamond make units such as this for 80 bucks....

I have one and it works ok....

The basic premise is:

UHF ---------------(high pass filter with ---------------
cut off at 320 Mhz) |
|
----ANT
|
|
|
(low pass filter with ---------
cut off at 320Mhz)
|
|
|

| |
(highpass filter with (lowpass filter with
cutoff of 170Mhz) cutoff of 170Mhz)
| |
220 Mhz port HF->2m port

Thats about it......Not much different than a VHF/UHF diplexer but with
an extra diplexer (144/220) built in

73
Chris
WB5ITT

(dont forget GOOD interstage shielding for max isolation)

David A. Cooley wrote:
>
> Looking to build a triplexer to feed 3 antennas with one cable... 2m,
> 223.5mhz and 440 mhz. Any info appreciated.
> Tnx,
> Dave
>
> --
> ==> David Cooley
N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
> Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/

> Sponges grow in the ocean... Wonder how deep it would be if they didn't!
> ==========

4243. Re: MIRAGE B3016 preamp problem!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.GSO.3.95.961223174641.4669D-100000@oso.slonet.org>
Source record: 99539

Jack, regarding the U310 FET used in VHF pre-amps, be sure and use the metal can version. Plastic is OK for most HF versions. 73 Cliff K7RR

4244. Re: UHF/VHF books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: "Christopher (Chris) W. Boone" <cboone@earthlink.net>
Message-ID: <32BF720F.6FFE@earthlink.net>
Source record: 99540

If you have a "MicroCenter" computer store nearby, check out their bookstore inside! I went to the north Dallas location...the PC prices suck...BUT the BOOKs they had IMPRESSED me (and Im not easily impressed by bookstores!)...

They had great books on microwave design, antenna, gear, etc...
Chris
WB5ITT

wmackey@cpcnet.com wrote:
>
> Can anybody point me at some good reference books for UHF/VHF design
> techniques. I'm particularly interested in the gigahertz range
> circuitry. Thanks
>
> Wade, N3JLA
>
> wmackey@cpcnet.com

4245. Sell\Trade 4-1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-23 00:00:00 UTC
From: Jerry Booth <jerryjtb@csrlink.net>
Message-ID: <32BF60E3.5B9C@csrlink.net>
Source record: 99541

Sell or trade 4-1000A RF deck. Dual vacuum tuning plate and load with B&W 850 Tank. Tuned input and fully metered meters for Plate volts, plate amps, grid mamps and RF output volts. 17W x 17D x16H. Front panel 18W X 17 H. Covers 80,40,20,15,10. Included full output 4-1000A and sk506 chimney. Asking 550.00. Power supply available.

Jerry W0ZD

4246. Re: Suppressor calculations

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961224003901.TAA25441@ladder01.news.aol.com>
Source record: 99342

In article <1996Dec23.155426.21368@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>
>Right, I know that, Tom, but the 1/4-wave peaks (such as they are) do
>fall out to those dimensions. A "groundplane" is never really ground.
>That's always a single point, whether you intend it to be or not. And
>for tubes with a grid flange, the path to that point is so short that
>resonances at VHF are practically impossible for a grounded grid
>configuration. (I'm sure you know that.) The problem comes with tubes
>with long skinny internal leads. (I'm sure you know that too.)

Exactly.

So the problem Rich attempted to present is so outlandish that it is a moot point.
It is just another way to fuzz up the topic.

Modern PA designers are beyond using a wooden chassis, 250TH tubes, and 30 inch leads.

73 and have a good xmas.

Tom

4247. Re: Mitsubishi M57727 Power Module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <59nd5d$i13$1@news3.microserve.net>
Source record: 99343

Sure wish it was a M67712!,

73 Steve
In article <32AE2E51.317B@worldnet.att.net>, dfrank@worldnet.att.net says...
>
>If anyone needs a new, in the box, never used module, I have one I will
>send you via USMail for $40. That's about $20 below what you would pay
>at RF Parts.
>If interested contact Don, W9SL, via email or at 303/741-1503, anytime.

4248. Re: MIRAGE B3016 preamp problem!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <59ndcs$i13$2@news3.microserve.net>
Source record: 99344

Replace the pre-amp with a gasfet unit, Down East Microwave has a complete board kit 18dbg <.6bnf for $25. You should be able to fit it into the B3016's case. Down East's web address is http://www.downeastmicrowave.com

73 Steve N3FTI

In article <59mctu$rhj@hera.ia.net>, kovar@zeus.ia.net says...
>
> I have a MIRAGE B3016 2mtr amp/preamp that is giving me fits.
>
> I seem to have a bad FET U309 "metal case three legs".
>
> Diagram in book discribes it as a JFET J310 or U309.
>
> I crossed J310 with a NTE326 or ECG326, Three legs plastic JFET.
>
> Sound great right! Part is discribed as P channel General purpose
>
> AF AMP. I know my hearing range won't make it to 144mhz.
>
> Circuit is S is grounded, G is input with 120 ohm to ground,
>
> D is output with .15 ohm and +13.6 vdc.
>
> ANY ideas ?
>
> The ECG/NTE shoots the top off like pinball machine!
>
> Thanks,
> Jack Kovar
> K0VAR
> Iowa
>
>

4249. Re: Source for Toshiba TC518512AFT-80V Pseudo SRAM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: quartlow@netcom.com
Message-ID: <quartlowE2wIzy.4tD@netcom.com>
Source record: 99345
Cross-posted to: comp.arch.embedded,comp.robotics.misc,rec.radio.amateur.homebrew

Daniel Wee, 9V1ZV (daniel@pandora.lugs.org.sg) wrote:
: Hi,

: I am having a hard time finding a source for the
: Toshiba TC518512AFT-80V 512kb Pseudo SRAM (flat pack) version.
: I would really appreciate it if someone here could tell
: me where I can get them in small quantities. Thanks in
: advance.

: 73 de 9V1ZV Daniel

: *------------+--------------------------------------+
: | Daniel Wee | daniel@pandora.lugs.org.sg |
: | 9V1ZV | danwee@singnet.com.sg |
: | QRP-L #667 | daniel.wee@f516.n600.z6.fidonet.org |
: +------------+--------------------------------------+

And then Len said:

I had the same problem with a Hitachi PSRAM.
Hitachi dropped the part and replaced it with
a full static 512KB part. I refer to Hitachi
P/N HM628512LFP-75L....

Are you sitting down?
In 400K [As in Four Hundred Thousand] piece lots,
the full static part is priced at US$ 30.00. (!)

Time to re-design using real DRAM, I think.
256 K SIMMs are now down around $5.00 full retail.
If you are not in commercial production mode, your
PC using friends will hand over their old 256K SIMMs
for next to nothing.
Doubt this helps. Please e-mail me if you find out
a reasonable supplier of the full static 1/2 meg RAMs.

-- Len
--
quartlow@netcom.com

4250. Re: Ideas for Low Frequency Tunable Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: dmcnutt@macnauchtan.com
Message-ID: <dmcnutt.1201791405C@news-2.csn.net>
Source record: 99346
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

In Article <59mkdg$go8@nntp1.u.washington.edu>, fpm@u.washington.edu (Frank Miles) wrote:
>In article <59me5s$6i2@gap.cco.caltech.edu>,
>lbliao <lbliao@alumnae.caltech.edu> wrote:
>>I am looking for a low frequency tunable filter, in the range of 0.05Hz to
>>say 10Hz.

At that speed I wouldn't consider anything but a pure digital technique. You wouldn't even need a DSP - a PIC or 68HC11 come to mind. Once you get into the digital domain you can program your filter characteristics and adjust them to fit your application.

-> From the USA. The only socialist country that refuses to admit it. <-

4251. FS: Tube & transformer books

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: hammarlund@jacksonmi.com
Message-ID: <32bf2117.29793104@fvnews.com>
Source record: 99347

Hi All!
today have the following to find new homes for:
RCA plus shipping
TT-5 rebound complete $20
RC-16 rebound complete $20
RC-19 rebound complete $20
RC-21 rebound complete $20
RC-25 rebound complete $25
RC-26 original complete $30

Taylor Tubes 1937 product catalog Nice $25
Sylvania 1955 Technical Manual like new $20
Arrow 1962 catalog used 2 pages missing $10 shipped
Stancore S-101 1955 $20
Stancore S-104 1958 $20
UTC unknown loose pages no cover $20
Thordarson
cat. # 400-D fall-winter 1939/1940 Complete xfmr cat. $25
cat. # 352-F 1941 replacement xfmr cat. $25
cat. # 342-A 1935 servicemans guide $25
cat. # 400-FX 1942, will include war-time suppl. $25
cat. # 341 fall 1935 replacement xfmr's 4 pg's $15
cat. # 400-X (? 1941 ?) complete xfmr cat. $25

or, if you want all the above xfmr books will make package deal for you.

thats it for now...
**** Visit my Web Page.....****
==========]-[->
Robert Fowle KC8DBC
1215 Winifred
Jackson, Mich. 49202-1946
Ph. 517-789-6721
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund

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Moderator: Robert Fowle
at: http://www.inetnc.com/hamchat/

4252. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <32bf80e7.644384125@news.santafe.edu>
Source record: 99348
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

kayvon@hotmail.com wrote:

>I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been looking for some all today on the Internet with no luck, and if anyone has any plans at all, e-mail me: kayvon@hotmail.com and I'd be greatfull. If you do reply to this, make sure to e-mail me as well because I don't get to read Usenet newsgroups as often as I'd like to and I'm likely to miss the posting (especially with Christmas coming up and all.) BTW, this is for IMFORMATIONAL PURPOSES ONLY. Today's not the first day I've been looking for some plans, and I've all but given up.
>
>-----
Many, many years ago in my college rooming house a couple students felt annoyed by the loud music emanating from a nearby room. After a couple of beers they were inspired to a solution. There was an old ac-dc radio in the attic. They rewired the radio so that the 50L6 was the oscillator and lowered the frequency by paralleling the tuning capacitor sections. The oscillator used cathode feedback, since it was originally an oscillator-mixer. This meant that the plate should be bypassed. They applied raw ac to the plate and let the ac line be the bypass. This radiated enough rf into the power lines to replace the annoying music with a raw 60 Hz buzz when the device was tuned to the correct frequency. The offending radio belonged to an aspiring EE who thought for a while that the electrolytics in his radio were going out. He was, however, suspicious of the selective nature of the problem. His suspicions were confirmed by the loud laughter coming from the neigboring room. Details of his threats on the lives of the conspirators are omitted. Likewise, the names of the perpetrators have been omitted.

I am not sure if you need a narrow band device or a wideband device. An extension of this technology to solid state seems unlikely.

Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

4253. Variable Capacitor Simulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: Macarthur Drake <m.drakejr@csuohio.edu>
Message-ID: <32BFCA22.57C@csuohio.edu>
Source record: 99349
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.homebrew,aus.electronics,rec.antiques.radio+phono,uk.telecom,sci.physics,sci.physics.electromag,sci.electronics.design,sci.electronics.components,uk.radio.amateur,rec.music.makers.bass,sci.electronics.basics,sci.electronics.misc,alt.engineering.electrical,comp.lsi,comp.lsi.cad,news.answ

I have worked on creating a varable capacitor or an element
that behaves a such. I need this element for a circuit simulation program, I
don't need such an element in real life. I need to be able to set the
capacitace to a function of time like c(t) = 2+(10*sin 6*time). The
capacitace should be able to be set to any mathmatical function and take on
any value. As you know a varable capacitor will create a current that is a
function of the capacitace, dervitive of the capacitace,
voltage and dervitive of the voltage. I have has some luck
with a collection of elements, however while the current that
these elements is correct for a variable capacitor the voltage turns out to
be scaled. I need to be able to set the initial charge on the variable
capacitor also.

Does any one have experiance in creating such an element with
pspice or any other circuit simulation program? I have been tipped to try
analog behavior modeling, but so far I have had much sucess. Any help, such
as clues or pointer to other sources or anything eles is more than welcomed.
Please resond to my email address.

differentiating the following equation:

q = c(t)*v(t)

the current from a variable capacitor would look like:

i = c(t)*v'(t)+c'(t)*v(t)

Thanks,
Macarthur Drake
drake.79@osu.edu, drake@bme.ri.ccf.org

4254. Re: PRO 26 MOD ? is there one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: G.Milligan@Sheffield.ac.uk
Message-ID: <G.Milligan-ya023080002412961038520001@bignews.shef.ac.uk>
Source record: 99350
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.swap,alt.radio.scanner

In article <32BDFA0E.41BA@ibm.net>, yatkonj@ibm.net wrote:

> Is there a mod for cellular for the Pro 26? I have one source that says
> there is. I would like to get a few more references before I attempt
> it. Any help would be greatly appreciated. Thank you.
>
>
> Nick Yatko
> yatkonj@ibm.net

Nick you can find various bits of info at the tandy support web site

http://support.tandy.com/support_electronics/15613.html

and a cell modification provided by Ross Voorhees (KB0PKT) at

http://www.zianet.com/kc5kto/mods/pro26cell.html

Hope this helps.
--
Greg Milligan

The University of Sheffield, Department of Clinical Neurology, Floor 'N',
Royal Hallamshire Hospital, Glossop Road, Sheffield S10 2JF, UK.
Tel: 0114 2713248 Fax: 0114 2760095 EMail:G.Milligan@Sheffield.ac.uk
World Wide Web: http://www.shef.ac.uk/uni/academic/A-C/cn/index.html
Amateur Radio (AX25 Packet Network): G1CPU@GB7WRG.#19.GBR.EU

4255. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2412960506410001@port6.vcnet.com>
Source record: 99351

In article <59jt54$hip@dallas1.connect.net>, philk5pc@connect.net (Phil Clements) wrote:

> In article <19961222062700.BAA13068@ladder01.news.aol.com>, w8jitom@aol.com says:
> >
> >snip...
> >
> >During three or four periods of time in the 80's, Eimac had trouble with
> >8877's. That's what drove ETO out of the contract business with GE
> >medical, they couldn't get reliable tubes either. I remember visiting ETO
> >and discussing the problem with Ray Heaton.
> >
>
> This is a well known fact...the problem was so bad that a procedure was
> set up between Eimac and GE Medical to specially select 8877 tubes to be
> used in GE MRI machines. The "selection" criteria is a gray area at the
> moment, as Eimac has refused to answer my inquiries about the process.
> This is obviously done at the Eimac factory before delivery to GE and its
> MRI amplifier suppliers. In the late 1980's, after the "selection" program
> began. 8877 tubes appeared on the market (even as OEM units in Alpha amps)
> that were in plain brown boxes with blue labels marked "Industrial Tube".
> The tubes themselves were no longer labeled 8877, but "YU158". This process
> continues to this day. I suppose GE and ETO do not intend to get stung again!
> If you inquire at Eimac, they will tell you the YU158 is a "selected" tube,
> and is completely compatible with any 8877 application. I have tested several
> YU158's, and my experience is that the tubes put out the same power as the
> 8877, but with slightly less plate current, much less grid current, and
> therefore less exhaust plenum temperature.
>
> snip....
> >
> >That problem nearly ruined sales of the 8877, and put ETO virtually out of
> >the medical MRI business. People are still shy of the 8877 because of
> >those 1980's problems.
> >

I don't think the problem is entirely Eimac's. To the best of my knowledge, neither Dick Erhorn or Ray Heaton has ever tested a failed 8877 or YU158 for the presence of gold melt-balls.

The (Joe D. Funderburg, W6IHA) test for loose gold is simple and non destructive. The test: The anode is up, the base is down, no heater voltage present. Apply double the rated anode v between the anode and the grid. The anode is positive and grid is negative. Measure the leakage current. Reverse polarity. If the leakage current remains the same with

the anode negative, no loose gold is present. If the leakage current decreases markedly, the presence of gold melt-balls is indicated.

If anyone has a failed 8877 or YU158, or 3CX800A7 and you would like to have me test it for the presence of gold melt-balls/gold sputtering, I would be happy to test it and report the results here. If so permitted, I would like to photograph the insides of the failed 8877 or YU158 and publish the photos on the Internet for all to see. (a color photo of an 8877 that failed from gold-sputtering is shown on page 16 of the Sept. 1990 isue of QST magazine)

IMO, the thing that cost Dick Erhorn his MRI amplifier contract with GE Medical was NIH syndrome. According to a letter I received from Erhorn in 1990, he has made up his mind that ALL 8877 failures are Eimac's fault.
---
e-mail copy to Mr. Clements

--
--Rich-- ag6k, 805-386-3734

4256. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "Larry J. Robison" <robison@amnorth.com>
Message-ID: <01bbf19b62523440ce04fa26@larry>
Source record: 99352
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Before replying to this guy why don't somebody ask what he wants it for and find out if he lives next door to me .. or you? Sheech it takes all kinds..

kayvon@hotmail.com wrote in article <851381444.25098@dejanews.com>...
> I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer.

4257. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: bboone@mindspring.com
Message-ID: <59osmt$12o@camel0.mindspring.com>
Source record: 99353

Question for the fellow that is posting this thread on his web site:

Do you have time to distill the trash from the technical discussion and just post that? Also considered trash (IMHO) is repeating the same thing over and over. It is an interesting thread, and I would like to keep a copy of the highlights. Thanks -- Bobby kr4bu

4258. Re: triplexer schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32BFF70A.488F@ipass.net>
Source record: 99354
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,triangle.radio,ipass.ham-radio

I guess I could just reverse the conn's for what I need... One coax
leaving the shack (one rig used at a time) but 3 antennas on one boom
Thanks,
Dave

Christopher (Chris) W. Boone wrote:
>
> Comet and Diamond make units such as this for 80 bucks....
>
> I have one and it works ok....
>
> The basic premise is:
>
> UHF ---------------(high pass filter with ---------------
> cut off at 320 Mhz) |
> |
> ----ANT
> |
> |
> |
> (low pass filter with ---------
> cut off at 320Mhz)
> |
> |
> |
> ------------------------------
> | |
> (highpass filter with (lowpass filter with
> cutoff of 170Mhz) cutoff of 170Mhz)
> | |
> 220 Mhz port HF->2m port
>
> Thats about it......Not much different than a VHF/UHF diplexer but with
> an extra diplexer (144/220) built in
>
> 73
> Chris
> WB5ITT
>
> (dont forget GOOD interstage shielding for max isolation)

--
==========
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM

Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==========

4259. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf1bb$53725200$976d3bc6@internet.roadrunner.com>
Source record: 99355

Dear Rich, Tom and all others who've helped me here,

You might remember me -- I'm the fellow with the TL-922 that was experiencing intermittent arcing. Rich (especially), Tom and several others tried very hard to help me out.

I'm here to report the results of my investigations. The good news is that I believe I've solved the problem -- the bad news is that I'm a little embarassed about what the cause was. More on that below...

Based on Rich's suggestions, I was on course to try one of his VHF suppressor kits in my TL-922. I am a physicist, so I was trying to understand a bit more before just installing the kit, so I fished around some more trying to figure this out.

Someone had suggested that I try and trigger the arcing by disconnecting the input from the transceiver and keying the PA while going through all bands and all combinations of tuning/load cap settings. Nothing happened. Also tried it after disconnecting the load as well. Saw no significant change in the plate or grid currents. Might have seen a barely perceptible change in the plate on 10 m, but nothing very significant. But it kept me looking...

I next tried looking for VHF resonances with 2 different dip meters - an older Heath grid-dip unit and the MFJ-259 SWR/antenna analyser with their dip coils. I found weak resonances between the plate coupling capacitor and the tubes at about 90 and 150-160 MHz. But nothing that jumped out and grabbed me. In fact, the Heath unit was quite a bit more sensitive than the MFJ (not entirely surprising) largely because of the ability to adjust the sensitivity more flexibly. The MFJ was able to see the same resonances but they were almost imperceptible - so I was unable to obtain quantitative results on the precise frequencies, depth, etc., except to say they were quite weak.

Well, I called Rich to make sure I wasn't doing something wrong. During the conversation, it dawned on me that although I'd seen the arcing phenomena on both antennas (a G5RV through a tuner, and a log periodic with or w/o a tuner), I'd never tried to see if I could make it arc when hooked up to my dummy load. Hmmmm...

To be truthful, I'd avoided the arcing at all costs - seemed like a bad idea to try and deliberately trigger an arc...I'd heard/read enough horror stories to be very cautious. When I bought the TL-922 it had some obvious arcing damage on the plate tuning cap, and I had to replace it a couple of months ago (~$130 a piece). And now the new plate cap was arcing, too, and I didn't want any more expensive parts to fail. But, fact is, I hadn't

tried it on the dummy load (oil filled MFJ model). So I did.

Well, as you might have guessed by now, I couldn't get it to arc. I tried the highest power I could muster on both CW and SSB HV settings - tried triggering it by tuning the load cap *past* the peak RF output (often triggered the arc in the past) but no arc. I was both excited and embarassed at this point. Didn't look like it was internal to the amplifier anymore. So what were the common elements between the two antennas???

I visually checked over the cables and thought of replacing them, but there was another common feature between the two antenna lines.

I have two Alpha Delta lightning/surge protectors on each antenna line (both well grounded and I thought working properly). They are the "HV" model which is reportedly good to 2KW up to 500 MHz.. When I removed them, my antennas loaded up just fine - at full power. No arcing anywhere, any band, any power.

So, I've ordered two replacement gas cartridges for the Alpha Delta's they should come in a week or so. We have a lot of lighting strikes around here and lots of static (because it is often so dry) so I really want to continue with some sort of protection.

My tentative explanation for now is that these lighting protectors were doing their job, perhaps too well. They were apparently arcing to ground when I reached some critical power level on the PA This must have been presenting the TL-922 with something like a dead short. Kinda impressive actually that the 922 has survived such repeated abuses.

That it was the Alpha Delta supressors also explains one more bit of what I was seeing - once the TL-922 arced, it was much, much easier to trigger the arc again and again at lower power. Unless I waited many minutes, it would arc at lower than normal levels - so I would wait for things to "cool off" before operating again. I had explained this to myself as some sort of thermal effect inside the 922, but now I guess that the gas cartridge in the Alpha Delta takes a few minutes for the plasma to neutralize again and go back to "normal".

I'm guessing, too, that these cartridges may have been weakened by nearby lighting strikes and reduced their ability to stand off the higher power. The Alpha Delta writeup says that they do degrade with time and should be replaced then they show a permanent short or open up completely. My condition might have been a degraded condition that caused my arcing problem. I opened up both Alpha Delta units and inspected them visually - no apparent damage other that very slight element discoloration on one of them.

In any event, sorry to be so long winded, but I wanted to present the full story to the group and be embarassed (but only a little) that I was on a bit of a wild goose chase.

I want to thank Tom R. and the others who offered their time and attention to help me solve this problem. I especially want to thank you,

Rich, for your time and delightful conversations and insights.

Best wishes and Happy Holidays to all in the group!!

73's de K5KH

david

4260. Small Wonder Labs Catalog online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jparker@fix.net
Message-ID: <59p2k7$t5q@twizzler.callamer.com>
Source record: 99356

Dave Benson's Small Wonder Labs now has an Web Page with all the
latest offerings.

Check out the new SSB Kits.

73'es,,,Jerry...K

4261. Internet Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jparker@fix.net
Message-ID: <59p2om$t5q@twizzler.callamer.com>
Source record: 99357

jparker@fix.net (Jerry Parker) wrote:

>Dave Benson's Small Wonder Labs now has an Web Page with all the
>latest offerings.

>Check out the new SSB Kits.

>73'es,,,Jerry...K

http://www.fix.net/~jparker/sml.html

]

4262. TL-922 Arcing - the Saga Ends???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf1bc$98d59360$976d3bc6@internet.roadrunner.com>
Source record: 99358

(posted to the Good Amplifier Tips thread as well for archiving purposes)

Dear Rich, Tom and all others who've helped me here,

You might remember me -- I'm the fellow with the TL-922 that was experiencing intermittent arcing. Rich (especially), Tom and several others tried very hard to help me out.

I'm here to report the results of my investigations. The good news is that I believe I've solved the problem -- the bad news is that I'm a little embarassed about what the cause was. More on that below...

Based on Rich's suggestions, I was on course to try one of his VHF suppressor kits in my TL-922. I am a physicist so I was trying to understand a bit more before just installing the kit, so I fished around some more trying to figure this out.

Someone had suggested that I try and trigger the arcing by disconnecting the input from the transceiver and keying the PA while going through all bands and all combinations of tuning/load cap settings. Nothing happened. Also tried it after disconnecting the load as well. Saw no significant change in the plate or grid currents. Might have seen a barely perceptible change in the plate on 10 m, but nothing very significant. But it kept me looking...

I next tried looking for VHF resonances with 2 different dip meters - an older Heath grid-dip unit and the MFJ-259 SWR/antenna analyser with their dip coils. I found weak resonances between the plate coupling capacitor and the tubes at about 90 and 150-160 MHz. But nothing that jumped out and grabbed me. In fact, the Heath unit was quite a bit more sensitive than the MFJ (not entirely surprising) largely because of the ability to adjust the sensitivity more flexibly. The MFJ was able to see the resonances but it was almost imperceptible - so I was unable to obtain quantitative results on the precise frequencies, depth, etc. Except to say they were quite weak.

Well, I called Rich to make sure I wasn't doing something wrong. During the conversation, it dawned on me that although I'd seen the arcing phenomena on both antennas (a G5RV through a tuner, and a log periodic with or w/o a tuner), I'd never tried to see if I could make it arc when hooked up to my dummy load. Hmmmm...

To be truthful, I'd avoided the arcing at all costs - seemed like a bad idea to try and deliberately trigger an arc...I'd heard/read enough horror stories to be very cautious. When I bought the TL-922 it had some obvious arcing damage on the plate tuning cap, and I had to replace it a couple of months ago (~$130 a piece). And now the new plate cap was arcing, too, and I didn't want any more expensive parts to fail. But, fact is, I hadn't

tried it on the dummy load (oil filled MFJ model). So I did.

Well, as you might have guessed by now, I couldn't get it to arc. I tried the highest power I could muster on both CW and SSB HV settings - tried triggering it by tuning the load cap *past* the peak RF output (often triggered the arc in the past) but no arc. I was both excited and embarassed at this point. So what were the common features between the two antennas???

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So, I've ordered two replacement gas cartridges for the Alpha Delta's they should come in a week or so. We have a lot of lighting strikes around here and lots of static because it is often so dry so I really want to continue with some sort of protection.

My tentative explanation for now is that these lighting protectors were doing their job perhaps too well. They were arcing to ground when I reached some critical power level on the PA This must have been presenting the TL-922 with something like a dead short. Kinda impressive actually that it has survived such repeated abuse. That it was the Alpha Delta supressors also explains one more bit of what I was seeing before - once the TL-922 arced, it was much, much easier to trigger the arc again and again at lower power. Unless I waited many minutes, it would arc at lower levels - so I would wait for things to "cool off" before operating again. I had explained this to myself as some sort of thermal effect inside the 922, but now I guess that the plasma/gas cartridge in the Alpha Delta takes a few minutes for the plasma to neutralize again and go back to "normal".

I'm guessing, too, that these cartridges may have been weakened by nearby lighting strikes and reduced their ability to stand off the higher power. The Alpha Delta writeup says that they do degrade with time and should be replaced then they show a permanent short or open up completely. My condition might have been a degraded condition that caused my arcing problem.

In any event, sorry to be so long winded, but I wanted to present the full story to the group and be embarassed (but only a little) that I was on a bit of a wild goose chase.

I want to thank Tom R. and the others who offered their time and attention to help me solve this problem. I especially want to thank you, Rich, for your time and delightful conversations and insights.

Best wishes and Happy Holidays to all in the group!!

73's de K5KH

david

4263. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2412960941590001@port13.vcnet.com>
Source record: 99359

In article <measures-2312961641190001@port10.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) wrote:

> In article <19961222212000.QAA26102@ladder01.news.aol.com>,
> commquart@aol.com wrote:
>
> > In article <32BAED5C.564A@barbwired.com>, Andy Heninger
> > <andy@barbwired.com> writes:
> > >
> > >First, there is no difference between a tube in an "oscillation
> > >condition" and a non-oscillating amplifier, so far as the tube itself
> > >and its ratings are concerned.
> > >
> > > Andy
> > >
> > I would have to disagree with this statement. The assumption being
> > the "non-oscillating amplifier" would be properly tuned and loaded
> > and the tube operating within rated specifications.
> > >
> > In a VHF "oscillation condition" what mechanism exists to provide
> > a proper load for the generated VHF RF energy in an HF
> > amplifier? What would limit the tube's dissipation, or RF voltages?
> > >
> This afternoon I tested David Holtcamp's TL-922 tune capacitor. The
> breakdown voltage was about 6100V. David observed that this capacitor
> arced during operation on the CW tap. The HF voltage present on the CW
> tap is around 2000V IMO, the intermittent arcing of the 6000v+ tune cap.
> was due to a largely-unloaded VHF parasitic oscillation.
>
> --
Wrong again, Rich. David just informed me that the mysterious arcing was
apparently NOT due to a VHF oscillation in the TL-922.

--
--Rich-- ag6k, 805-386-3734

4264. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961224180600.NAA12554@ladder01.news.aol.com>
Source record: 99360

In article <measures-2312961641190001@port10.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes another story:

>This afternoon I tested David Holtcamp's TL-922 tune capacitor. The
>breakdown voltage was about 6100V. David observed that this capacitor
>arced during operation on the CW tap. The HF voltage present on the CW
>tap is around 2000V IMO, the intermittent arcing of the 6000v+ tune cap.
>was due to a largely-unloaded VHF parasitic oscillation.
>--Rich-- ag6k, 805-386-3734

Perhaps this will give us insight into your claims and measurements.

In article <measures-1712961004520001@port12.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

> Yeah, that's what you were banking on, but it didn't work I phoned
>Eimac's Salt Lake City division at 801-972-5000. I explained what has
>been taking place in this debate. I said that certain claims about Mr.
>Miklos were being made in his absence, and that I would like to verify
>these claims. We are hardly talking about national defense secrets.
>
>Under normal circumstances, Tom, you might have gotten away with it.
>However, there were some unseen factors at work that may have upset your
>apple cart.
>
> In my family, there are two pathological liars, so I am familiar with
how
>such individuals operate. Briefly, EVERYTHING these indivuals say needs
>to be investigated. When one lie gets exposed, they often tell another
>lie to cover the previous lie, on and on. .
>Do you feel that Mr. Rauch's prevarication about Eimac/Salt Lake City.
>ex-employee Mr. Miklos was justified?

In article <measures-1612960947030001@port39.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>Untruthfulness is probably the surest way to loose public support---and
>the fastest way to ruin one's chances of winning a public debate.

Suddenly someone posted:
In article <19961222015500.UAA07838@ladder01.news.aol.com>,
matich1@aol.com writes:

>In the late 80's I had problems with some Eimac tubes. When I called
Eimac
>they transfered me to the manager of tube engineering at Varian. His name
>was Miklos.

>In 1990 I went to the NAB show. I met a ham wa4gpm who worked VHF DX. His
>name was Miklos and his card said R and D manager. He was there with John
>Button from Varian.

And of course Ian indicated a VHF handbook lists Buzz as R+D manager.

Rich, I can't speak for the other people, but I've completely lost faith
in your words.

73, Tom

4265. Kenwood TR7600 questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: Steve <Steve@tenchy.demon.co.uk>
Message-ID: <jBe4NDAwN$vyEwcb@tenchy.demon.co.uk>
Source record: 99361

Hi,

A while back I bought a secondhand Kenwood TR7600 with some other stuff.

First question, to UK peeps, is, the rig covers 144-148,presumably on TX as well as RX (not actually used it yet), is it legal to own ?????

And are there mods to get in between the 5KHz spacings ?? Beacause the plan is to replace my multimode with it on packet, and sell the multimode (ICOM IC260E), but our BBS is likely to be going to a 144.xx25 frequency when they implement the new spacing.

Cheers
--
Steve FOR SALE: Suzuki GSX1100EFE,D reg,only 12500miles,XGC,MOT'd.

4266. Re: Small Wonder Labs Catalog online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jchandle@flash.net
Message-ID: <32c0226c.1696005@news.flash.net>
Source record: 99362

And the URL for the page is......?

jparker@fix.net (Jerry Parker) wrote:

>Dave Benson's Small Wonder Labs now has an Web Page with all the
>latest offerings.
>
>Check out the new SSB Kits.
>
>73'es,,,Jerry...K
>
>

4267. Re: Small Wonder Labs Catalog online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jonz@rainbow.rmii.com
Message-ID: <59p929$gif@rainbow.rmii.com>
Source record: 99363

Jerry Parker (jparker@fix.net) wrote:
: Dave Benson's Small Wonder Labs now has an Web Page with all the
: latest offerings.

...and, it is? ?? ??? ???? ????? ??????

4268. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jackg@one.net
Message-ID: <59p66e$atk@news.one.net>
Source record: 99364

In article <01bbf1bb$53725200$976d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> wrote:
>Dear Rich, Tom and all others who've helped me here,
>
> You might remember me -- I'm the fellow with the TL-922 that was
>experiencing intermittent arcing. Rich (especially), Tom and several others
>tried very hard to help me out.

David,

I had a TL-922 about 10 years ago. I was concerned that there was a gas discharge arc suppressor across the output, and that the manual warned about running CW with the amp in the SSB mode.

After several months of operation on 75 meters running SSB with vox, arcing started to occur. To my dismay I discovered that the band switch was arcing. The 40 meter switch connection was badly burned and unusable. On further investigation, I discovered the cause for this was that the RF input and output switching was performed by a rather large SLOW relay. At the same time, another relay was activated that enabled the bias and switched the front panel lights. The problem was that the RF relay was still experiencing contact bouncing with drive applied and bias enabled!

I solved the problem by removing the large relay, replacing it with a P&B 3PDT 110 VDC relay, with two of the poles performing the RF switching, and the third pole used to key the other relay.

The amp NEVER arced again, and the P&B relay was much quieter. I was also able to run the amp with CW in the SSB mode with no arcing.

Kenwood has made a lot of money selling replacement band switches for TL-922 amps.

Jack, WB8BFS

4269. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961224190100.OAA13744@ladder01.news.aol.com>
Source record: 99365

Hi Dave,

Thank's for the chance to touch on some more important topics. I never thought about those lightning suppressors before.

In article <01bbf1bb$53725200$976d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:

>You might remember me -- I'm the fellow with the TL-922 that was
>experiencing intermittent arcing. Rich (especially), Tom and several
others
>tried very hard to help me out.

<snip>

> My tentative explanation for now is that these lighting protectors were
>doing their job, perhaps too well. They were apparently arcing to ground
>when I reached some critical power level on the PA This must have been
>presenting the TL-922 with something like a dead short. Kinda impressive
>actually that the 922 has survived such repeated abuses.

Multiple things can cause this Dave. It is almost never an oscillation, it is usually an exciter spike, a load fault, or improper tuning.

The big problem is when people have this problem, they are now quick to believe it is a VHF parasitic. They stick in the suppressor kit and then later find and fix the real problem.

This all goes back to my exchange with Mario. When the PA is underloaded for the amount of drive power applied, tank voltage soars. The energy that used to go out to the load simply circulates in the system until it is absorbed as heat or causes an arc.

In your case (as in most or many), a load fault caused the tuning cap to arc. Sometimes it gets the bandswitch. An electronic grid trip circuit could help, it would likely disconnect the drive before the arc did damage. Another device that I would add is a spark gap from the tuning capacitor to ground, set to break down before expensive components.

> That it was the Alpha Delta supressors also explains one more bit of
what
>I was seeing - once the TL-922 arced, it was much, much easier to trigger
>the arc again and again at lower power. Unless I waited many minutes, it
>would arc at lower than normal levels - so I would wait for things to
"cool
>off" before operating again. I had explained this to myself as some sort
of

>thermal effect inside the 922, but now I guess that the gas cartridge in
>the Alpha Delta takes a few minutes for the plasma to neutralize again
and
>go back to "normal".

I question the use of these cartridges in a feedline anyway Dave. IMHO, they do little or nothing to protect your rig.

Look at it logically. If the device can pass a few kilowatts of RF out, it can pass more than that to the receiver when lightning strikes. Will your rig take several kW of energy on the antenna port? Mine won't take ten watts!

> I'm guessing, too, that these cartridges may have been weakened by
nearby
>lighting strikes and reduced their ability to stand off the higher power.
>The Alpha Delta writeup says that they do degrade with time and should be
>replaced then they show a permanent short or open up completely. My
>condition might have been a degraded condition that caused my arcing
>problem. I opened up both Alpha Delta units and inspected them visually
-
>no apparent damage other that very slight element discoloration on one of
>them.

I would also be concerned about the voltage from the SWR. With a 2:1 VSWR the voltage might be 1.4 times normal, that's the same as running 3 kW with a 1.5 kW PEP PA. I don't see how these things would be reliable in anything but a flat SWR system.

Just my opinion, but if it were me I'd get rid of them completely. I'd either remember to disconnect the antennas after each use, build a relay box to do it, or buy an RCS-8V that does that automatically when power is removed.

I would like to have the nichrome if you aren't using it. I'd like to measure the Q change in a PA when it is installed. I have a kit here that came in with a pair of 3CX800's (that also had an arc and the kit didn't cure it) but it may be different. On my network analyzer, that kit reduced 150 MHz Q from 3.1 to only 3.56.

Hunh? That's right, Q went UP from the stock suppressor!

Anyway, have a merry Christmas and I'm glad you found your problem. Consider eliminating those surge suppressors, I suspect they are more trouble than they are worth. And be sure to load that PA heavy enough, I also don't like Kenwoods tuning instructions. Rich and I both agree on that.

73 Tom

4270. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2412961053310001@port13.vcnet.com>
Source record: 99366

In article <59osmt$12o@camel0.mindspring.com>, bboone@mindspring.com wrote:

> Question for the fellow that is posting this thread on his web site:
>
> Do you have time to distill the trash from the technical discussion and just
> post that? Also considered trash (IMHO) is repeating the same thing over
> and over. It is an interesting thread, and I would like to keep a copy of
> the highlights. Thanks -- Bobby kr4bu

Surely you jest, Bobby. There's too much stuff to sort out. Even if
somebody tried to distill the discussion, that might start a fresh new
debate over the content of the distilled version.

IMO, the essence of this debate is that one side believes:

1. That virtually no VHF current flows in a VHF suppressor's inductor.
2. Nickle-chromium-iron alloys are extremely lossy at 28MHz, yet such
alloys are virtually lossless at 100MHz.

--
--Rich-- ag6k, 805-386-3734

4271. Re: Mods to the Yaesu FT-50R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: i@toke.com
Message-ID: <32c02ca0.1272252@news>
Source record: 99367
Cross-posted to: alt.radio.amateur,alt.radio.amateur.club,alt.radio.amateur.club.clarc,rec.ham-radio,rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

http://www.shadow.net/~critta66/ft50.html

On Thu, 19 Dec 1996 15:08:32 GMT, grhosler1@mmm.com (Gary Hosler)
wrote:

>"Program / Case Manager" <winners@pobox.com> wrote:
>
>>Anyone know of mods to the Yaesu FT-50R?
>
>What is it that you are trying to modify? Something not working
>properly? Could you be a bit more specific?
>
>de KN0Z Gary
>
>Opinions expressed herein are my own and may not represent those of my employer.

4272. Re: PRO 26 MOD ? is there one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: Jim Alberts <alberts@pilot.msu.edu>
Message-ID: <32C0437C.3FB2@pilot.msu.edu>
Source record: 99368
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.swap,alt.radio.scanner

Greg Milligan wrote:
>
> In article <32BDFA0E.41BA@ibm.net>, yatkonj@ibm.net wrote:
>
> > Is there a mod for cellular for the Pro 26? I have one source that says
> > there is. I would like to get a few more references before I attempt
> > it. Any help would be greatly appreciated. Thank you.
> >
> >
> > Nick Yatko
> > yatkonj@ibm.net
>
> Nick you can find various bits of info at the tandy support web site
>
> http://support.tandy.com/support_electronics/15613.html
>
> and a cell modification provided by Ross Voorhees (KB0PKT) at
>
> http://www.zianet.com/kc5kto/mods/pro26cell.html
>
> Hope this helps.
> --
> Greg Milligan
>
> The University of Sheffield, Department of Clinical Neurology, Floor 'N',
> Royal Hallamshire Hospital, Glossop Road, Sheffield S10 2JF, UK.
> Tel: 0114 2713248 Fax: 0114 2760095 EMail:G.Milligan@Sheffield.ac.uk
> World Wide Web: http://www.shef.ac.uk/uni/academic/A-C/cn/index.html
> Amateur Radio (AX25 Packet Network): G1CPU@GB7WRG.#19.GBR.EU

Cellular Group advertises that they can modify the Pro 26 along with
many others to receive cell freq. I don't happen to have their address
handy at the moment. They advertise in Monitoring Times all the time.
Maybe someone else has their address or it is on the Monitoring Times
web page.

4273. www.hamradio-online.com: FCC postpones RF safety rules until September 1997

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <59pfir$n9f@kanga.accessone.com>
Source record: 99369
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew

The FCC, respondig to numerous petitions filed by the ARRL and other organizations has postponed implementation of the new RF safety rules until September 1997. Under the new rules, Amateurs must certify the RF safety of their stations if they operate at 50 watts or more output power.

The complete story is available at http://www.hamradio-online.com

---
Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

4274. www.hamradio-online.com: FCC RF Safety Rules *** CORRECTION ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <59pg11$nc1@kanga.accessone.com>
Source record: 99370
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew

Previous posting should have noted that the FCC RF Safety Rules compliance is postponed until September 1997 for non-Amateur services and until January 1998 for the Amateur Radio Service. Sorry if this causes you any confusion.

See http://www.hamradio-online.com

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

4275. www.hamradio-online.com: How Your Government Can Monitor Your Communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <59pfq4$n9f@kanga.accessone.com>
Source record: 99371
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

With permission, we've reprinted a fascinating story from CovertAction Quarterly, on worldwide government agencies ability to monitor your email, FAX, computer and voice communications. While some may conclude this falls into the "conspiracy theory" class of news, we have primary sources that confirmed portions of the story as true. Makes for interesting reading.

Check it out at http://www.hamradio-online.com

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

4276. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59ol8h$3ju@news04.deltanet.com>
Source record: 99372
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Si Ballenger (shb@vnet.net) wrote:
: kayvon@hotmail.com wrote:

: >I'm looking for some good plans for a spark gap transmitter or anything
else that could be used for a medium range (20 to 200 feet) radio jammer.
I've been looking for some all today on the Internet with no luck, and if
anyone has any plans at all, e-m ail me: kayvon@hotmail.com and I'd be
greatfull. If you do reply to this, make sure to e-mail me as well because
I don't get to read Usenet newsgroups as often as I'd like to and I'm
likely to miss the posting (especially with Christmas coming up and all .)
BTW, this is for IMFORMATIONAL PURPOSES ONLY. Today's not the first day
I've been looking for some plans, and I've all but given up.

: >-----
: >kayvon@hotmail.com
: >---------------------==== Posted via Deja News ====-----------------------
: > http://www.dejanews.com/ Search, Read, Post to Usenet

: For a spark gap generator, you may have a 4, 6, or 8 cylinder model sitting in
: the drive way. Just remember that you need to have your life and property
: insurance up to date!

Hay, I've got a problem. I looked at my engine the other day when I was
changing oil. Mebbe you could tell me what's wrong. I have a 4 cylinder
Ford ranger, and I counted four spark plugs on one side of the engine.
Then I looked on the other side of the engine and there were four more.
It doesn't have a distributor either.

Real strange, huh?

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4277. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59okvb$3ju@news04.deltanet.com>
Source record: 99373
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Jim Potter (jpotter@jpaw.com) wrote:
: kayvon@hotmail.com wrote:

: >I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been looking for some all today on the Internet with no luck, and if anyone has any plans at all, e-m
ail me: kayvon@hotmail.com and I'd be greatfull. If you do reply to this, make sure to e-mail me as well because I don't get to read Usenet newsgroups as often as I'd like to and I'm likely to miss the posting (especially with Christmas coming up and all
.) BTW, this is for IMFORMATIONAL PURPOSES ONLY. Today's not the first day I've been looking for some plans, and I've all but given up.
: >
: >-----
: Many, many years ago in my college rooming house a couple students
: felt annoyed by the loud music emanating from a nearby room. After a
: couple of beers they were inspired to a solution. There was an old
: ac-dc radio in the attic. They rewired the radio so that the 50L6 was
: the oscillator and lowered the frequency by paralleling the tuning
: capacitor sections. The oscillator used cathode feedback, since it was
: originally an oscillator-mixer. This meant that the plate should be
: bypassed. They applied raw ac to the plate and let the ac line be the
: bypass. This radiated enough rf into the power lines to replace the
: annoying music with a raw 60 Hz buzz when the device was tuned to the
: correct frequency. The offending radio belonged to an aspiring EE who
: thought for a while that the electrolytics in his radio were going
: out. He was, however, suspicious of the selective nature of the
: problem. His suspicions were confirmed by the loud laughter coming
: from the neigboring room. Details of his threats on the lives of the
: conspirators are omitted. Likewise, the names of the perpetrators have
: been omitted.

: I am not sure if you need a narrow band device or a wideband device.
: An extension of this technology to solid state seems unlikely.

: Jim

Except for the high voltages, the exact same thing could be done with
solid state components.

Actually, with high voltages, the transistors can be operated in the
avalanche mode, giving pulses with short risetimes when avalanching, and
causing a lot of harmonics to be generated. Lotsa RFI.

: James M. Potter, President TEL: (505) 662-5804
: JP Accelerator Works, Inc. FAX: (505) 662-5210

: 2245 47th Street EMAIL: jpotter@jpaw.com
: Los Alamos, NM 87544-1604 URL: http://www.jpaw.com

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4278. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59ol1i$3ju@news04.deltanet.com>
Source record: 99374
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Larry J. Robison (robison@amnorth.com) wrote:
: Before replying to this guy why don't somebody ask what he wants it for and
: find out if he lives next door to me .. or you? Sheech it takes all
: kinds..

: kayvon@hotmail.com wrote in article <851381444.25098@dejanews.com>...
: > I'm looking for some good plans for a spark gap transmitter or anything
: else that could be used for a medium range (20 to 200 feet) radio jammer.

Well, you chopped off the part where he said it was 'for informational
purposes only'. Yeah, right.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4279. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: Gerald Caouette <ve6nap@oanet.com>
Message-ID: <32C034CE.2C8D@oanet.com>
Source record: 99375
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Jim Potter

Jim you might want to look at heating elements
the coaxial type wire inside a stainless steel jacket
simalar to the tye used in most modern oven ranges.

Cromalox and Hotwatt come to mind as a supplier of the
raw element stock and if one gets all their material and dimensional
data it might be possible to find a jacket/wire combination that will
also have close to the 250 ohm desired impedance then just immerse in
the coolant of your choice.

probably not much help
but
Merry Xmas
73
de
ve6nap@oanet.com
QRV
3.7 CW evenings

4280. Kits for phase-3D?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "Timothy S. Powell" <tpowell@mindspring.com>
Message-ID: <32C01C2A.4A4D@mindspring.com>
Source record: 99376
Cross-posted to: rec.radio.amateur.digital.misc,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

Does anyone know of any 6-meter, 2-meter and 70-cm SSB kits that would be good to use for the Phase-3D sat when it gets in orbit. I'm a college student with limited funds. I would like to work the sat when it get up but can not buy the high price equipment that is needed but would like to build a small sat station if possible.

Thanks

Timothy
KD4IKY

4281. Too Many plugs , Was: Wanted: Plans for ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: woody white <"eMail "@my.www.page.Mailto>
Message-ID: <59pp36$rgn@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 99377
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Don't have one, but I understand that some engines now have 2
plugs/cylinder for better ignition distribution and a coil for each
cylinder (usual case for motorcycle engines).
Woody

> Hay, I've got a problem. I looked at my engine the other day when I was
> changing oil. Mebbe you could tell me what's wrong. I have a 4 cylinder
> Ford ranger, and I counted four spark plugs on one side of the engine.
> Then I looked on the other side of the engine and there were four more.
> It doesn't have a distributor either.
>
> Real strange, huh?
>
> --
> #===#
> | John Lundgren - Elec Tech - Info Tech Svcs. | jlundgre@ |
> | Rancho Santiago Community College District | deltanet.com |
> | 17th St at Bristol \ Santa Ana, CA 92706 | http://www.rancho|
> | My opinions are my own, and not my employer's. | .cc.ca.us |
> | Most FAQs are available through Thomas Fine's WWW FAQ archive: |
> |http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html|
> | "Babe Ruth struck out 1,330 times... keep on swinging." |
> | says the lid on the jar of Laredo & Lefty's Picante Salsa |
> ! You MAY NOT use my email address for unsolicited Email or lists! !
> #======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

--
de Woody, WB4QXE, woody_white@worldnet_att_net (_=. No AutoMail)
Work: Electron Microscopist/Microanalysist
Balance: Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

4282. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf1f0$dcf1cda0$a66d3bc6@internet.roadrunner.com>
Source record: 99378

> Perhaps this will give us insight into your claims and measurements.

C'mon, Tom...My grandpappy always said, "Once you take the high ground,
you never have to look back."

Remember it's Christmas...Peace to All and Good Will amongst Men!

david

4283. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf1f0$5bc36e00$a66d3bc6@internet.roadrunner.com>
Source record: 99379

>
> In your case (as in most or many), a load fault caused the tuning cap to
> arc. Sometimes it gets the bandswitch. An electronic grid trip circuit
> could help, it would likely disconnect the drive before the arc did
> damage. Another device that I would add is a spark gap from the tuning
> capacitor to ground, set to break down before expensive components.

Thanks for your thoughts, Tom. How would you recommend configuring the spark gap? A sharp, point -like fixture, with minimal capacitance near the tuning cap? Might this also tend to save the bandswitch as well from damage?

> I question the use of these cartridges in a feedline anyway Dave. IMHO,
> they do little or nothing to protect your rig.
>
> Look at it logically. If the device can pass a few kilowatts of RF out,
it
> can pass more than that to the receiver when lightning strikes. Will your
> rig take several kW of energy on the antenna port? Mine won't take ten
> watts!

Ummm, Tom, I think the difference is the rise time of the pulse. The fast rise time of a static discharge or a nearby lightning strike is probably much faster than the slow tuning process or voice peaks. My (limited) understanding of how these things work is that the fast rise time causes the gas in the cartridge to ionize and provide a low impedance current path to ground. They aren't really designed to handle high average power (the manufacturer recommends replacement after a big strike). It's all in the rise time, I imagine.

I do see quite a noticable reduction in antenna charging "spikes" that go "pop" in my receiver when the surge suppressor is in place. I think the static discharges (even without lightning) ain't doing the receiver front end any good. Reducing those static pops is a big plus in my mind. And besides, I hope to protect my tuner, SWR, and the 922 (?) from larger spikes and nearby lightninig strikes.

> I would also be concerned about the voltage from the SWR. With a 2:1 VSWR
> the voltage might be 1.4 times normal, that's the same as running 3 kW
> with a 1.5 kW PEP PA. I don't see how these things would be reliable in
> anything but a flat SWR system.

Good point and why I was surprised. I run generally nearly 1:1 in between the tuner and the amp. I tune the antenna on low power only, almost always presenting a nearly 1:1 to the amp.

> Just my opinion, but if it were me I'd get rid of them completely. I'd
> either remember to disconnect the antennas after each use, build a relay
> box to do it, or buy an RCS-8V that does that automatically when power is
> removed.

Ummm...As I mentioned above I think they serve a good purpose when I'm running, reducing static discharges to my receiver. But then, they don't need to be in the high power feed line to do that, now do they? I might reconfigure with the static protector just between the TS-940 and the TL-922. That does most of the good I was hoping to accomplish and removes it from the high power feed line.

> I would like to have the nichrome if you aren't using it.

I think I'm going to be keeping the kit for a while longer until I'm completely convinced my problems are solved (or until something else wierd happens! <g>).
I bet Rich might send you some nichrome if you asked real nice...or at least provide the name of the vendor he gets it from.

> Anyway, have a merry Christmas and I'm glad you found your problem.
> Consider eliminating those surge suppressors, I suspect they are more
> trouble than they are worth. And be sure to load that PA heavy enough, I
> also don't like Kenwoods tuning instructions. Rich and I both agree on
> that.

Now that I'm not paranoid about the arcing problem, I will be following your/Rich's recommended procedure.

Thanks, too, for your help, Tom! I've learned a lot and will continue to learn more (I hope)!

Merry Christmas!

david (K5KH)

4284. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: Sid Boyce <Sid.Boyce@juts.ccc.amdahl.com>
Message-ID: <32C062DF.23FB0C9@juts.ccc.amdahl.com>
Source record: 99380
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

kayvon@hotmail.com wrote:
>
> I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been looking for some all today on the Internet with no luck, and if anyone has any plans at all, e-mail me: kayvon@hotmail.com and I'd be greatfull. If you do reply to this, make sure to e-mail me as well because I don't get to read Usenet newsgroups as often as I'd like to and I'm likely to miss the posting (especially with Christmas coming up
> TW, this is for IMFORMATIONAL PURPOSES ONLY. Today's not the first day I've been looking for some plans, and I've all but given up.
>
> -----
> kayvon@hotmail.com
> ----------------==== Posted via Deja News ====----------------------
> http://www.dejanews.com/ Search, Read, Post to Usenet
In the RAF I used a square wave oscillator connected to the central
heating system, worked a treat.
Regards
--
... Sid Boyce...Amdahl(UK)...szb50@juts.ccc.amdahl.com

Any opinions expressed above are mine and do not necessarily represent
the opinions or policies of Amdahl Corporation.

4285. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: John Lentz <jlentz@ods.ods.net>
Message-ID: <32C08907.7875@ods.ods.net>
Source record: 99381
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

John Lundgren wrote:

>
> Hay, I've got a problem. I looked at my engine the other day when I was
> changing oil. Mebbe you could tell me what's wrong. I have a 4 cylinder
> Ford ranger, and I counted four spark plugs on one side of the engine.
> Then I looked on the other side of the engine and there were four more.
> It doesn't have a distributor either.
>
> Real strange, huh?
>
> --
> #===#
> | John Lundgren - Elec Tech - Info Tech Svcs. | jlundgre@ |
> | Rancho Santiago Community College District | deltanet.com |
> | 17th St at Bristol \ Santa Ana, CA 92706 | http://www.rancho|
> | My opinions are my own, and not my employer's. | .cc.ca.us |
> | Most FAQs are available through Thomas Fine's WWW FAQ archive: |
> |http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html|
> | "Babe Ruth struck out 1,330 times... keep on swinging." |
> | says the lid on the jar of Laredo & Lefty's Picante Salsa |
> ! You MAY NOT use my email address for unsolicited Email or lists! !
> #======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

Does your Ford Ranger operate?

If so, then whats the problem? As long as it is running WITHOUT a distributor, then maybe it doesn't take in any gas. With that you would be very lucky!

John L.

4286. Re: www.hamradio-online.com: How Your Government Can Monitor Your Communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: kd1hz@anomaly.ideamation.com
Message-ID: <59pq6i$200@anomaly.ideamation.com>
Source record: 99382
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

In article <59pfq4$n9f@kanga.accessone.com>,
Ed Mitchell <vbook@vbook.com> wrote:

>With permission, we've reprinted a fascinating story from CovertAction
>Quarterly, on worldwide government agencies ability to monitor your email, FAX,
>computer and voice communications.

Old news. Government agencies have had the capability for years.

MD
--
--
-- "Guns don't kill people. I kill people." -- T-shirt slogan
--
-- If you don't like my opinions, that's just too damn bad.

4287. Mailing List Reflector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "Brian K. Short" <ke7gh@primenet.com>
Message-ID: <32C072CD.1E1B@primenet.com>
Source record: 99383

```
BitBucket is a mailing list (reflector) devoted to
specialized amateur radio communication techniques.

-SSTV, ATV, FAX, APT, DSP
-Packet, Pactor, GTOR, Clover, RTTY
-R/C, Telemetry, Balloons, Rockets, Robotics
-homebrew, modifications, interfacing, widgets, etc

To subscribe:
TO: majordomo@primenet.com
SUBJECT:
BODY: SUBSCRIBE bitbucket

As we encourage the free exchange of ideas, if you pay for
email service by the byte you may want to consider carefully
before subscribing.

BitBucket has NO organizational sponsors.

Brian ke7gh@primenet.com
```

4288. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "John H." <j..harper@worldnet.att.net>
Message-ID: <32C076FE.4B30@worldnet.att.net>
Source record: 99384
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

kayvon@hotmail.com wrote:
>
> I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been loo
>
> -----
> kayvon@hotmail.com
> ------------------==== Posted via Deja News ====----------------------
> http://www.dejanews.com/ Search, Read, Post to Usenet

How about a Tesla coil from Edmund Scientific. For experimental use
only, right?! hehehehe!!!! ;-)

--
John H. ((((((((((/\))))))))))
/ \
/87.9\
/ FM \
http://www.GeoCities.com/CapeCanaveral/6702

4289. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: Gary Tait <tait@primeline.net>
Message-ID: <Pine.LNX.3.95.961224205426.13185A-100000@primeline.net>
Source record: 99385
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On Sat, 21 Dec 1996, Mark Robinson wrote:

#> : I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
#
#Given the low frequency, what about a few toaster elements, or 1kW
#linear quartz halogen flood lamp bulbs (adjust impedance by adjusting
#drive :)
#

No, toaster elements ,and lightbulbs are inductive as well, and no
good as an RF load.

Gary Tait , VE3VBF

4290. WTD: Harrison 6209A manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: "James C. Garland" <4CX250B@MIAVX1.MUOHIO.EDU>
Message-ID: <32C08534.641@MIAVX1.MUOHIO.EDU>
Source record: 99386

I need a manual or circuit diagram for a Harrison 6209A
regulated power supply (0-320C, 0-100mA). I picked one up
cheap recently and need the schematic in order to repair it.
Thanks.

Jim W8ZR

4291. MC13135 Application Notes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-24 00:00:00 UTC
From: quicker@worldnet.att.net
Message-ID: <32C0C7CA.49B5@worldnet.att.net>
Source record: 99387

I would like to know if there are any application notes on the
Motorola MC13135 other than the info on the Motorola web page.

Specifically, I would like info/formulas on converting the values
on their application circuit (Fig. 15 on MC13135 Data Sheet) to
receive at 72MHz instead of 49MHz.

Thanks

4292. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jfriley@worldnet.att.net
Message-ID: <32c080cf.5254937@netnews.worldnet.att.net>
Source record: 99292

On 24 Dec 1996 23:31:39 GMT, "David B. Holtkamp (K5KH)"
<holtkamp@roadrunner.com> wrote:
>I do see quite a noticable reduction in antenna charging "spikes" that go
>"pop" in my receiver when the surge suppressor is in place.

The answer to this I gotta hear; 'specially the theory part.

Fred

jfriley@worldnet.att.net jfriley@airmail.net fredwa8ajn@aol.com

4293. Re: Kits for phase-3D?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: skerns@mail.talon.net
Message-ID: <59q0ds$72c$1@news3.microserve.net>
Source record: 99293
Cross-posted to: rec.radio.amateur.digital.misc,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

Try Down East Microwave; http\\downeastmicrowave.com

They have a lot of neat stuff for VHF/UHF/microwave.

73 Steve N3FTI

In article <32C01C2A.4A4D@mindspring.com>, tpowell@mindspring.com says...
>
>Does anyone know of any 6-meter, 2-meter and 70-cm SSB kits that would
>be good to use for the Phase-3D sat when it gets in orbit. I'm a
>college student with limited funds. I would like to work the sat when
>it get up but can not buy the high price equipment that is needed but
>would like to build a small sat station if possible.
>
>Thanks
>
>
>Timothy
>KD4IKY

4294. Re: TL-922 Arcing - the Saga Ends???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jfriley@worldnet.att.net
Message-ID: <32c07ed5.4749272@netnews.worldnet.att.net>
Source record: 99294

On 24 Dec 1996 17:21:08 GMT, "David B. Holtkamp (K5KH)"
<holtkamp@roadrunner.com> wrote:
> You might remember me -- I'm the fellow with the TL-922 that was
>experiencing intermittent arcing. Rich
>tried very hard to help me out.
snip
> lighting protectors were arcing to ground when I reached
>some critical power level on the PA

OK. But the question was: "How are the low Q parasitic suppressors
doing in preventing the VHF parasitic that was causing the capacitor
to arc?" Breath was never more baited.

Fred

jfriley@worldnet.att.net jfriley@airmail.net fredwa8ajn@aol.com

4295. Heath HW101- KEYING PROBLEMS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jwg6@cornell.edu
Message-ID: <jwg6-2412962106090001@cu-dialup-0905.cit.cornell.edu>
Source record: 99295

Hi All.

I have an HW101 which is giving me some difficulty. I just recently had it overhauled, but find it is acting fishy when it comes to CW keying.

The rig does fine in "test" mode, and loads up with no problem. BUT when I switch it to CW and try to send, one of the main relays won't hold!

When I close the key, the transmitter relays kick in, receiver mutes, the sidetone comes on, and there is output. All fine. BUT if I hold the key down, for more than a second or two, the relay kicks back out, the the transmit signal is cut off. I still hear the sidetone, though.

SO if I wish to hold the key down and transmit for a few seconds, to check SWR or whatever, the transmitter will not remain ON past a second or two. I just hear the relay kick back off again. This is in the Push-To-Talk or VOX mode (doesn't seem to matter which). I have no similar problems when transmitting SSB.

If I HOLD the key down, for an extended time, the relay will keep kicking in and out and the transmit signal will go on and off at about a 1-second interval, ad infinitum.

Could someone *please* give me some suggestions on this? Why might the relay not be "holding?" I also notice that sometimes the first couple of taps on the key will not even put the rig in transmit mode immediately, so the tx won't send til I'm in the middle of the second or third letter!

The initial repairs were pretty expensive but I want to keep this rig going. (I inherited it from my wife's grandfather, W3GCN, who is now quite ill.) All other functions seem A-OK.

At this point, I can't even send my call (N1AEP), because by the time I get to the last "dah" in the "1", the transmitter relay kicks out. It is very frustrating. Any help would be greatly appreciated. 73, Joel N1AEP

4296. Re: Too Many plugs , Was: Wanted: Plans for ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: ldbrewer@flanet.com
Message-ID: <32c0a323.48214718@news.gte.net>
Source record: 99296
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

On Tue, 24 Dec 1996 23:21:03 -0800, woody white <"eMail "@
my.www.page.Mailto> wrote:

>Don't have one, but I understand that some engines now have 2
>plugs/cylinder for better ignition distribution and a coil for each
>cylinder (usual case for motorcycle engines).
> _Woody_
>
Wellllll.....

In the area of motorcycles, I can tell you we have been
"Dual Plugging" Harleys for years.

The adding of the exra plug makes the fuel burn more efficiently
and can actually produce more horsepower.

Last year I purchased a Dodge Ram truck with a V-10. NO distributor,
but an interesting looking set of coils and wires going to the plugs !

Looks like technology is going EVERYWHERE, but I don't see the
alignment between automotive technology, and micropower broadcasting.

Perhaps I am just "closed minded" :)

Anyway, Happy Holidays from all of us to all of you !

Doug

L.D.Brewer 2-Way Radio
http://www.ldbrewer.com
ldbrewer@flanet.com
1-800-886-8023

4297. CB/Walkie Talkie Mods?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: nihilist@SoCA.com
Message-ID: <32c0a984.22629412@news.SoCA.com>
Source record: 99297

I'm curious as to whether or not a CB and/or toy walkie
talkies can be modified to use different frequencies.
For instance; I work for a place where I can get ahold of
crystals with, say, 7.91430 MHz written on them. If I was to get 2
of these and solder them into the slot originally occupied by the
walkie talkies' 49 MHz crystal, would that work?

As far as CBs go, if I bought an old CB that was crystal
controlled, then went to RadioShack and bought those ancient scanner
crystals and plugged them in, would this work for both broadcasting
and receiving?

Thanks in advance for any help.

The Nihilist

4298. Re: Kits for phase-3D?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: dhutter@pacifier.com
Message-ID: <59qaec$5n5@news.pacifier.com>
Source record: 99298
Cross-posted to: rec.radio.amateur.digital.misc,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

In article <32C01C2A.4A4D@mindspring.com>, tpowell@mindspring.com says...
>
>Does anyone know of any 6-meter, 2-meter and 70-cm SSB kits that would
>be good to use for the Phase-3D sat when it gets in orbit. I'm a
>college student with limited funds. I would like to work the sat when
>it get up but can not buy the high price equipment that is needed but
>would like to build a small sat station if possible.
>
>Thanks
>
>
>Timothy
>KD4IKY

Tim,

Down East Microwave, Steve has a WEB site.

Derek K7XD

4299. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: matich1@aol.com
Message-ID: <19961225051300.AAA24951@ladder01.news.aol.com>
Source record: 99299

> C'mon, Tom...My grandpappy always said, "Once you take the high ground,
>you never have to look back."
>
> Remember it's Christmas...Peace to All and Good Will amongst Men!

My grandpap used to say "You reap what you sow". That fits this case
better.

4300. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: becclest@pcug.org.au
Message-ID: <32c0d199.0@cheese.pcug.org.au>
Source record: 99300

davem@cs.ubc.ca (Dave Martindale) wrote:

>d.NOrdquest@juno.COM writes:
>>In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
>>50-ohm types. Could someone more knowledgeable tell us how to
>>distinguish them?
>> Dave KE9ED

>Many people have described how to tell BNC connectors designed for RG-59
>cable by the larger clamp diameter. However, these are still 50-ohm
>connectors being used on 75 ohm cable.

>There *are* BNC connectors with a characteristic impedance of 75 ohms,
>and you will find them on some high-quality video equipment. You can
>identify them because the dielectric inside the connector itself is
>air, not Teflon. The physical dimensions of the mating parts are the same,
>so the 50- and 75-ohm versions will connect to each other. But the female
>75-ohm connector has a bare center conductor socket without the usual
>Teflon cylinder around it, while the male connector has no Teflon cylinder
>just inside the ground contact barrel.

>I guess keeping the conductor diameters the same but changing the dielectric
>to air shifts the impedance to 75 ohms. Of course, the voltage rating is
>reduced - but these connectors are used with 1 V signals.

> Dave

This is still a very contentious subject!

However the bottom line is that, by definition, "BNC" is 50 ohm.
"BNC" = Bayonet "N" Connector, which is 50 ohm.

The secret is the ratio of inner conductor outside diameter to outer
conductor inside diameter (follow??!) The ratio always (should) come
out to 50 ohms. The dielectric used will alter the loss factor (Q) and
propagation velocity but will not (within reasonable limits) affect
the characteristic impedance.

The centre conductor of a 75 ohm BNC would have to be significantly
smaller diameter than the 50 ohm variety, to the point where it would
be dificult to maintain the 75 ohm dimensions at the cable
termination, be it solder or crimp. The slight advantage over the pin
engagemnent length would not be worth the trouble.

Despite the folklore folks, BNCs are still 50 ohm.

Anyone from Kings or any other connector manufacturer out there care
to get into this one?.

73's Bob VK1ZRE

Bob Ecclestone becclest@pcug.org.au

"Imagination is more important than knowledge" Albert Einstein
---

4301. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <59qjpf$qn@bogus.cts.com>
Source record: 99301
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Peter Gottlieb (peter_gottlieb@msn.com) wrote:

: The silencing acquired a term with us... we called it "Waveteking," as in:
: "We had to Wavetek the neighbors three times today!"

I doubt that Wavetek Corp, San Diego CA would like thaat use of their
name :)

John ex Wavetek tech

4302. CW Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: "Richard M. Corrigan" <corriganr@sunnynet.or.jp>
Message-ID: <32C0D05E.1591@sunnynet.or.jp>
Source record: 99302
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew, rec.radio.shortwave

I recently heard of a cable that attaches from you Reciever to
the serial port of a computer which allows CW to be translated
by your Computer for display on your monitor. Is this true?
I thought that a TNC was needed. If it is true does anyone
have the pin outs to build such a cable or maybe a source that
I could contact to obtain one.

Thanks and Merry Christmas

Rich
,

4303. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2512960142380001@port3.vcnet.com>
Source record: 99303

In article <59p66e$atk@news.one.net>, jackg@one.net (Jack Giehl) wrote:

> In article <01bbf1bb$53725200$976d3bc6@internet.roadrunner.com>, "David
B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> wrote:
> >Dear Rich, Tom and all others who've helped me here,
> >
> > You might remember me -- I'm the fellow with the TL-922 that was
> >experiencing intermittent arcing. Rich (especially), Tom and several others
> >tried very hard to help me out.
>
> David,
>
> I had a TL-922 about 10 years ago. I was concerned that there was a gas
> discharge arc suppressor across the output, and that the manual warned about
> running CW with the amp in the SSB mode.
>
> After several months of operation on 75 meters running SSB with vox,
> arcing started to occur. To my dismay I discovered that the band switch was
> arcing. The 40 meter switch connection was badly burned and unusable. On
> further investigation, I discovered the cause for this was that the RF input
> and output switching was performed by a rather large SLOW relay. At the same
> time, another relay was activated that enabled the bias and switched the
front
> panel lights. The problem was that the RF relay was still experiencing
> contact bouncing with drive applied and bias enabled!
>
> I solved the problem by removing the large relay, replacing it with a P&B 3PDT
> 110 VDC relay, with two of the poles performing the RF switching, and the
> third pole used to key the other relay.
>
> The amp NEVER arced again, and the P&B relay was much quieter. I was also
> able to run the amp with CW in the SSB mode with no arcing.
>
> Kenwood has made a lot of money selling replacement band switches for TL-922
> amps.
>
True enough, Jack. Sagadenki, the company who manufactures the
bandswitch, made made money too. BTW, the crispy-crittered bandswitch in
"Parasitics Revisited" (Sept./Oct 1990 QST) was removed from a TL-922.
Some 922 owners have reported that other components failed during episodes
of bandswitch and/or tune capacitor arcing. For instance, the zener bias
diode shorted, and/or a current meter movement failed and/or a 1A grid
choke imploded, and/or one or both tubes suddenly developed a grid to
filament short after a 'big bang' was heard. Such damage can not be

satisfactorily explained by a simple HF switching transient. I believe its like Murphy said: "Everything is more complicated than it looks"... IMO, current transients can cause intermittent VHF parasitic oscillations.

As technology marches on, at some point you may find that your P&B 3PDT 110 VDC relay can't switch fast enough to keep up with some of the newer radios. I have heard that some radios switch in 5mS. A T/R switching circuit that switches in 2mS is shown in "The Nearly Perfect Amplifier" in the Jan. 1994 QST. This circuit is a natural for the TL-922 because it requires a +110v power supply.

The reason that Kenwood proscribes using CW on the 922's SSB (HV) tap is because the 922's HV transformer does not have enough current capacity.

.....

--
--Rich-- ag6k, 805-386-3734

4304. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59qv6m$5cn@news03.deltanet.com>
Source record: 99304
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

John Lentz (jlentz@ods.ods.net) wrote:
: John Lundgren wrote:

: >
: > Hay, I've got a problem. I looked at my engine the other day when I was
: > changing oil. Mebbe you could tell me what's wrong. I have a 4 cylinder
: > Ford ranger, and I counted four spark plugs on one side of the engine.
: > Then I looked on the other side of the engine and there were four more.
: > It doesn't have a distributor either.
: >
: > Real strange, huh?
: >
: > --

: Does your Ford Ranger operate?

Yeah.

: If so, then whats the problem? As long as it is running WITHOUT a distributor, then
: maybe it doesn't take in any gas. With that you would be very lucky!

I wish I was so lucky (20 MPG).

Beats walking. I had a flat the other day. Got a drywall screw in the
tire. I wish they would come up with a self-sealing tire.

I had a Delta capacitive discharge ignition on my old van, and I
connected it to an ignition coil on the bench. I put a square wave gen
in place of the points, and cranked it up. Man, the spark jumped 3 or 4
cm from the paper clip I had in the HT lead to the case! About a
100KV. Nasty! No RFI tho, since it's CD.

You could generate RFI by taking the suppression caps out of a vacuum
cleaner motor or other small appliance. Connect some wire to it so that
it will radiate in the FM band. But be careful and don't get zapped.

Another thought comes to mind. Get a Ramsey FM-4 or other FM mono TX and
instead of operating it on 12VDC, put it on 12VAC with a rectifier in
series with the AC lead. The pulsating DC should give harmonics all over
the FM band.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho

| My opinions are my own, and not my employer's. | .cc.ca.us |
| Most FAQs are available through Thomas Fine's WWW FAQ archive: |
|http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html|
| "Babe Ruth struck out 1,330 times... keep on swinging." |
| says the lid on the jar of Laredo & Lefty's Picante Salsa |
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4305. Re: Too Many plugs , Was: Wanted: Plans for ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59r0tj$5cn@news03.deltanet.com>
Source record: 99305
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

L.D.Brewer 2-Way Radio (ldbrewer@flanet.com) wrote:
: On Tue, 24 Dec 1996 23:21:03 -0800, woody white <"eMail "@
: my.www.page.Mailto> wrote:

: >Don't have one, but I understand that some engines now have 2
: >plugs/cylinder for better ignition distribution and a coil for each
: >cylinder (usual case for motorcycle engines).
: > _Woody_
: >
: Wellllll.....

: In the area of motorcycles, I can tell you we have been
: "Dual Plugging" Harleys for years.

: The adding of the exra plug makes the fuel burn more efficiently
: and can actually produce more horsepower.

: Last year I purchased a Dodge Ram truck with a V-10. NO distributor,
: but an interesting looking set of coils and wires going to the plugs !

: Looks like technology is going EVERYWHERE, but I don't see the
: alignment between automotive technology, and micropower broadcasting.

Well this thread started out with a request for a jammer using a spark
gap, so the connection is not that far off.

: Perhaps I am just "closed minded" :)

: Anyway, Happy Holidays from all of us to all of you !

: Doug

: L.D.Brewer 2-Way Radio
: http://www.ldbrewer.com
: ldbrewer@flanet.com
: 1-800-886-8023

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa

! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4306. Re: Too Many plugs , Was: Wanted: Plans for ....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59r16h$5cn@news03.deltanet.com>
Source record: 99306
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

woody white ("eMail"@my.www.page.Mailto) wrote:
: Don't have one, but I understand that some engines now have 2
: plugs/cylinder for better ignition distribution and a coil for each
: cylinder (usual case for motorcycle engines).
: _Woody_

: > Hay, I've got a problem. I looked at my engine the other day when I was
: > changing oil. Mebbe you could tell me what's wrong. I have a 4 cylinder
: > Ford ranger, and I counted four spark plugs on one side of the engine.
: > Then I looked on the other side of the engine and there were four more.
: > It doesn't have a distributor either.
: >
: > Real strange, huh?
: >
: > --

: --
: de Woody, WB4QXE, woody_white@worldnet_att_net (_=. No AutoMail)
: Work: Electron Microscopist/Microanalysist
: Balance: Ham radio "homebrewer", shade tree mechanic,
: '90 Nissan 240SX, wish still had my Mcycle too!
: http://www.geocities.com/capecanaveral/3722
: .

What's the highest power an electron microscope can magnify? From what I understand, the object has to be plated to make it conductive, so the electrons will whatever. So you can't see things that are live like a bacterium. Am I on the right track? Maybe technology has advanced to where this isn't the case any more.

Happy holidays.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
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"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
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#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4307. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: singtech@teleport.com
Message-ID: <singtech-2512960341340001@news.teleport.com>
Source record: 99307
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:

Some fawning nonsense over the death of Carl Sagan. Sagan was more of a showman than a scientist. He promoted as facts things, that at best, were conjecture. He could not believe in God so he looked for aliens. He thought life should be ubiquitous in the universe but did not understand that the universe itself is alive.

--
C. Cagle
SingTech

4308. RC vs LC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <59r8ec$qii@boursy.news.erols.com>
Source record: 99308

Folks -

I read where LC combonations make up resonate circuits and filters, and I see formula for their calculations. I also see RC circuits performing as filters, just as the LC circuits do.

Does anyone know the formula used to calculate the cutoff frequency of a given combination of R and C?

Thanks in advance - Mike

4309. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <59r854$2ap@dfw-ixnews2.ix.netcom.com>
Source record: 99309

In <32c0d199.0@cheese.pcug.org.au> becclest@pcug.org.au (Bob Ecclestone) writes:

>Despite the folklore folks, BNCs are still 50 ohm.
>
>Anyone from Kings or any other connector manufacturer out there care
>to get into this one?.
>
>73's Bob VK1ZRE
>

I don't represent Kings, but in their data book they list both "BNC" and "BNC 75 OHM." As stated in prvious posts, the 75 ohm BNC lacks the inner dielectric, and there is a different taper to the center mating pin.

Happy holidays to all,

- Jeff, WA6AHL

4310. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: DarrenG@cris.com
Message-ID: <32c1512f.2878839@news.cris.com>
Source record: 99310
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

singtech@teleport.com (Charles Cagle) wrote:

>In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:
>
>Some fawning nonsense over the death of Carl Sagan. Sagan was more of a
>showman than a scientist. He promoted as facts things, that at best, were
>conjecture. He could not believe in God so he looked for aliens. He
>thought life should be ubiquitous in the universe but did not understand
>that the universe itself is alive.
>
>--
>
Better to be an intelligent, literate, inquisitive showman than to be
superstitiuous and gullible.

4311. New Radio Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <59rj6b$9he@news1.mnsinc.com>
Source record: 99311
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi guys - I have been organizing my links and things a little better
at the web page if anyone would enjoy seeing them in a more
organized fashion, take a look at

http://www.mnsinc.com/bry/hamlynx.htm#tubeproj

for the Glowbugs projects OR:

http://www.mnsinc.com/bry/hamlynx.htm#qrp
http://www.mnsinc.com/bry/hamlynx.htm#boatanch
etc.

MERRY CHRISTMAS & ENJOY!

73 from Bry (((Amateur Radio G3XLQ / AF4K)))
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, SWL info. etc. etc.

4312. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32C1577D.B1A@ipass.net>
Source record: 99312
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

John Lundgren wrote:

>
> Beats walking. I had a flat the other day. Got a drywall screw in the
> tire. I wish they would come up with a self-sealing tire.
>

Several manufacturers have them... The price is outrageous though... I
believe a 235-60-15 self sealing goodyear was around $350.00!

Later,
DAve

--
==
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==

4313. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961225164401.LAA02424@ladder01.news.aol.com>
Source record: 99313

Hi Dave and Jack,

It's interesting to read you comments Jack. poor relay sequencing has always been a big cause of tank and bandswitch arcing. I sure would love to see a TL-922 in person and find out what really needs corrected in them. I suspect some minor changes would make a large difference in reliability.

In article <01bbf1f0$5bc36e00$a66d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:

> Thanks for your thoughts, Tom. How would you recommend configuring the
>spark gap? A sharp, point -like fixture, with minimal capacitance near
the
>tuning cap? Might this also tend to save the bandswitch as well from
>damage?

Contrary to earlier claims that is is impossible to arc a PA from improper loadinbg or load faults, it has become obvious the real cause of arcing is operating the 922 without a proper load.

A gap would save both the bandswitch and air variable. I'd build the gap out of a very hard metal that has a high melting temperature. Stainless steel or nichrome come to mind, although there are other suitable materials. In the AL-82/1200/1500 the bracket that mounts the tank coil to the air variable is designed with an intentional overlap that puts it near the frame of the tuning capacitor. You could probably add a wide nichrome or stainless steel conductor to the stud of the air variable placing it near the frame.

Adjustment would be a matter of cut and try, starting close and backing it out until normal operation never produces an arc at that point. Of course NEVER reach inside the PA with the power on, or depend on the insulation of a tool to protect you.

> Ummm, Tom, I think the difference is the rise time of the pulse. The
fast
>rise time of a static discharge or a nearby lightning strike is probably
>much faster than the slow tuning process or voice peaks. My (limited)
>understanding of how these things work is that the fast rise time causes
>the gas in the cartridge to ionize and provide a low impedance current
path
>to ground. They aren't really designed to handle high average power (the
>manufacturer recommends replacement after a big strike). It's all in the
>rise time, I imagine.

I am not experienced enough in plasma to answer that, but since I build PA's used by people who are very experienced in plasma I can ask someone. My gut feeling is the rise time has little to do with it in this case, since lightning in a cable wouldn't have a slew rate much faster than normal RF. But that is only a guess.

> I do see quite a noticable reduction in antenna charging "spikes" that go
>"pop" in my receiver when the surge suppressor is in place.

A resistor or choke would also do that.

>I think the
>static discharges (even without lightning) ain't doing the receiver front >end any good. Reducing those static pops is a big plus in my mind. And >besides, I hope to protect my tuner, SWR, and the 922 (?) from larger >spikes and nearby lightninig strikes.

I'll hold to my postulation that if the suppressor allows a few kW out, it will let a few kW in until someone more experienced than we are changes my mind, hi. Let's both check on it independently, and compare sources here in a few days.

> Ummm...As I mentioned above I think they serve a good purpose when I'm >running, reducing static discharges to my receiver. But then, they don't >need to be in the high power feed line to do that, now do they? I might >reconfigure with the static protector just between the TS-940 and the >TL-922. That does most of the good I was hoping to accomplish and removes >it from the high power feed line.

Bingo. Not only that, but it would allow you to use one with less voltage breakdown.

> I bet Rich might send you some nichrome if you asked real nice...or at >least provide the name of the vendor he gets it from.

I'll bet you your kit against $5 he won't <grin>. No matter, I can get the size of wire from the kit in the 3CX800 PA I just got in. It's out now anyway, and the lower VHF Q stock suppressors are back in.

73 Tom

4314. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961225171200.MAA02810@ladder01.news.aol.com>
Source record: 99314

>The reason that Kenwood proscribes using CW on the 922's SSB (HV) tap is
>because the 922's HV transformer does not have enough current capacity.

No, the real reason the 922 is limited to one kW input on CW is it is a copy of the 220, a one KW dc input PA. The 922 even includes the error caused by installing grid chokes and bypass caps from the grids to the chassis.

Even if the transformer is made bigger, other components and cooling is marginal. The transformer problem is one of core size (KVA rating), rather than just current.

It is not relay transients that cause arcing, it is operating the PA briefly without a load when the relay switches incorrectly. This problem can be cured by something as simple as tweaking the relay contact going to the output line so it closes just before the input side of the relay. Without closing the output contact first, nearly every PA will arc something in the tank over.

73 Tom

4315. Disc Capacitor Markings

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: mhorowit@erols.com
Message-ID: <59rne1$m6d@boursy.news.erols.com>
Source record: 99315

Curious about the relationship between the markings on disc capacitors
and their values, I cruised the shelves the other day. Found the
following: '103k' on a box of .01uf, '47p' on a box marked 47pf,
'224k' on a box marked .22uf. The latter made me think the
relationship between the value and the markings was shaky.
Can anyone shed any light on what I was seeing? - Mike

4316. Home brew rotator controller?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: jeffg@direct.ca
Message-ID: <59rop3$22r$1@orb.direct.ca>
Source record: 99316

I have acquired a 12 volt antenna rotator - unfortunately no
controller. Does anyone have an idea for a circuit that would control
the rotator. Reversing polarity is easy, but knowing where the
rotator is pointing is difficult. Any ideas?
Jeff

4317. Re: MC13135 Application Notes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: k1bqt@aol.com
Message-ID: <19961225180000.NAA03695@ladder01.news.aol.com>
Source record: 99317

>Specifically, I would like info/formulas on converting the values
>on their application circuit (Fig. 15 on MC13135 Data Sheet) to
>receive at 72MHz instead of 49MHz.

All you need do is scale the values provided for 49-MHz up in frequency (the impedance shift at the mixer input probably isn't great enough to worry about). Same applies for the oscillator--if you are using the chip's onboard circuit. No need to over-engineer it.

Rick K1BQT

4318. QST on CD BEWARE!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: woody white <"eMail "@my.www.page.Mailto>
Message-ID: <59rseq$6es@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 99318

Caveat Emptor!!!!!!

Got both QST CD sets for Xmas. With great anticipation, I loaded them and set out to search for an article. It took no time at all to discover the search engine / viewer associated with the package truly SUCKS! You can enter EXACT key words for the title (* wildcard is permitted) or the author or call, - or recall an (month) issue. If you remember an article, but not who wrote it or the exact title, you are SOL! ...Start loading one issue after another (10 years!) and PAGING through until you find the table of contents, then type that into the search engine.
I didn't think QST would be so crude.

I am going to call QST and complain. If enough of us do, or tell them we won't buy it until improved, maybe, just maybe, they will offer what should be a free upgraded search engine with some sophistication!

A MINIMUM improvment would be a seperate "file" containing the table of contents for all issues archived. This should then be set up so that you could page through the ToC and click on the article - then the program would ask for the appropriate CD and fetch the article. That would seem to me to be a patently obvious feature for such a large database. That is my first thought. I may have more ideas if I can bring myself to ever use the thing, as awkward as it is!

I I have missed something here let me know and I will be humbled. If not, I am disgruntled. Any comments are welcome!

73,
--
de Woody, WB4QXE, woody_white@worldnet_att_net (_=. No AutoMail)
Work: Electron Microscopist/Microanalysist
Balance: Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

4319. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec25.170508.1109@ke4zv.atl.ga.us>
Source record: 99319

In article <01bbf1f0$5bc36e00$a66d3bc6@internet.roadrunner.com> "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:
>> I question the use of these cartridges in a feedline anyway Dave. IMHO,
>> they do little or nothing to protect your rig.
>>
>> Look at it logically. If the device can pass a few kilowatts of RF out,
>it
>> can pass more than that to the receiver when lightning strikes. Will your
>> rig take several kW of energy on the antenna port? Mine won't take ten
>> watts!
>
> Ummm, Tom, I think the difference is the rise time of the pulse. The fast
>rise time of a static discharge or a nearby lightning strike is probably
>much faster than the slow tuning process or voice peaks. My (limited)
>understanding of how these things work is that the fast rise time causes
>the gas in the cartridge to ionize and provide a low impedance current path
>to ground. They aren't really designed to handle high average power (the
>manufacturer recommends replacement after a big strike). It's all in the
>rise time, I imagine.

Right. The gas cartridge in a "1 kW rated" suppressor fires at about
350 volts. When that happens, the shunt impedance goes from many many
megohms to milliohms for the duration of the pulse. These gas cartridges
will fire within 2 nS after the voltage reaches 350 volts. Because surge
spikes up to to a very high voltage at the beginning of the pulse (as much
as a million volts in a direct strike), most of the energy gets clamped by
the gas tube (*if* the suppressor is designed properly and installed properly).

> I do see quite a noticable reduction in antenna charging "spikes" that go
>"pop" in my receiver when the surge suppressor is in place. I think the
>static discharges (even without lightning) ain't doing the receiver front
>end any good. Reducing those static pops is a big plus in my mind. And
>besides, I hope to protect my tuner, SWR, and the 922 (?) from larger
>spikes and nearby lightninig strikes.

These static pops are typically a few thousand volts, though their energy
is minute. That's the corona breakover voltage of the antenna tip. Note
that this can be modeled as a slowly rising DC voltage charging the coax
and antenna which ultimately breaks over and discharges as corona. The gas
cartridge fires before corona potential can be reached, thus getting rid of
this nuisance. But you'll have a problem if you're transmitting at the time
because the gas cartridge will sustain conduction once it fires until current
drops to zero for a microsecond or two. You need a different static drain
arrangement if you'll be transmitting in conditions where corona can occur.
A high value choke shunted to Earth works dandy for draining static.

>> I would also be concerned about the voltage from the SWR. With a 2:1 VSWR
>> the voltage might be 1.4 times normal, that's the same as running 3 kW
>> with a 1.5 kW PEP PA. I don't see how these things would be reliable in
>> anything but a flat SWR system.
>
> Good point and why I was surprised. I run generally nearly 1:1 in between
>the tuner and the amp. I tune the antenna on low power only, almost always
>presenting a nearly 1:1 to the amp.

Yeah, high VSWR will cause them to fire. A 2:1 VSWR can have up to 384
volts on the line at the voltage node, and that exceeds threshold. Of
course voltage will be low at the current node. Placement is important
in cases like this. Running a flat system is best, but you can make
sure the suppressor is at a current node for a single band installation.

>> Just my opinion, but if it were me I'd get rid of them completely. I'd
>> either remember to disconnect the antennas after each use, build a relay
>> box to do it, or buy an RCS-8V that does that automatically when power is
>> removed.
>
> Ummm...As I mentioned above I think they serve a good purpose when I'm
>running, reducing static discharges to my receiver. But then, they don't
>need to be in the high power feed line to do that, now do they? I might
>reconfigure with the static protector just between the TS-940 and the
>TL-922. That does most of the good I was hoping to accomplish and removes
>it from the high power feed line.

Bad idea. The suppressor should be the outer perimeter of your station
defense. It should be mounted in the entrance bulkhead serving as your
station ground window. When it fires, it will attempt to shunt all the
surge current to Earth, and that can reach 8,000 amps in a strike. You
really don't want the tuner and the amp in the way of that surge.

Note, the instantaneous power in a strike is on the order of 3 *billion*
watts, but of course the duration is short, only a microsecond or two,
thus the energy is low enough for the gas cartridge to sustain for the
brief moment needed.

Alpha Delta and Lynics suppressors have a design flaw which can render
them useless in some situations. This flaw is that they have DC continuity
on the inner conductor. If they are driving a low impedance, like a cavity
loop, a huge current pulse can pass through the loop before voltage rises
enough to fire the gas cartridge. That current pulse will ring the cavity
and still hit your equipment with extreme voltages. Polyphaser uses a
much superior design which has a series capacitor in the inner conductor
path. While the surge is charging that capacitor, voltage rises enough
to fire the gas tube (located on the antenna side of the cap), and
prevents the sort of problem the AD and Lynics suppressors have with
DC shunts in the load. If you don't provide a DC shunted load, however,
the AD and Lynics suppressors work fine.

Gary
--

Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4320. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: twitch@hub.ofthe.net
Message-ID: <59ru22afo1@news.ofthe.net>
Source record: 99320
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

singtech@teleport.com (Charles Cagle) wrote:

>In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:

>Some fawning nonsense over the death of Carl Sagan.

Thank you for your impressions. They weren't worth the effort to read
them, but thank you anyway.

>Sagan was more of a
>showman than a scientist.

So this is a great crime against humanity? It would be more proper to
say that he was a great populizer of science. And, probably, more
accurate.

>He promoted as facts things, that at best, were
>conjecture.

Thank you for the wonderful references you provided.

>He could not believe in God so he looked for aliens.

Now we are getting to the point! He didn't believe in God so he isn't
a nice guy! Lots of people don't believe in God and don't turn out
like Hitler. Whether or not he believed in God, is his right.

> He
>thought life should be ubiquitous in the universe but did not understand
>that the universe itself is alive.

Thank you again for posting your evidence. We will give it the full
weight it deserves.

>--
>C. Cagle
>SingTech

Sing to old SingTech?

Information is not knowledge, knowledge is not wisdom,
wisdom is not truth, truth is not beauty, beauty is not love

4321. 6BM8 Transmitter Articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <59ru4a$d4f@news1.mnsinc.com>
Source record: 99321

Does ANYONE know what has happened to this article?

It has been "disappeared" off of the WWW!

Does anyone know WHO the site belongs to?

http://www.cosmosbbs.com/

OR -

http://www.cosmosbbs.com/rac.jpg

The original articles folks were looking for there were:

http://www.cosmosbbs.com/6bm8wir.jpg

AND

http://www.cosmosbbs.com/6bm8sch.jpg

I was sorry to see them go, and will try to post them here or at
N6EV's site if possible.

MINE is running out of storage space!

HELP!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

73 from Bry (((Amateur Radio G3XLQ / AF4K)))
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, SWL info. etc. etc.

4322. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: mlyle@scvnet.com
Message-ID: <32C18FAE.302A@scvnet.com>
Source record: 99322
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

David A. Cooley wrote:
>
> John Lundgren wrote:
>
> >
> > Beats walking. I had a flat the other day. Got a drywall screw in the
> > tire. I wish they would come up with a self-sealing tire.
> >
>
> Several manufacturers have them... The price is outrageous though... I
> believe a 235-60-15 self sealing goodyear was around $350.00!

Or, go to your local motorcycle shop and buy some stuff called "Slime".
Put this in your tires and never get a flat again! (unless you really
put a big hole in the tire!

However, warn the guy at the tire shop before he dismounts a
Slime-trated tire, as the stuff isn't called "Slime" without good
reason!

Meanwhile back at r.r.a.h....

George, N7TNJ

4323. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <32C19613.533C@ix.netcom.com>
Source record: 99323

Bob Ecclestone wrote:
>
> davem@cs.ubc.ca (Dave Martindale) wrote:
>
> >d.NOrdquest@juno.COM writes:
> >>In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> >>50-ohm types. Could someone more knowledgeable tell us how to
> >>distinguish them?
> >> Dave KE9ED
> >
> >There *are* BNC connectors with a characteristic impedance of 75 ohms,
> >and you will find them on some high-quality video equipment. You can
> >identify them because the dielectric inside the connector itself is
> >air, not Teflon. The physical dimensions of the mating parts are the same,
> >so the 50- and 75-ohm versions will connect to each other. But the female
> >75-ohm connector has a bare center conductor socket without the usual
> >Teflon cylinder around it, while the male connector has no Teflon cylinder
> >just inside the ground contact barrel.
>
> >I guess keeping the conductor diameters the same but changing the dielectric
> >to air shifts the impedance to 75 ohms. Of course, the voltage rating is
> >reduced - but these connectors are used with 1 V signals.
>
> > Dave
>
> This is still a very contentious subject!
>
> However the bottom line is that, by definition, "BNC" is 50 ohm.
> "BNC" = Bayonet "N" Connector, which is 50 ohm.{snip}

Hmmm, ok, in computer connections, we used RG-62, which I believe is 92 ohm cable.
The BNCs that we used were specifically designed for the cable (it's noticably
smaller diameter than RG-58 or RG-59.)

They were Amphenol connectors, although I don't have the part number here.

Anybody care to speculate if those connectors were really 50 ohm? Seems like
a significant mismatch would occur.

--
73 de Jim, KD1YV
http://pw1.netcom.com/~jimkd1yv/hamily.html

4324. Re: QST on CD BEWARE!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: woody white <"eMail "@my.www.page.Mailto>
Message-ID: <59sbs2$n1g@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 99324

A quick (DOS) look at the stuff indicates the bulk of the data is *.tif
files broken down by subdirectories into year/month with a code number
for the filename. :-(so far as other search methods...
Woody

Ross Alexander wrote:
>
> woody white <"eMail "@ my.www.page.Mailto> writes:
>
> >Caveat Emptor!!!!!!
>
> >Got both QST CD sets for Xmas. With great anticipation, I loaded
> >them and set out to search for an article. It took no time at all to
> >discover the search engine / viewer associated with the package truly
> >SUCKS!
>
> Since I don't run DOS (sorry, I'm one of those unix geeks) this isn't
> much of a disappointment BUT could you tell us all this: are the
> articles themselves broken out into individual files and in some
> more-or-less parseable format (like flat ascii)? In other words,
> can one contemplate indexing the CD contents with standard WAIS tools
> or something similar, or is the information wadded up into some
> binary blob that can only be decoded with the supplied software?
>
> regards,
> Ross ve6pdq
> --
> Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

--
de Woody, WB4QXE, woody_white@worldnet_att_net (_=. No AutoMail)
Work: Electron Microscopist/Microanalysist
Balance: Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!
http://www.geocities.com/capecanaveral/3722
.

4325. Re: CW Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: Tom Woolner <Tom@woolner.demon.co.uk>
Message-ID: <EaaXsCA8CawyEwRm@woolner.demon.co.uk>
Source record: 99325
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew, rec.radio.shortwave

In article <32C0D05E.1591@sunnynet.or.jp>, "Richard M. Corrigan"
<corriganr@sunnynet.or.jp> writes
>I recently heard of a cable that attaches from you Reciever to
>the serial port of a computer which allows CW to be translated
>by your Computer for display on your monitor. Is this true?
>I thought that a TNC was needed. If it is true does anyone
>have the pin outs to build such a cable or maybe a source that
>I could contact to obtain one.
>
Yes it's true. The cable has a small pcb enclosed in the 25pin D
connector, mounting a simple limiter amp. e.g. 741. This is powered from
spare lines on the COM port.

The software - HamCom - drives the lines high + and low - for the rail
supplies and it polls a line from the amp. output at high speed. It senses
data present and calculates validity and data value from the results. This
can be code, rtty, hffax, etc.

Regards,
--
Tom Woolner

4326. Re: QST on CD BEWARE!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: rwa@cs.athabascau.ca
Message-ID: <59s8oj$ofd@aurora.cs.athabascau.ca>
Source record: 99326

woody white <"eMail "@ my.www.page.Mailto> writes:

>Caveat Emptor!!!!!!

>Got both QST CD sets for Xmas. With great anticipation, I loaded
>them and set out to search for an article. It took no time at all to
>discover the search engine / viewer associated with the package truly
>SUCKS!

Since I don't run DOS (sorry, I'm one of those unix geeks) this isn't
much of a disappointment BUT could you tell us all this: are the
articles themselves broken out into individual files and in some
more-or-less parseable format (like flat ascii)? In other words,
can one contemplate indexing the CD contents with standard WAIS tools
or something similar, or is the information wadded up into some
binary blob that can only be decoded with the supplied software?

regards,
Ross ve6pdq
--
Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

4327. Re: Ideas for Low Frequency Tunable Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: J M Woodgate <jmwa@thenet.co.uk>
Message-ID: <ant252320b49fSH%@jmwa.thenet.co.uk>
Source record: 99327
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.amateur.homebrew

In article <59qgt3$com@gap.cco.caltech.edu>, lbliao
<URL:mailto:lbliao@alumnae.caltech.edu> wrote:
>
> I am looking for a low frequency tunable filter, in the range of 0.05Hz to
> say 10Hz. The filter could have a response of say double pole, so that it
> is a peaking filter. The Peaking frequency should be variable electronically,
> which means that a variable resistor is ruled out.
>
>
> Thanks a lot!
> lbliao
>
>

Look at Maxim product data. They do both continuous-time (linear) and
switched-capacitor filters, both of which can be made
electronically-tunable, and you can get up to at least 8th-order responses
from a single chip. I have no connection with Maxim except as a satisifed
user. Maxim also treat small users better than many semiconductor
manufaturers do.

--
Regards, John Woodgate Tel. +44 (0)1268 747839
Fax +44 (0)1268 777124 OOO (Own Opinions Only)

4328. Re: Disc Capacitor Markings

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <2SLwtHAfWbwyEwHD@ifwtech.demon.co.uk>
Source record: 99328

Michael Horowitz wrote:
>Curious about the relationship between the markings on disc capacitors
>and their values, I cruised the shelves the other day. Found the
>following: '103k' on a box of .01uf, '47p' on a box marked 47pf,
>'224k' on a box marked .22uf.

There are several different systems in common use.

47p is obvious.

"103k" and "224k" are less easy to read. First of all, discard the "k" - it refers to the dielectric material and has nothing to do with the capacitance. That leaves you with three digits to interpret.

In the three-digit system, the capacitance is in picofarads. The first two digits are significant, and the third is the number of zeros following the first two. So "103" is 10 followed by three zeros, ie 10000pF which is indeed 0.01uF. Likewise "224" is 22 followed by four zeros, ie 220000pF which is 0.22uF. This system is also universally used for chip resistors, so "103" would be 10kohms and 224 would be 220k.

The one you have to watch for is "220" etc, because the final 0 means "no zeros". In other words "220" would mean 22 ohms or 22pF under this marking system. But under a third system, "220" could mean simply "two hundred and twenty", so sometimes the only solution is to measure the component.

Yet another system would mark these same capacitors as "10n" and "22n", where "n" stands for "nanofarad" (1000pf). To avoid confusion due to the decimal point being illegible, the "n" is sometimes used instead, so "4n7" would mean 4.7nF, and "6p8" would mean 6.8pF. The same applies to resistors, so that "4k7" would be 4.7k and "2M2" would be 2.2 Mohm.

A very useful clue to identify the marking system is to check for preferred and non-preferred values. For example, "224" would never mean 224pF because 224 isn't a standard capacitor value. It has to be some multiple of the industry-standard preferred value 22.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4329. Re: Ideas for Low Frequency Tunable Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: tmahanna@ziplink.net
Message-ID: <59siep$ifp@zip1.ziplink.net>
Source record: 99329
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.amateur.homebrew

: > I am looking for a low frequency tunable filter, in the range of 0.05Hz to
: > say 10Hz. The filter could have a response of say double pole, so that it
: > is a peaking filter. The Peaking frequency should be variable electronically,
: > which means that a variable resistor is ruled out.

How about an MF-10? They're cheap, and easy to find. You tune them with a clock that's 100x Fc. You can get a 4th order BPF with one chip (both sections 2nd order X2). Meets all your requirements. Sounds interesting, tell me more about your project. I have used the filters extensively. Nice, cheap, easy.

-Tom

4330. Re: QST AUG-96 2mtr notch filter"L1"?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <32C1EBAB.2EE0@magg.net>
Source record: 99330

Jack Kovar KE0AX wrote:
>
> QST has a great article in AUG 96 page 42 for building your own
>
> notch filter for 2 meter pager inteference problems.
>
> My problem is that I have not been able to find discribed value for L1.
>
> Should I just use the formula for series resonant circuits and put in a
>
> value of 1 to 14 pf for C2?
>
> I have a box of bidirectional couplers with a male to female N connectors.
>
> SMA sampling ports are dented.
>
> A dandy box for this project if anyone is interested in one.
>
> ANYWAY if someone would care to throw a value at me for L1 I will run
>
> and check my math.
>
> Thanks,
>
> Jack Kovar
> K0VAR
>
> Toddville, Iowa
> Hi Jack,
The value appeared in a feedback about 2 or 3 issues after the original
article. The problem I see with the design is the relatively shallow
notch- about 20 to 30 dB as I recall. Our filters achieve a notch depth
of over 50 dB with an in-band insertion loss of 0.5 dB worst case. In
addition, ours are transparent at 70 cM for dual band rigs w/ a single
RF port.

Dale W4OP

4331. RE: QST on CD BEWARE!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: clint.bradford@atdbbs.com
Message-ID: <9612252118302856@atdbbs.com>
Source record: 99331

>>Got both QST CD sets for Xmas. With great anticipation, I loaded them
>>and set out to search for an article. It took no time at all to
>>discover the search engine / viewer associated with the package truly
>>SUCKS!

I hope, Woody, that you present your finding in a calm, rational manner - and send them to the ARRL. I am sure they will be quite receptive to constructive criticism!

Clint Bradford, KE6LCS/KAF3359 909.681.6210 Voice sysop@atdbbs.com
ATTENTION to Details 909.681.6221 BBS ftp@atdbbs.com

4332. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierE31AKJ.I0n@netcom.com>
Source record: 99332
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

in <851381444.25098@dejanews.com>,
: kayvon@hotmail.com wrote:
: I'm looking for some good plans for a spark gap transmitter or anything
: else that could be used for a medium range (20 to 200 feet) radio jammer.

Just put up a couple of strings of christmas lights with an intermittent connection in one, like one of my (not yet located) neighbors. Blows your shortwave reception all to hell. ZZZzzit ZZZzzit ZZZzzit ZZZzzit ZZZzzit.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4333. TM-251E

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: Pedro.Braz@gameover.alce.pt
Message-ID: <wgcid16g16000$h41$j32c15540@alce.pt>
Source record: 99333

```
* Forwarded from REC.RADIO.AMATEUR.MISC by Pedro Braz (16:16000/41).
* Originally by: Pedro Braz (16:16000/41), 25 Dec 96 16:22.
* Originally to: All.

Hello All.

Hello and Merry Christmas to you all.

I've bought a KenWood TM-251E and want to expand the receive band, I can't
find any mods on the internet, does anybody lnow how to do it?

e-mail: pedro.braz@gameover.alce.pt

thks
Pedro
```

4334. Re: Clamping Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbf1fa$32387760$310f2399@peter-s>
Source record: 99388

Wes Stewart <n7ws@azstarnet.com> wrote in article
<n7ws.227.00D3AFE1@azstarnet.com>...
> The term might describe many things. For instance, a common function is
to
> clamp (limit) the reverse voltage spike generated in a switched inductive
load
> (such as a relay) when the current is turned off. A transistor switch in
this
> case might be destroyed by the reverse polarity voltage applied to the
> collector. The diode across the coil limits this voltage to
approximately
> .65V and saves the transistor.

It's a positive spike - check it with a 'scope. And the diode will slow
down the
release of the relay because it keeps current flowing longer in the coil.
If you
use a MOSFET usually you can forget the diode because many 'Fets are rated
for breakdown operation.

But your main point is entirely correct.

4335. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbf1fb$a043bde0$310f2399@peter-s>
Source record: 99389
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

> His suspicions were confirmed by the loud laughter coming
> from the neigboring room. Details of his threats on the lives of the
> conspirators are omitted. Likewise, the names of the perpetrators have
> been omitted.

We simply used a signal gen and little RF amp. Makes a nice silence on
an FM radio. For AM and records (this was before CD's) we used Motorola
4 Watt UHF portables placed against the common wall right behind the
stereo. Kinda makes the speaker cones want to pop out, ya know?

The silencing acquired a term with us... we called it "Waveteking," as in:
"We had to Wavetek the neighbors three times today!"

...Peter

4336. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbf1fb$da7979a0$310f2399@peter-s>
Source record: 99390
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

John Lundgren <jlundgre@delta1.deltanet.com> wrote in article
<59ol1i$3ju@news04.deltanet.com>...
> Well, you chopped off the part where he said it was 'for informational
> purposes only'. Yeah, right.

Well its better to let the guy let out his aggressions by a teeny jammer
than coming over with
a machete.

4337. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-25 00:00:00 UTC
From: Peter Gottlieb <peter_gottlieb@msn.com>
Message-ID: <01bbf1fc$092828a0$310f2399@peter-s>
Source record: 99391
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

John Lundgren <jlundgre@delta1.deltanet.com> wrote in article
<59ol8h$3ju@news04.deltanet.com>...
> Hay, I've got a problem. I looked at my engine the other day when I was
> changing oil. Mebbe you could tell me what's wrong. I have a 4 cylinder

> Ford ranger, and I counted four spark plugs on one side of the engine.
> Then I looked on the other side of the engine and there were four more.
> It doesn't have a distributor either.
>
> Real strange, huh?

Not strange at all. Autos are sold through DEALERS, not distributors.

4338. PL Codes??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "W.S.H." <shane@multipro.com>
Message-ID: <01bbf2ec$683f4080$72b278cf@shane.multipro.com>
Source record: 99242
Cross-posted to: rec.radio,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.cb,rec.radio.scanner

Please correct me if I'm Wrong!

USER FREQ
08 88.5
12 100.0
16 114.8
18 123.0
19 127.3
20 131.8
21 136.5
24 151.4

Please correct my mistakes or please advise is the above is correct. It
will be of great assistance!!

Please send replies to the following e-mail address!

Thanks in ADVANCE!
--
Shane H.
shane@multipro.com

4339. Wanted: TM-V7A Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: CJ Lagos <midnight@airwaves.org>
Message-ID: <01bbf2eb$c25fdf80$0a66f0c6@general>
Source record: 99243
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

If anyone has a TM-V7A mod PLEASE send it to midnight@airwaves.org
Thank you.

4340. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: bratcher@worldnet.att.net
Message-ID: <32c30cf1.11707508@NETNEWS.WORLDNET.ATT.NET>
Source record: 99244
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Take a relay. Wire it as a buzzer. Feed raw AC to it.
Instant SPARK Gap! I fed 18 volts from a toy train transformer to one
in my teens (back in the early 70's). Connected to a 100 ft longwire
antenna it radiated for 6 blocks...

Robert M. Bratcher Jr.
E-mail to:
bratcher@worldnet.att.net
Record collector, 8mm, super 8, 16 and 35mm Film collector.
I like old radio's too.
Collins, Hallicrafters, National & Hammurland are my Favorites!

4341. F.S. - Tubes, radios, books and more...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: rog42@aol.com
Message-ID: <19961226062200.BAA15999@ladder01.news.aol.com>
Source record: 99245

FOR SALE: Tubes, test equipment, radios including Hallicrafters, Hammarlund, and Philco. Other older tube type radios and radio related publications. Schematics for many radios just $1. Tube Manuals, Tube Substitution books, Service Manuals, QST magazines, much more from the 30's, 40's, 50's, 60's. Now over 1500 different tube types in stock - E-mail Rog42@aol.com and ask for my latest offerings on RADIO list - #1224-T.

4342. Re: PRO 26 MOD ? is there one?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: wiggie@tfsksu.net
Message-ID: <59t8qn$1a22@news.midusa.net>
Source record: 99246
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.swap,alt.radio.scanner

yatkonj@ibm.net wrote:

>Is there a mod for cellular for the Pro 26? I have one source that says
>there is. I would like to get a few more references before I attempt
>it. Any help would be greatly appreciated. Thank you.

>Nick Yatko
>yatkonj@ibm.net

There is a mod for the Pro-26, but you will have to order some parts
for it. You can either order just the UK CPU which takes a
considerable amount of skill, or you can get the logic board with the
CPU already attached. The latter doesnt even require soldering skills,
mainly screwdriver skills. Look at http://www.demon.co.uk/javiation/
for more information under the the Pro-26 subpage. This mod would make
the Pro-26 an awesome handheld. I wish that I had a few extra $$ to
spend.

Wiggie

4343. Re: CW Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: kh2d@kuentos.guam.net
Message-ID: <59tp9m$jmc@lehi.kuentos.guam.net>
Source record: 99247
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew, rec.radio.shortwave

Tom Woolner <Tom@woolner.demon.co.uk> wrote:

>In article <32C0D05E.1591@sunnynet.or.jp>, "Richard M. Corrigan"
><corriganr@sunnynet.or.jp> writes
>>I recently heard of a cable that attaches from you Reciever to
>>the serial port of a computer which allows CW to be translated
>>by your Computer for display on your monitor. Is this true?
>>I thought that a TNC was needed. If it is true does anyone
>>have the pin outs to build such a cable or maybe a source that
>>I could contact to obtain one.
>>
>Yes it's true. The cable has a small pcb enclosed in the 25pin D
>connector, mounting a simple limiter amp. e.g. 741. This is powered from
>spare lines on the COM port.

>The software - HamCom - drives the lines high + and low - for the rail
>supplies and it polls a line from the amp. output at high speed. It senses
>data present and calculates validity and data value from the results. This
>can be code, rtty, hffax, etc.

>Regards,
>--
>Tom Woolner

Richard,
Check this page:

http://www.concentric.net/~n9zle/hc.html

Bruce, N9ZLE sells the hardware interface you need, and will give you the HamComm/JVFax shareware you need to make it work. It plugs into a serial port on your computer, copies CW, RTTY, PACKET (crude form), SSTV, and WEFAX pictures. It costs a whopping $20 usually, but they are on sale for $15 for Christmas. Once you get the software, there are schematics in the DOC files to show you how to build other interfaces if you are interested. I bought one a few months ago, and use if for HF WEFAX pictures, and it works great. Be aware that there isn't any hardware that copies 'perfect' CW. How well any of the hardware devises copy is very dependent on the strength of the received signal and the way the CW is being sent.

73, Jim KH2D

4344. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2612960439230001@port16.vcnet.com>
Source record: 99248

In article <19961225051300.AAA24951@ladder01.news.aol.com>,
matich1@aol.com wrote:
...snip....
> My grandpap used to say "You reap what you sow". That fits this case
> better.

Amen to that.

--
--Rich-- ag6k, 805-386-3734

4345. Re: Clamping Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: w6kkt@frazmtn.com
Message-ID: <32c27f2b.2011634@news.frazmtn.com>
Source record: 99249

On 25 Dec 1996 00:26:35 GMT, "Peter Gottlieb" <peter_gottlieb@msn.com>
wrote:

>Wes Stewart <n7ws@azstarnet.com> wrote in article
><n7ws.227.00D3AFE1@azstarnet.com>...
>> The term might describe many things. For instance, a common function is
>to
>> clamp (limit) the reverse voltage spike generated in a switched inductive
>load
>> (such as a relay) when the current is turned off. A transistor switch in
>this
>> case might be destroyed by the reverse polarity voltage applied to the
>> collector. The diode across the coil limits this voltage to
>approximately
>> .65V and saves the transistor.
>
>
>It's a positive spike - check it with a 'scope. And the diode will slow
>down the
>release of the relay because it keeps current flowing longer in the coil.
>If you
>use a MOSFET usually you can forget the diode because many 'Fets are rated
>for breakdown operation.
>
>But your main point is entirely correct.
>
>
Hi Peter, I use diodes across relay coils when I wan't them to open
faster not slower! Where have I gone wrong?
73, Jesse, W6KKT

4346. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961226150400.KAA21385@ladder01.news.aol.com>
Source record: 99250

In article <59sn49$4gt@herald.concentric.net>, ezeran@concentric.net
(Edward J. Zeranski) writes:

>
>>Despite the folklore folks, BNCs are still 50 ohm.
>
>>Anyone from Kings or any other connector manufacturer out there care
>>to get into this one?.
>
>>73's Bob VK1ZRE
>
>>---
> We used 75ohm connectors and cable on some level/interface
converters
>we built a few years ago. Trompeter was source. The patch cords for 75
>ohms are violet, 78 ohms blue, and 50 ohms green. The 75s looked like
>the 50s except for the dialectric as mentioned in the original post.
>The 78 onm cable was twinax.

There are 75 ohm BNC's and N's, and 50 ohm BNC and N's.

I have both types downstairs. The 75 ohm N's have a smaller pin, screwing
a 50 ohm male into the female 75 ohms N will ruin it.

The 75 BNC's use the same center conductor, but have mostly air dielectric
inside instead of a sold PTFE or poly insulation.

My Suhner Connector catalog lists 50 ohm and 75 ohm connectors (under
different part numbers) for BNC, TNC, and N types.

Suhner includes a warning on N types that 75 ohm and 50 ohm connectors can
not be mated because of center pin size differences, but they also
indicate it is NOT a problem with BNC's and TNC's because only the
dielectric is different!

So there really are 50 or 75 ohms BNC, TNC and N connectors. But there are
no 50 ohm UHF type connectors,, hi.

73 Tom

4347. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961226150400.KAA21387@ladder01.news.aol.com>
Source record: 99251

In article <measures-2512960142380001@port3.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

> Such damage can not be
>satisfactorily explained by a simple HF switching transient. I believe
>its like Murphy said: "Everything is more complicated than it looks"...
>IMO, current transients can cause intermittent VHF parasitic
>oscillations.

In the past you claimed there was only ONE cause of PA problems for
everything from boiling gold to melting glass, and acing tubes to sparking
capacitors, PARASITICS. Even though we now suddenly hear a Murphy quote
saying everything is more complicated than it looks, the answer is
still.....PARASITICS.

The new claim is: The HF risetime of 1/2 uS or faster is too slow to
induce parasitics, but relay switching or bias rise time is not.

Look at what happens when the relay is closed. The cathode bypass and
coupling capacitors are all charged to cut off bias, and the dc common
mode current in the filament choke is near zero.

When the relay closes, the bypass capacitors must discharge through the
relay contacts and meter shunts to ground. The coupling capacitors must
discharge through the dominant common mode impedance of the filament
choke. We know the current rise time of the choke is much slower than the
HF operating frequency, or the choke wouldn't be a good choke. Rise time
from relay closure has to be much slower than the operating frequencies
rise time, or none of these bypass and coupling components would be
effective.

Closing the relay too late or too slow ONLY causes a problem if the PA is
operated without a load (even for a few RF cycles). If Jack would have
just tweeked the contacts slightly, making the output RF contact close
before the input RF contact, the problem also would have gone away.

As with the problem Dave had (caused by the lightning suppressor arcing)
Jack ran the PA without a load for a second. In both cases it allowed the
tank circuit to build up HF energy until something arced.

The parasitic induced tank arcing claim, like so many others, is
incorrect.

73 Tom

4348. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961226150400.KAA21389@ladder01.news.aol.com>
Source record: 99252

In article <01bbf2ce$d9423440$896d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:

> Consistent corona discharge probably would occur only at higher altitudes
>than mine (I'm at 7000 or so - I'd expect chronic corona problems at >10000). In fact, I think one fellow who had a lot to do with the design of
>quad antennas built them because his yagis kept dissolving in teh chronic >corona discharges at high altitudes in Peru. Don't remember all the >details, but was interesting.

I have corona problems here Dave, at a few hundred feet above sea level. In Death Valley, they even occur below sea level. We are talking receive, not transmit.

The problem is the accumulation of charges during proper weather conditions. There are a great many causes. Dust storms, snow storms, rian storms (even on the horizon) or even wind can cause this effect.

I disagree with the theory that ionization of the discharge tube would help your receive problems. While I do not know a lot about the mechanics of the dischrage tube, I have considerable experience with receiving systems and noise elimination.

There are two sources of noise invoved in this, one is the sizzle or whine of the actual corona discharge, the other is the pop of an small arc in the system. Grounding the antenna, using a bleeder resistor, or any for of discharge tube will NOT affect the sizzle or whining noise from corona. Only a change in voltage gradient or RF impednce of the antenna near the point of discharge will affect this type of noise.

A quad is quieter than a vertical for one reason, the quad antenna has a less abrupt point at the highest end and the sharpest ends (corners) are usually not at the high impedance area of the antenna. The high impedance noise source has to directly couple noise energy into the antenna at a lower impedance point. The antenna also has a large area spread out over the highest point in the system, minimizing discharge.

Since current is very low in the discharge (but the voltage very high), the discharge off the high end impedance of the vertical couples noise energy into the antenna more effectively. Plus the tendency for corona is generally greater in the vertical, because a single point sticks up and concentrates the electric field.

The smoother, rounder, and larger the area of the antenna, the less corona.

So much for the sizzle.

The pop is caused when something (for example the feed cable) charges up. Eventually the voltage breakdown of a coupling capacitor (such as the variable capacitors in a T network tuner) or air gap (as found in a switch or connector) breaks down. That's the loud pop.

You will hear this pop with a gas discharge tube, or a spark gap. The only cure for this pop is a leakage path across "the thing" charging up. Either a high value resistor or a choke works equally well, since the charging current is very very low.

DC grounded elements eliminate the "pop" caused by the sudden arc discharge described above, but can NOT reduce or eliminate corna noises at the operating frequency. A 100k resistor across the feedline would do as much as a choke, and both would be much more effective than the gas discharge tube at reducng that effect.

Personally, I think the discharge tube is a waste of time unless you want additional but marginal protection for close-by strikes. The only sure protection is to totally disconnect the feedlines and AC connections from the rig by unplugging them.

The goal is to save money on repairs, and that transmission surge suppressor has already cost money and time. A $10 relay and ten cent resistor would do much more, unless you plan on operating during lightning storms.

73 Tom

4349. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Tim Gillespie <tgillesp@mail.tds.net>
Message-ID: <32C29485.57AD@mail.tds.net>
Source record: 99253
Cross-posted to:
alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

Charles Cagle wrote:
>
> In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:
>
> Some fawning nonsense over the death of Carl Sagan.

I'll leave the utter irony of this statement as an exercise for the reader.

> Sagan was more of a showman than a scientist.

Carl Sagan was the chairman of the Astronomy department at Cornell University. Furthermore, he was a scientific consultant to NASA on many projects. Sounds like a scientist to me. Unfortunately, most scientists do not have a talent for making scientific ideas known to the layman. Carl Sagan did have that talent. All of his books (even the fiction) conveyed scientific knowledge to the layman in a way that was lucid and understandable. And, yes, he was a showman. His presence in the Cosmos series was what made the series so compelling.

> He promoted as facts things, that at best, were conjecture.

This is another pitiful jab. I suggest, Mr. Cagle, that you actually READ some of Sagan's material. When you do, you will see that Dr. Sagan NEVER stated ANYTIHNG as fact that was not widely known to be fact. Anything that was speculative was clearly stated as such.

4350. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: agape@ohmygod.com
Message-ID: <32c2a58c.1203132@news.greatbasin.net>
Source record: 99254
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

On 25 Dec 1996 11:33:29 GMT, singtech@teleport.com (Charles Cagle)
wrote:

->In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:
->
->Some fawning nonsense over the death of Carl Sagan. Sagan was more
of a
->showman than a scientist. He promoted as facts things, that at
best, were
->conjecture. He could not believe in God so he looked for aliens.
He
->thought life should be ubiquitous in the universe but did not
understand
->that the universe itself is alive.
->
->--
->C. Cagle
->SingTech

Damn straight. Sagan didn't even get NOMINATED for the
Angstrom Medal. What I want to know is how cheap
showmen like Sagan are so well known when true
beacons of light like Velikovsky's are shrouded
and shunned by the dominantliberalmedia.

4351. Re: Clamping Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <59uc8t$d9m@lace.colorado.edu>
Source record: 99255

In article <32c27f2b.2011634@news.frazmtn.com>,
W6KKT Jesse <w6kkt@frazmtn.com> wrote:

>Hi Peter, I use diodes across relay coils when I wan't them to open
>faster not slower! Where have I gone wrong?

You haven't. The fastest passive way to rid inductors of current is to decide how much back bias you are willing to tolerate, and then put a ZENER DIODE of this rating across the coil in series with a regular diode going the other way (to prevent conduction when the coil is energized).

A regular diode only drops 0.6 volts, so that voltage times the coil's diminishing current is the power dissipated in the diode - equal to the rate of energy loss stored in the coil's magnetic field. If you could tolerate 60 volts, then the power (same current x 60 volts instead of 0.6 volts) would be 100 times more, and the magnetic energy in the coil would be sapped 100 times more rapidly.

Bruce
N6URH

4352. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <32C2A0B6.7FA0@erols.com>
Source record: 99256
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Peter Gottlieb wrote:

> We simply used a signal gen and little RF amp. Makes a nice silence on
> an FM radio. For AM and records (this was before CD's) we used Motorola
> 4 Watt UHF portables placed against the common wall right behind the
> stereo. Kinda makes the speaker cones want to pop out, ya know?

I did the same thing, several years ago, using an IFR service monitor.
Used a real slow subadible signal and real wide FM deviation. The
target of this awfulness took WEEKS to figure out what was going on.

--
Jake Brodsky, mailto:frussle@erols.com
PP-ASEL IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"MY kindness isn't random, nor my acts of beauty senseless."

4353. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Schiwapew Woapalanne <willi6@erols.com>
Message-ID: <32C2D001.795D@erols.com>
Source record: 99257

> kayvon@hotmail.com wrote:
> >
> > I'm looking for some good plans for a spark gap transmitter or anything else that could be used for a medium range (20 to 200 feet) radio jammer. I've been loo
> >
> > -----
> > kayvon@hotmail.com
> > ----------====Posted via Deja News ====----------
> > http://www.dejanews.com/ Search, Read, Post to Usenet
>
> How about a Tesla coil from Edmund Scientific. For experimental use
> only, right?! hehehehe!!!! ;-)
>
><snip><

FOR INFORMATIONAL PURPOSES

.....and if a Tesla Coil is too scientific, check out the JC WHITNEY automotive supplies catalog. They sell Model T Ford Ignition Coils. They were about $50, last time I noticed them - suggested "tongue in cheek"
or perhaps "tongue on secondary electrodes"? ;-{

::::::::::::::::::::::::::LEGAL DISCLAIMER FOLLOWS::::::::::::::::::::::::::

Before using the Model T Ford Ignition Coil for other than its intended purposes; contact the Federal Communications Commission to determine what
class of license is currently required, should this utilization exceed the letter and spirit of Part 15 (or other applicable section) of the FCC
Rules and Regulations. Note that Broad Band Jamming, while perceived as useful
for loud neighborhood radios, may also interfere with Public Safety, Aviation,
Marine Distress (depending where one is located), wireless baby monitors, etc.

Willful and knowingly violating the Communications Act of 1934 (Yes, it is still
valid) is punishable by a fine of up to $10,000, a prison term of not more than
two years, or both! (As they say on TV, It's the law!)

::

4354. Re: CB/Walkie Talkie Mods?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Schiwapew Woapalanne <willi6@erols.com>
Message-ID: <32C2D3EB.7554@erols.com>
Source record: 99258

The Nihilist wrote:
>
>
>QUEST: I'm curious as to whether or not a CB and/or toy walkie
> talkies can be modified to use different frequencies.

ANS: Yes, they can but you are limited by law and type acceptance
practices from doing this. There are some instances wherein they
may legally be converted to the Amateur Service. As you didn't list
a call sign of any sort, it is difficult to advise more specifically.

>QUEST: For instance; I work for a place where I can get ahold of
> crystals with, say, 7.91430 MHz written on them. If I was to get 2
> of these and solder them into the slot originally occupied by the
> walkie talkies' 49 MHz crystal, would that work?

ANS: I doubt if this will work. It would depend on the type of crystal
being used in the transmit and receive portions of the Walkie-Talkie.
Your hypothetical 7.91430 MHz crystal is probably a fundemental freq
type.
Most of the cheap W/Ts use multiple 3rd or 5th overtone crystals
operating
on the desired frequency. Some of the more expensive types may use low
freq crystals, but have more complex hetrodyning circuitry.
>
> QUEST: As far as CBs go, if I bought an old CB that was crystal
> controlled, then went to RadioShack and bought those ancient scanner
> crystals and plugged them in, would this work for both broadcasting
> and receiving?

ANS: You might luck out and it would work, but it is very doubtful
that the scanner xtals would get you any place close to where you want
to
be. Also, as this would obviously not be converting into the licensed
amateur service range, it would be illegal and would not comply with
normal type acceptance guidelines.
>
> Thanks in advance for any help.

ANS: You're welcome. :-} Dave
>
> The Nihilist

4355. M.E.M.F.T.A.C., info wanted-------MODULATION OF EARTH'S MAG. FIELD-appeared in early '60's QST!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "Joe B. Clark" <kc5itc@tcac.com>
Message-ID: <32C2B58F.4556@tcac.com>
Source record: 99259

Does anyone have the old QST (from the early '60's) that describes this novel form of communication? A few points I remember---required low power, about 50W to reliably communicate several thousand miles, free from qrm,etc. Involved unique antenna systems by which you could "tune" to a specific magnetic line of force (earth's magnetic field), modulate it, and use as a medium for communication. I have never seen m.e.m.f.t.a.c. (modulation of earth's magnetic field to affect communication) mentioned again.

Any info is welcome.

Thanks very much, es bcnu!

de kc5itc, Joe, in Tx

73 es holiday wishes!

4356. Re: QST on CD BEWARE!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "L.Mark Pilant" <pilant@star.enet.dec.com>
Message-ID: <32C29916.15E7@star.enet.dec.com>
Source record: 99260

I also got both CD sets, and have a few comments. First off, what you get:

1) A rather simple search engine (as has already been noted).
2) Individual scanned (black and white) images of each page of an issue. (This includes the front cover, but I'm not sure about the back cover.)
3) "Database" containing the article name, column name, author's name and call, issue, and page number.

Given the pages were scanned and not OCRed, there isn't much you can do for searching the actual issue text. However, I did find the data file used to build the database on the first CD of both sets. This contains all the index information in a raw text format.

Without too much work, it would be possible to build a better search engine. It would be nice if the ARRL was able to do/offer this, but time will tell. Certainly, it would be possible to move the raw data files to a system with better tools.

One thing I also noted: the search engine doesn't use standard Microsoft data entry accelerators. In other words, TAB doesn't get you to the next field, but ENTER does; HOME and END don't work in the text entry fields, but the arrow keys do. Sigh...

Having worked in the software field for the past 20+ years, I'd say there is room for improvement (a understatement :-)

HOWEVER, if you look at the CD sets as a way to acquire the information with about the same search capabilities as a paper index (such as you might find published in the January issues of many magazines), you'd be just about on target. (My main gripe here is the search results don't include the issue, so you can spend a lot of time swapping CDs. I've already let the ARRL know about this.)

I'm happy with my purchase, and I'll be purchasing the remaining CDs whe they come out. I'd expect the ARRL to offer improvements as more and more people use the software and offer suggestions.

73

- Mark N1VQW
pilant@seesaw.enet.dec.com

4357. Re: PL Codes??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Andy Moss <enzo@ibm.net>
Message-ID: <32C2D899.1C4D@ibm.net>
Source record: 99261
Cross-posted to: rec.radio,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.cb,rec.radio.scanner

W.S.H. wrote:
>
> Please correct me if I'm Wrong!
>
> USER FREQ
> 08 88.5
> 12 100.0
> 16 114.8
> 18 123.0
> 19 127.3
> 20 131.8
> 21 136.5
> 24 151.4
>
> Please correct my mistakes or please advise is the above is correct. It
> will be of great assistance!!

Shane, CTCSS tones are usually numbered/identified with a LL (letter
letter) or LN (letter number) type scheme.

Ie: 100.0Hz = 1Z
123.0Hz = 3Z
241.8Hz = M6

There are about 42 odd standardized CTCSS tone frequencies. Many CTCSS
encoder/decoder circuits can not deal with more than 32 different tones
- simply because they don't have enough divider/address lines/aka DIP
switches. If your radio is using the above numbers for CTCSS tone
frequencies they could be totally different on another radio. To
confuse the matter some more, there are several non-standard CTCSS tone
frequencies in use too. I find it best to use the full frequency in Hz
just to avoid any possible confusion. Hopefully your encoder/decoder
with be compatible.

--
Andy Moss
"I often fantasize about my inability to daydream....."

4358. Need HV Pwr Supply Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: mai@iquest.net
Message-ID: <59uheg$3qk_002@news.iquest.net>
Source record: 99262

Rebuilding a old homebrew amp. I would be interested in purchasing power supply components like;

Plate transformer w/240vac pri - rated from 3KVA up, goal of 5-6KV DC, will use doubler or bridge, so...
Ideally, a hypersil, but, what you got?
Oil filter cap(s) rated for the above, and providing a total of 80+ MFD. Going in a rack, so needn't be small.

Once I get this completed, I'll be adding/upgrading the decks, so let me know if you have Heavy Duty amp items.

Happy frying!

WB9IQI

4359. PCB line impedance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: maxf@ll.mit.edu
Message-ID: <32c2dab2.12141631@llnews>
Source record: 99263
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec,rec.radio.swap,rec.radio.amateur.homebrew

http://users.aol.com/maxfro/private/mstrip.html

The above URL will calculate the impedance of your line traces.
also a list of Dielectric Constants of Material is availabe there too.

I will add a list of popular types of circuit board material "Er" that
is available, like FR-4, Duroid, and etc...

any browser that supports JavaScript, Netscape, IE, etc...will work.

Thanks,
Max

4360. Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Andy <muldowne@wilde.oit.umass.edu>
Message-ID: <01bbf36c$5ee05bc0$78b37780@oit.umass.edu.umass.edu>
Source record: 99264

A while back (maybe 6 months) somebody posted a message about converting RS walkie talkies to 6M. Supposedly, they had a crystal for transmit and receive, and all you had to do was change the crystals, because the frequencie difference was so little. Has anyone had any experience with this or converting any other walie talkies? Thanks,
Andy, KB0MMU

4361. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Doug Schiffer <dschiffer@servtech.com>
Message-ID: <32C21D72.423B@servtech.com>
Source record: 99265
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

Charles Cagle wrote:
>
> In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:
>
> Some fawning nonsense over the death of Carl Sagan.

Will so many remember you at your death?

> Sagan was more of a
> showman than a scientist.

A corpus of over 200 scientific papers written by Sagan soundly refutes
your vaccous claim.

> He promoted as facts things, that at best, were conjecture.
^^^
Gentle readers of this, please make a note of this comment.

Exactly WHAT are you refering to? Please, exactly which conjectures did
Carl promote? Be specific.

> He could not believe in God so he looked for aliens.

In my mind, aliens are more likely that a god or gods. And Carl
frequently made note that it was entirely possible that we are alone
in the cosmos.

BTW: Doesn't a god fit into your category of "conjecture"?

> He thought life should be ubiquitous in the universe but did not >understand that the
universe itself is alive.

Your statement makes it implied that YOU think that the universe is
alive.

Support your claim, or admit it is not fact, but is pure conjecture
on your part.

It seems to me that you are doing exactly what you claim Sagan did.
And further, I'll bet you don't have 200+ scientific papers to your
name.

4362. Need help for SERVO CONTROL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: carlisle@mail.north.island.net
Message-ID: <59uobg$cn9@cliff.island.net>
Source record: 99266

I am hopeing a fellow HAM would be able to give me some advice on the design of a low cost, CLOSED LOOP SERVO CONTROLLER that would support ttl signals that provide for motor pulse(step) and direction. All the info that I have come across so far deals with motion control chips like the LM628/629. These chips are very expensive and require a host processor. This application is for antenna control. The servo,s that I have provide the incremental encoder output pulses. Any help on this project would be greatly appreciated.

Thanks, Steve Carlisle VE7AHL

4363. Re: Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: sutin@sol.ucolick.org
Message-ID: <59uor9$e13@darkstar.ucsc.edu>
Source record: 99267

"Andy" <muldowne@wilde.oit.umass.edu> writes:
>A while back (maybe 6 months) somebody posted a message about converting RS
>walkie talkies to 6M. Supposedly, they had a crystal for transmit and
>receive, and all you had to do was change the crystals, because the
>frequencie difference was so little. Has anyone had any experience with
>this or converting any other walie talkies? Thanks,
> Andy, KB0MMU

Helmet-mounted military-surplus 50 MHz tranceivers can be purchased for
about $50 each, and already cover most of the 6M ham band. All you have
to do is get a 3.2V battery/supply. Unlike RS HT's, these won't break
when you shoot them, either.

Brian Sutin *** UCO/Lick Observatory *** Santa Cruz, CA 95064 *** KD6TLA
Boruch bn Michael bn Lion bn Benjamin bn Moishe bn Nachum Sutin Ha'Levi
Fred: "May I rescue you?" `Top Hat'
Ginger: "No, thank you. I prefer being in distress." RKO 1935

4364. GE Master II conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "David A. Cooley" <cooldave@ipass.net>
Message-ID: <32C2E58A.3A02@ipass.net>
Source record: 99268

Hello all,
Acquiring a GE Master II low VHF radio tomorrow and was wondering where
I can find instructions for converting it to 6m.
Thanks,
Dave

--
==========
David Cooley N5XMT Packet: N5XMT@W4RAL.#RTP.NC.USA.NOAM
Internet: cooldave@ipass.net And Web: http://www.ipass.net/~cooldave/
Sponges grow in the ocean... Wonder how deep it would be if they didn't!
==========

4365. klm multi2700 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: ken cubilo <kcubilo@freeway.net>
Message-ID: <32C30741.1AAF@freeway.net>
Source record: 99269

dont know if this is the proper group for this question but here goes
does anyone know on a old klm multi2700 2mtr xcvr if there is some
sort of rf front end protection hidden somewhere rx section was zapped
by 10 watts tx due to relay failure. have replaced transistors but
cant get good performance out of the unit.the if boards are fine
i also dont have a schematic so am shooting in the dark any help
greatly appreciated
73 we8w

4366. Re: Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: stevem@vax.area.com
Message-ID: <59v1av$2eg@news.spies.com>
Source record: 99270

In article <59uor9$e13@darkstar.ucsc.edu>,
Brian Sutin <sutin@sol.ucolick.org> wrote:
>"Andy" <muldowne@wilde.oit.umass.edu> writes:
>>A while back (maybe 6 months) somebody posted a message about converting RS
>>walkie talkies to 6M. Supposedly, they had a crystal for transmit and
>>receive, and all you had to do was change the crystals, because the
>>frequencie difference was so little. Has anyone had any experience with
>>this or converting any other walie talkies? Thanks,
>> Andy, KB0MMU
>
>Helmet-mounted military-surplus 50 MHz tranceivers can be purchased for
>about $50 each, and already cover most of the 6M ham band. All you have
>to do is get a 3.2V battery/supply. Unlike RS HT's, these won't break
>when you shoot them, either.
>
>Brian Sutin *** UCO/Lick Observatory *** Santa Cruz, CA 95064 *** KD6TLA
>Boruch bn Michael bn Lion bn Benjamin bn Moishe bn Nachum Sutin Ha'Levi
> Fred: "May I rescue you?" `Top Hat'
> Ginger: "No, thank you. I prefer being in distress." RKO 1935

All you have to do with the RS units is replace the crystals. The TX
crystal is at the operating frequency (3rd or 5th overtone) the RX
crystal is the receive freq. - the 10.7MHz IF. All I did was blow up
the tiny schematic in the back of the manual on a copy machine and
send it to Cal Crystal with a note saying "Make me TX and RX crystals
for 52.525MHz that will work in this radio." and they took it from
there. International Crystals can also do this.

You can adjust the input antenna matching coil and TX PA coil for
slight improvements, but in general, they don't need to be
modified any further. I also looked up the RX IC and found out
where to put a squelch control and added one.

I'd like to hear more about the military headsets. Where does one
get them for $50?

Steve M.
WF6R

4367. Re: GE Master II conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "Christopher (Chris) W. Boone" <cboone@earthlink.net>
Message-ID: <32C3381F.33A3@earthlink.net>
Source record: 99271

David A. Cooley wrote:
>
> Hello all,
> Acquiring a GE Master II low VHF radio tomorrow and was wondering where
> I can find instructions for converting it to 6m.
> Thanks,
> Dave

What band range is the GE MSTR II???If the combination number doesnt end with a 33 (IE: MC74KAN33) but a 23 or 13, you are out of luck...a 33 is the 42-50Mhz version...the 13 is good to go to 10mtrs (25-36 Mhz)...the 23 series is good for nothing except parts (36-42 Mhz!)

To move a MSTR II 33 series to 6mtrs, order new xtals from any good manfacturer like ICM (say for 52.525 Mhz simplex), solder the xtals in CAREFULLY into the ICOMs, and then retune! make sure the radio WORKS on the current channel first before attempting to retune...
You will need a signal generator (for the rcvr), a voltmeter or GE test set to tune the LO and exciter, and a wattmeter to set the output!

73
Chris
WB5ITT

GE/Midland/Motorola Certified Tech

4368. homebrew yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: David Whipple <david.whipple@m.cc.utah.edu>
Message-ID: <32C32F36.1B70@m.cc.utah.edu>
Source record: 99272

I'm pretty new and electronic-illeterate. Is there anything wrong with using a wooden frame and wires to create a cheap, makeshift yagi? I know you can make quat antennas with the same materials, but I'd be interesting in any way of making a _cheap_ 2 meter yagi without needing too much expertize. I've made a simple groundplane with a chasis mount and a couple of wire coathangers, and I'd like a yagi equally as cheap.

Any input would be great.

Thanks

David
KC7MJR

4369. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "Dale R. Parfitt" <par@magg.net>
Message-ID: <32C346C1.48F4@magg.net>
Source record: 99273

Ian White, G3SEK wrote:
>
> Bob Ecclestone wrote:
> >davem@cs.ubc.ca (Dave Martindale) wrote:
> >
> >>d.NOrdquest@juno.COM writes:
> >>>In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
> >>>50-ohm types. Could someone more knowledgeable tell us how to
> >>>distinguish them?
> >>> Dave KE9ED
> >
> >
> >This is still a very contentious subject!
> >
> >However the bottom line is that, by definition, "BNC" is 50 ohm.
>
> Of course BNCs are available in both 50 and 75 ohm - check any connector
> maufacturer's catalog and most distributors' catalogs too!
>
> >"BNC" = Bayonet "N" Connector, which is 50 ohm.
>
> "BNC" stands for Bayonet Neil Concelman (Neil invented the N, Concelman
> the C which is a large bayonet connector, and the BNC uses ideas from
> both).
>
> Like BNCs, Ns are also available in 75 ohm, though much less commonly.
>
> >
> >The secret is the ratio of inner conductor outside diameter to outer
> >conductor inside diameter (follow??!)
>
> Yes...
>
> >The ratio always (should) come
> >out to 50 ohms.
>
> ... unless of course it was designed as a 75 ohm connector.
>
> >The dielectric used will alter the loss factor (Q) and
> >propagation velocity but will not (within reasonable limits) affect
> >the characteristic impedance.
> >
> It depends what you define as "reasonable limits". In a solid dielectric
> transmission line, the impedance is inversely proportional to the square

> root of the dielectric constant. A coaxial connector is a short section
> of transmission line, partly air and partly solid dielectric. So the
> dielectric does matter - but in practice it's always PTFE in Ns and
> BNCs.
>
> >The centre conductor of a 75 ohm BNC would have to be significantly
> >smaller diameter than the 50 ohm variety, to the point where it would
> >be dificult to maintain the 75 ohm dimensions at the cable
> >termination, be it solder or crimp. The slight advantage over the pin
> >engagemnent length would not be worth the trouble.
> >
> All that is based on the incorrect notion that 75 ohm BNC's don't exist.
> In reality they use a combination of reduced inner-conductor diameters
> and air gaps to raise the impedance.
>
> >Despite the folklore folks, BNCs are still 50 ohm.
> >
> Sorry, that just ain't true. Both impedances are freely available.
>
> >Anyone from Kings or any other connector manufacturer out there care
> >to get into this one?.
>
> No need - just read the catalogs.
>
> 73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
> Professionally:
> IFW Technical Services Clear technical English - world-wide.

Ian's comments are absolutely correct, including the derivation of BNC.
Anyone that does not believe that 75 Ohm BNC or N connectors exist
simply does not know what they are talking about.

Dale W4OP

4370. RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: yatkonj@ibm.net
Message-ID: <32C352E3.14E1@ibm.net>
Source record: 99274
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,

I posted a few days ago saying I could get hold of a RS PRO-26 for $200 from a PAWN shop. It sells for around $450 from RS. I believe this is a good price even though I would only get a 30 day warrenty. No one responded What do you think about the deal?

4371. Re: RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Jim Alberts <alberts@pilot.msu.edu>
Message-ID: <32C354DD.3E2D@pilot.msu.edu>
Source record: 99275
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,

yatkonj@ibm.net wrote:
>
> I posted a few days ago saying I could get hold of a RS PRO-26 for $200
> from a PAWN shop. It sells for around $450 from RS. I believe this is
> a good price even though I would only get a 30 day warrenty. No one
> responded What do you think about the deal?
I purchased mine new for about $350 so I would say $200 is a fair deal.

4372. Re: homebrew yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: mlyle@scvnet.com
Message-ID: <32C36342.4B1C@scvnet.com>
Source record: 99276

David Whipple wrote:
>
> I'm pretty new and electronic-illeterate. Is there anything wrong with
> using a wooden frame and wires to create a cheap, makeshift yagi? I
> know you can make quat antennas with the same materials, but I'd be
> interesting in any way of making a _cheap_ 2 meter yagi without needing
> too much expertize. I've made a simple groundplane with a chasis mount
> and a couple of wire coathangers, and I'd like a yagi equally as cheap.
>
> Any input would be great.
>
> Thanks
>
> David
> KC7MJR

A couple of years back QST had an article called "7dB for 7 bucks" that outlined how to make a cheap 2m yagi from PVC pipe and brazing rod. The antenna worked great and we still have several folks in our club using them for T-hunting. Check the article out!

George, N7TNJ

4373. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf2cc$dcb4b0a0$896d3bc6@internet.roadrunner.com>
Source record: 99334

J. Fred Riley <jfriley@worldnet.att.net> wrote in article
<32c080cf.5254937@netnews.worldnet.att.net>...
> On 24 Dec 1996 23:31:39 GMT, "David B. Holtkamp (K5KH)"
> <holtkamp@roadrunner.com> wrote:
> >I do see quite a noticable reduction in antenna charging "spikes" that
go
> >"pop" in my receiver when the surge suppressor is in place.
>
> The answer to this I gotta hear; 'specially the theory part.

Well, Fred, I'm not sure I can explain it to your satisfaction, but here
goes:

We have a lot of dust, wind, and other charge-buildup sources around here
(quite dry most of the year at 7000+ ft in northern NM). I know from
experience that with the same antennas that I described earlier (G5RV and
LPA), the static buildup (particularly when the wind was blowing) would
cause loud "pops" to be heard in my HF receiver more on the lower bands but
would be audible (but less strong) up to 10 m. These pops I guess were the
static discharge through the front end of my receiver, an event that
undoubtedly does not do it any good.

In fact, the static buildup is sometimes strong enough (in clear weather
and absolutely no lightning for hundreds of miles) that placing the
unterminated antenna connector near a good ground will demonstrate
significant sparks that are visible to the eye in a darkened room. One got
me while I was holding the connector once and grounded from my hand through
my knee into the grounded metal desk through my clothing. I was shocked --
pardon the pun -- but convinced of the reality of this charging. Other
times of the year it is not nearly so intense (light right now) but in the
Spring particularly, it is bad.

I've also had an alarming experience when holding my LPA antenna lead
when lightning did strike a few miles away. It was a sizable strong shock
that didn't quite throw me but definitely caought my attention. I'm
guessing the distance to the lightning strike because I didn't see the
flash directly, but heard the thunder some seconds later. Subsequently I
was much, much more careful when holding antennas when lightning was
nearby. Calculations for a several mile distant source at instantaneous
field strengths of many kv/m divided by r**2 and then multiplied by the
length of my antenna resulted in voltages in the hundreds of volts range.
Not to be ignored.

As for the static pops, its a lot harder to do some sort of quantitative
analysis there, but I know from experience that I still hear the pops on
the receiver under similar static charging conditions, but the amplitude is

much reduced. Hence my conclusion that the Alpha Deltas were doing me some good in that area.

Hope all this is helpful!

73s de david (K5KH)

4374. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf2cd$ee121300$896d3bc6@internet.roadrunner.com>
Source record: 99335

> A gap would save both the bandswitch and air variable. I'd build the gap
> out of a very hard metal that has a high melting temperature. Stainless
> steel or nichrome come to mind, although there are other suitable
> materials. In the AL-82/1200/1500 the bracket that mounts the tank coil
to
> the air variable is designed with an intentional overlap that puts it
near
> the frame of the tuning capacitor. You could probably add a wide nichrome
> or stainless steel conductor to the stud of the air variable placing it
> near the frame.
>

Thanks for the suggestions, Tom. Next time I go in, I'll take a look
around and see if I can mount something suitable where it can arc without
damaging the plates. Hopefully as you suggest, this might also preserve the
bandswitch.

>
> I am not experienced enough in plasma to answer that, but since I build
> PA's used by people who are very experienced in plasma I can ask someone.
> My gut feeling is the rise time has little to do with it in this case,
> since lightning in a cable wouldn't have a slew rate much faster than
> normal RF. But that is only a guess.

Fair enough. I'm a nuclear physicist and never did like plasma physics
much anyway <hi>. I think the rise time is critical for initiating a
breakdown of the gas. Remember how the old fluorescent lights used to work?
Seems like I remember that they had a HV pulse to get the discharge going,
but once triggered, it is easy to maintain. I think if one went to a much
slower rising pulse, the required voltages/powers are higher.

As for comparisons with RF, the frequency of the RF is not really
relevant as much as the rise time of the power pulse. I think they are
significantly different from a lightning strike.

But let's ask around. I'd be delighted to be corrected on this one
(too!).

>
> Bingo. Not only that, but it would allow you to use one with less voltage
> breakdown.

Yep! This is the better place to put one of these, no doubt.

73s de david (K5KH)

4375. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf2ce$d9423440$896d3bc6@internet.roadrunner.com>
Source record: 99336

> These static pops are typically a few thousand volts, though their energy

> is minute. That's the corona breakover voltage of the antenna tip.

Consistent corona discharge probably would occur only at higher altitudes
than mine (I'm at 7000 or so - I'd expect chronic corona problems at
10000). In fact, I think one fellow who had a lot to do with the design of
quad antennas built them because his yagis kept dissolving in teh chronic
corona discharges at high altitudes in Peru. Don't remember all the
details, but was interesting.

> Bad idea. The suppressor should be the outer perimeter of your station
> defense.
>

Yep. Sounds right to me, but I'm working to find a solution.

Thank you very, very much for your knowledge and insight into these
issues. I really appreciate your thoughts and suggestions!!!

73s de david (K5KH)

4376. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <ilPFgWAMGcwyEw2I@ifwtech.demon.co.uk>
Source record: 99337

Bob Ecclestone wrote:
>davem@cs.ubc.ca (Dave Martindale) wrote:
>
>>d.NOrdquest@juno.COM writes:
>>>In regard to Jeanne's query, I believe there are 75-ohm BNC's, as well as
>>>50-ohm types. Could someone more knowledgeable tell us how to
>>>distinguish them?
>>> Dave KE9ED
>
>
>This is still a very contentious subject!
>
>However the bottom line is that, by definition, "BNC" is 50 ohm.

Of course BNCs are available in both 50 and 75 ohm - check any connector maufacturer's catalog and most distributors' catalogs too!

>"BNC" = Bayonet "N" Connector, which is 50 ohm.

"BNC" stands for Bayonet Neil Concelman (Neil invented the N, Concelman the C which is a large bayonet connector, and the BNC uses ideas from both).

Like BNCs, Ns are also available in 75 ohm, though much less commonly.

>
>The secret is the ratio of inner conductor outside diameter to outer
>conductor inside diameter (follow??!)

Yes...

>The ratio always (should) come
>out to 50 ohms.

... unless of course it was designed as a 75 ohm connector.

>The dielectric used will alter the loss factor (Q) and
>propagation velocity but will not (within reasonable limits) affect
>the characteristic impedance.
>
It depends what you define as "reasonable limits". In a solid dielectric transmission line, the impedance is inversely proportional to the square root of the dielectric constant. A coaxial connector is a short section of transmission line, partly air and partly solid dielectric. So the dielectric does matter - but in practice it's always PTFE in Ns and BNCs.

>The centre conductor of a 75 ohm BNC would have to be significantly
>smaller diameter than the 50 ohm variety, to the point where it would
>be dificult to maintain the 75 ohm dimensions at the cable
>termination, be it solder or crimp. The slight advantage over the pin
>engagemnent length would not be worth the trouble.
>
All that is based on the incorrect notion that 75 ohm BNC's don't exist.
In reality they use a combination of reduced inner-conductor diameters
and air gaps to raise the impedance.

>Despite the folklore folks, BNCs are still 50 ohm.
>
Sorry, that just ain't true. Both impedances are freely available.

>Anyone from Kings or any other connector manufacturer out there care
>to get into this one?.

No need - just read the catalogs.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4377. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: ezeran@concentric.net
Message-ID: <59sn49$4gt@herald.concentric.net>
Source record: 99338

>The centre conductor of a 75 ohm BNC would have to be significantly
>smaller diameter than the 50 ohm variety, to the point where it would
>be dificult to maintain the 75 ohm dimensions at the cable
>termination, be it solder or crimp. The slight advantage over the pin
>engagemnent length would not be worth the trouble.

>Despite the folklore folks, BNCs are still 50 ohm.

>Anyone from Kings or any other connector manufacturer out there care
>to get into this one?.

>73's Bob VK1ZRE

>---
We used 75ohm connectors and cable on some level/interface converters
we built a few years ago. Trompeter was source. The patch cords for 75
ohms are violet, 78 ohms blue, and 50 ohms green. The 75s looked like
the 50s except for the dialectric as mentioned in the original post.
The 78 onm cable was twinax.

4378. -FS- 450ohm Ladder-Line DPDT Switchs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: Ron Sibbitt <n8lmt@greatlakes.net>
Message-ID: <01bbf2d3$03dc2180$LocalHost@n8lmt>
Source record: 99339
Cross-posted to:
rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

FOR SALE:
Double-Pole - Double-Throw Knife Switches
these are great for use in 450 or 300 ohm
ladder line antenna systems, to switch
between two antennas or from one antenna to
two different tuners, etc... they are made
in USA by Leviton, plastic base, all brass
metal parts, 1.25" x 2.25" in size, 6/32 brass
screws for connections. I have seen similar
ones at radio shack (for switching tv lead-in),
but these Levitons are a LOT more heavy duty.
I have used them at KW levels with no problems.
I have about 50 of them left...
I'll mail you 3 switchs for $10. postpaid (USA).

Ron Sibbitt N8LMT
5885 Galbraith Line Road
Croswell, MI 48422

Ph 810-679-3535 e-mail n8lmt@greatlakes.net

4379. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59sk0a$8ck@news03.deltanet.com>
Source record: 99340
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Si Ballenger (shb@vnet.net) wrote:
: jlundgre@delta1.deltanet.com (John Lundgren) wrote:

: >I had a Delta capacitive discharge ignition on my old van, and I
: >connected it to an ignition coil on the bench. I put a square wave gen
: >in place of the points, and cranked it up. Man, the spark jumped 3 or 4
: >cm from the paper clip I had in the HT lead to the case! About a
: >100KV. Nasty! No RFI tho, since it's CD.

: >You could generate RFI by taking the suppression caps out of a vacuum
: >cleaner motor or other small appliance. Connect some wire to it so that
: >it will radiate in the FM band. But be careful and don't get zapped.

: >Another thought comes to mind. Get a Ramsey FM-4 or other FM mono TX and
: >instead of operating it on 12VDC, put it on 12VAC with a rectifier in
: >series with the AC lead. The pulsating DC should give harmonics all over
: >the FM band.

: Back to radio lala land: isn't FM pretty much imune to the spark gap types of
: rfi due to it being a fully modulated signal. I don't hear those multi-mile
: sparks on my radio during a thunder storm.

I think you meant fully _limited_ signal.

Well, the original post (cut out here) said that it only had to work a
few dozen feet. At that distance, any RFI generator could overpower a
strong station and cause interference. And then there is the possibility
of getting right into the IFs at 10.7 MHz, for some more interference.

Like with murphy's law, doo-doo happens. Try it before saying it won't work.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4380. WTB: Old Heath SB-610, SB-430, SB-101/2, dead ones - just want the cases

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-26 00:00:00 UTC
From: gekko95@ix.netcom.com
Message-ID: <59stgr$hbu@dfw-ixnews8.ix.netcom.com>
Source record: 99341
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.swap

Hi again! NEED MORE OLD SB-xxx BOXES!! (smaller ones):

I'm the guy hunting old SB-xxx boxes. You've probably seen my
posts lately. I am building a completely homebrew vintage station using
old SB boxes for the chassis, and completely reworking them. It's
coming along well so far. I've been trading around the groups
to acquire all of the luscious parts of the last 40 years that they
just don't make anymore.

I now have 2 SB-101/2 boxes, and now I'm turning my attention to the
speaker, and the station console which will contain a vintage design
tube speed keyer, 24 hour mechanical (!) clock, and tube TR switch.

Here's what I need to buy:

I need to find ANY old SB-610, SB-614, SB-xxx, SB-xxx-matching-speaker box,
SB-430, or ANY other of the smaller SB-series boxes that have the same
box style, but are smaller. GUTS ARE NOT NECESSARY, but won't go to
waste if included. I save EVERYTHING to homebrew with. Price range
of $10 to $25 is about as high as I can go. Other than the case, faceplate,
and chassis being undented, looks are absolutely unimportant, and if
ugly = cheap, then sell me ugly!

The station lineup will be a 3 tube (actually 6 sections, so in the old
days would have been 6 tube!) super-het for 80m with a converter for
160, 40 & up. The transmitter is all band 160-10 (no warc) 50 watts CW only
with a built-in VFO. When I find a third SB-102 or SB-101 box, that
will be for an 811 (250 watt) amplifier to match the series.

I'm painting all the boxes Collins-esque two tone grey. All of the dials are
old National or clones of that, including SCN verniers.

So dig in those garages and see what old dead SB stuff is there. I have
been paying around $20 for a SB-102 case, less parts (one had parts and
the fellow generously left 'em in - not a speck to be wasted!). Again, I
don't need ANY working units or any boxes with values much higher than
$10-$25. I just can't afford them.

email inquiries to:

Dave gekko95@ix.netcom.com

Tacoma, WA

Thanks alot in advance, and Happy Holidays to all.

4381. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf40a$fa2faf60$836d3bc6@internet.roadrunner.com>
Source record: 99192
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

> My
> current thinking is to use Carborundum resistors with water cooling.

Hey, Jim! Invite me over when you get it running and we'll have a
marshmellow roast!

Best wishes de david (K5KH)

4382. Re: M.E.M.F.T.A.C., info wanted-------MODULATION OF EARTH'S MAG. FIELD-appeared in early '60's QST!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <32C3EF91.B35@erols.com>
Source record: 99193

Joe B. Clark wrote:
>
> Does anyone have the old QST (from the early '60's) that describes
> this novel form of communication? A few points I remember---required
> low power, about 50W to reliably communicate several thousand miles,
> free from qrm,etc. Involved unique antenna systems by which you could
> "tune" to a specific magnetic line of force (earth's magnetic field),
> modulate it, and use as a medium for communication. I have never seen
> m.e.m.f.t.a.c. (modulation of earth's magnetic field to affect
> communication) mentioned again.

I'm not sure if this is the same thing, but I remember having
read that Tesla calculated the earth's resonant frequency (Was
it 7.69 Hz?) and he somehow got the notion that if you excited
the electromagnetic spectrum at this rate, you'd be able to
communicate world wide.

Unfortunately, building a transmitter and a receiver for
this frequency isn't a small affair. Further, the
communications bandwidth isn't very good. You weren't reading
one of those famous april fools articles, were you?

Jake Brodsky, mailto:frussle@erols.com
PP-ASEL IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"MY kindness isn't random, nor my acts of beauty senseless."

4383. Re: Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Andy <muldowne@wilde.oit.umass.edu>
Message-ID: <01bbf412$7023be80$21b37780@oit.umass.edu.umass.edu>
Source record: 99194

Kevin Koziol <spooky@brainiac.com> wrote in article
<59v6gh$4g6@hal.brainiac.com>...
> I think you can get the headset units from Fair Radio. They should have
the batteries too. I
> think these units put out about 100 mW. They are popular with paintball
enthusiasts. If anyone
> get crystals made for the RS units please ask for the specs on the
crystals and post it here.
> It would be easier when ordering crystals for these radios. I like the
sound of the RS units,
> I don't think I would go out in public with a radio helmet! I imagine the
RS units operate at
> a similar power level as the headset, right? Seems like a cheap way to
outfit my wife and I
> with a couple of 6 meter handhelds. 73 KD1NW
>
>
Alright, I think thast I'm going to try this. I got a $50 gift certificate
to RS for christmas, so I might even get their 5 channel walkie talkie
(expansion for other crystals?) I'll order the crystals and post the specs
here once I get them.
Andy, KB0MMU

4384. Re: Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Andy <muldowne@wilde.oit.umass.edu>
Message-ID: <01bbf414$5740ac00$21b37780@oit.umass.edu.umass.edu>
Source record: 99195

2 questions, what's the address of Cal Crystals, and, is there a cheaper crystal supplier (Jan, International, etc.) Thanks, Andy.

4385. Digital Journal Mismanagement?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: "Brian K. Short" <ke7gh@primenet.com>
Message-ID: <32C40FE3.4F95@primenet.com>
Source record: 99196

Please excuse the negative tone of this information, but I am just forwarding it and folks do seem quite interested.

I do not know of a "replacement" journal." QST Jan 1997 had a nice review of the SCS PTC-II Pactor II controller. They have had several advanced digital articles lately. I have not seen nearly the coverage of Clover ANYWHERE else...

I personally will miss the "RTTY Journal." I received it back in the 80's and while not a glitzy, glossy publication at that time, I enjoyed reading it. As you know, the "RTTY Journal" has been around for quite a number of years (I've only been a ham since 1974 myself).

Many have commented about the economic realities of amateur radio organizations (shrinking numbers, reluctant sponsors), but also there has been a large trend to distribute information (more quickly and also more efficiently) via internet. Internet provides EVERYONE with access to "publish." There really are no editors/censors etc on internet (for good or bad).

Personally, if anyone has information of publication quality (or otherwise),
I would be happy to include it in my web page(s) or include a link.

73, Brian http://www.primenet.com/~ke7gh/

All I know is that I --and presumably everyone else-- received a plaintive plea for support from IDRA/DJ earlier this month, with the declaration that the mag was gg bimonthly. I responded with a show of faith-- a check for $32.

So, on the one hand, we have a statement about reorganization and staff changes and a plea for support, answered in my case. On the other hand, we have a flat statement from the departing Editor that the show is over.

Which is it, please?
--
Garry Shapiro, NI6T
Editor, The DXer

I don't want to seem like a Monday morning quarterback, but...

I seem to recall in a recent DJ, there were comments about paying off debt ahead of schedule (correct me if I'm wrong).

I'm no economist, but I do run small business. The way I see it, one
should not retire debt early, unless there is an ABUNDANCE of cash
flow. If anything, debt should be refinanced to extend the term and
decrease each payment, to try to salvage the company during a cash
flow crunch.
Can anyone explain?
73 Barry
--
Barry Kutner, W2UP Internet: w2up@voicenet.com
Newtown, PA FRC alternate:
barry@w2up.wells.com

Just sent my $25 off for next years subscription. Guess I can write that
money off as gone. Taught me a lesson about backing things. I got the
thing about bi monthly and saw no real problem with it. Did not know
that
meant NO monthly.

Well it was AEA and now the DJ. Wonder what is next? ARRL wanted all
these
no code techs and now we have all these no code extras (doctor waviers)
who do not know a diddle from dit and the hobby suffers.

Off soapbox and going to work on antennas for Rtty Roundup.

73 Jim
****
* Jimmy R. Floyd (Jim) Thomasville, NC *
* *
* Amateur Call: >> WA4ZXA << *
* Packet Node: >> N4ZC << *
* Internet Address: >> floydjr@interpath.com << *
****

4386. Re: klm multi2700 help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: bry@mnsinc.com
Message-ID: <5a1814$bo1@news1.mnsinc.com>
Source record: 99197

WARNING - if you ever DO getting it going, it is a REAL splatter generator
on SSB!

ken cubilo <kcubilo@freeway.net> whistled a happy tune like:

|>dont know if this is the proper group for this question but here goes
|>does anyone know on a old klm multi2700 2mtr xcvr if there is some
|>sort of rf front end protection hidden somewhere rx section was zapped
|>by 10 watts tx due to relay failure. have replaced transistors but
|>cant get good performance out of the unit.the if boards are fine
|>i also dont have a schematic so am shooting in the dark any help
|>greatly appreciated
|>73 we8w

73 from Bry (((Amateur Radio G3XLQ / AF4K)))
http://www.mnsinc.com/bry
E-mail: bry@mnsinc.com
Home of MEGALIST ham radio files, SWL info. etc. etc.

4387. Re: QST View - A Review

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <Faz8vBA6kDxyEwIx@ifwtech.demon.co.uk>
Source record: 99198

Thanks to L.Mark Pilant for a very useful review.

It seems that the search engine is exactly the same as for the 1995 CD-ROM which was published last April - with all its strengths and weaknesses.

A year's issues appear first as a vertical list on the left-hand part of the screen, rather like a directory list in Windows File Manager. You can then expand each issue into a number of general areas, and then each area into individual articles etc - all the way down to the small-ads if you want. The selected text appears on the right-hand part of the screen.

When you enter a word or phrase to search for, the number of "hits" appears next to each month's issue in the vertical list, and in the right-hand text window is the text begining at your first "hit", which is highlighted. You can very easily jump along from one highlight to the next.

It should now be clear to the sender of an earlier message that the whole text is indexed and fully searchable, and is not simply scanned-in pages. Only the diagrams are scanned-in, and are accessible by clicking on the references in the text. If you choose to print a selected article, all the diagrams and photographs are automatically included, each on its own page.

What disappointed me about the 1995 CD-ROM was that it makes no use of the Classified Index which appears in the December issue. It's there, of course, but all the index entries are "dead" - you can look but you can't click to jump directly to an identified article. Worse still, the Index only gives month and page numbers, and there's no way to jump directly to a page number. (Mark: is this the same in the new QST sets?)

I agree with Mark about the dialog boxes and other features that are not fully Windows compliant, and therefore more difficult to use, but presumably these "misfeatures" are built into the search engine that ARRL bought as a package. The other annoyance is that the Help system doesn't work like normal Windows Help - it uses the search engine itself. Now if you're having trouble using the search engine... see what I mean?

Mark said:
>If I had it to do all over, would I purchase these CD sets? Without >question: Yes. Will I be buying future sets? Yes.

Based on experience with the 1995 QST CD-ROM (which also includes QEX and NCJ), and Mark's review, I will be buying the CD sets.

>Are these for everyone? No.

Not if you already have the relevant QSTs and the space to store them.
For everyone else they're well worth considering.

One final thought: when reading articles on-screen, and viewing each diagram in its own separate window, I found something getting in the way of my understanding. It was easier when the articles were printed out, becasue then I could flick from page to page and leave bookmarks (fingers) at the most interesting parts. But printed output from the CD-ROM is done in word-processor style with long lines across the whole page, and illustrations on separate pages. That still isn't as easy to understand as the original QST pages, printed in columns for ease of reading, and with the relevant illustrations on the same page wherever possible. It showed very clearly how much the page layout contributes to ease of understanding - we'll miss it in a few years, when it's gone.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4388. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: cpwinter@ix.netcom.com
Message-ID: <5a1ik2$jk@sjx-ixn8.ix.netcom.com>
Source record: 99199
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

I don't think you need to worry. <G>

4389. Re: Hamfest, Los Angeles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Jay123a <jay123a@ptw.com>
Message-ID: <32C4C44E.7636@ptw.com>
Source record: 99200

Michael Covington wrote:
>
> Is there a hamfest or swap meet in the Los Angeles area on Jan. 12?
>
> I seem to recall some huge thing held at TRW every month, or something...
> what are the dates?
>
> --
> Michael A. Covington http://www.ai.uga.edu/faculty/covington/
> Artificial Intelligence Center <><
> The University of Georgia Unless otherwise indicated, I am not
> Athens, GA 30602-7415 U.S.A. speaking officially for the University.

Hello Michael: The TRW swap meet is every last saturday of the month.
Tomorrow!
Jay at jay123a@ptw.com

4390. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: cpwinter@ix.netcom.com
Message-ID: <5a1j8a$f28@dfw-ixnews5.ix.netcom.com>
Source record: 99201
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

Ah, the universe itself is life. Nothing conjectural about that; not a bit of it.

And thanks for setting us straight about Dr. Sagan. I guess we were all deluded by the more than 200 scientific papers, the decades of productive work on the Pioneer and Voyager missions, and the teaching at Cornell.

4391. What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: farley@mail.his.com
Message-ID: <5a1k1c$asa@news2.his.com>
Source record: 99202
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

I'm fairly new to working with vacuum tube radios. Recently, I bought box of tubes to use and there were about 60-70 tiny little tubes -- about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had regular pins coming off of the bottom, but most have insulated wire, about an inclh long. Some of the numbers are: JG-6021, JG-6111, AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...

Are these "pencil tubes"? What were these little guys used for? Portable electronics? Do they have any practical use now?

Thanks and happy new year!
Steve

4392. Re: RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: ballen@204.140.227.4
Message-ID: <32C41CC4.573F@204.140.227.4>
Source record: 99203
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,

I just received a Pro-26 for a xmas present. Does anyone know any mods
for the cellular lockout????
Bill N6XD

4393. IVEX WinBoard PCB layout - using it? panelizing boards?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Dave Curtis <ng0x@ricochet.net>
Message-ID: <32C47FA7.49BA@ricochet.net>
Source record: 99204

For about a week I've been doing some PCB layout experiments
using WinBoard from IVEX. (See below for "what is...?")
Anyone else using it? Has anyone had boards fabbed from
its output? I'm still at the stage of doing small layouts
and learning my way around. So far, I've done 5 small
two-layer boards that include copper pours, and also I've
started my own component library and added a few things for
odd-ball footprints.

Now my problem: I'm trying to make a panel out of the small
boards so that I only pay for plotting and set-up once for
these boards. But those darn copper pours don't drag, and they
don't cut and paste. And if I re-enter them, they don't
connect up to the pads that they used to. Anyone solved
this problem?? Or is there another cheap/free tool that
can be used to make panels out of disjoint Gerber files?

What is WinBoard? It is a PCB layout package that runs on
Windows. (I'm using Win95) Reasonably powerful, though
mildly buggy (anyone who has hung around design automation
software for any length of time will not be surprized at
that... :-/ ...) Seems like a nice package for the
hobbyist, as you pay for the capacity that you want...
you buy it "by the pin". A limited capacity version is
available for download at http://www.ivex.com/
This is *not* intended to be a review, a testimonial,
or a flame -- until I've either fabbed some boards
or given up I wouldn't think of writing any of the above.

73, Dave N6NZ (f.k.a. NG0X)
ng0x@ricochet.net or david_b_curtis@ccm.sc.intel.com

Not associated with IVEX -- just trying to be a customer.
Not speaking for Intel, either.

4394. Re: Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Michael Black <blackm00@CAM.ORG>
Message-ID: <Pine.GSO.3.94.961227212039.6108A-100000@Ocean.CAM.ORG>
Source record: 99205

Be careful with those multi-channel 49MHz walkie talkies. I've not seen the insides or the schematic for one, but someone posted some information about them some time back, I think in this newsgroup, saying that they were synthesized units. He also indicated that there did not seem to be a way of modifying them for a new frequency range. If I remember correctly, it was some guy in Ontario. I can't remember his call or his name, and while he did post here quite a bit back then, I've seen no sign of him lately.

The single channel units are a different matter, as long as you get the more expensive ones that use a superhet receiver. I've not tried it, but there is nothing in them that prevents them from being moved to the six meter band. Two crystals, and some retuning should do it. Since they aren't meant to be tuned, you might need to lower the capacitance across the coils, or change the coils to make them work on six.

Michael VE2BVW

On 27 Dec 1996, Andy wrote:

> Alright, I think thast I'm going to try this. I got a $50 gift certificate
> to RS for christmas, so I might even get their 5 channel walkie talkie
> (expansion for other crystals?) I'll order the crystals and post the specs
> here once I get them.
> Andy, KB0MMU
>
>

4395. Re: CW Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Madjid <mboukri@cam.org>
Message-ID: <32C4859E.D71@cam.org>
Source record: 99206
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew, rec.radio.shortwave

Richard M. Corrigan wrote:
>
> I recently heard of a cable that attaches from you Reciever to
> the serial port of a computer which allows CW to be translated
> by your Computer for display on your monitor. Is this true?
> I thought that a TNC was needed. If it is true does anyone
> have the pin outs to build such a cable or maybe a source that
> I could contact to obtain one.

Yes it can be done with just one op-amp and a PCB
the size of the RS232 connector. Get Hamcomm (see below)
there is a schematics inside for simple and more complex
interfaces.

http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/programs/hamcom31.exe

There is also on the Web someone selling some cheap interfaces for
Hamcomm (never tested one but must be a one op-amp solution too)
http://www.cris.com/~n9zle/hc.html

Madjid, VE2GMI - Home Page: http://www.CAM.ORG/~mboukri
NEC4WIN Antenna simulation for Windows

4396. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Mark Weaver <markw@x-press.net>
Message-ID: <32C4B45E.E66@x-press.net>
Source record: 99207
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Steve McAllister wrote:
>
> I'm fairly new to working with vacuum tube radios. Recently, I bought
> box of tubes to use and there were about 60-70 tiny little tubes --
> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> regular pins coming off of the bottom, but most have insulated wire,
> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
> Are these "pencil tubes"? What were these little guys used for?
> Portable electronics? Do they have any practical use now?
>
> Thanks and happy new year!
> Steve

Yes they're called Pencil Tubes and they were used in portable
electronics. They have no practical use now that I have been able to
find. I had a bunch of them and some of them are quite expensive retail
but no one will buy them. I tried for months and never got anyone
interested so I dumped them at a ham fest in a package deal with a bunch
of other tubes that are not in demand.

Mark

4397. 450ohm Ladder-Line Switches **SOLD OUT**

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Ron Sibbitt <n8lmt@greatlakes.net>
Message-ID: <01bbf390$fac56020$616794ce@n8lmt>
Source record: 99208
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.swap

sorry, none left...
tnx to all who got a few!!
73, ron

4398. Re: Wanted: Plans for a radio jammer or spark gap transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <59v536$dt8@news04.deltanet.com>
Source record: 99277
Cross-posted to: alt.radio.pirate,rec.radio.amateur.homebrew

Mark Zenier (mzenier@netcom.com) wrote:
: in <851381444.25098@dejanews.com>,
: : kayvon@hotmail.com wrote:
: : I'm looking for some good plans for a spark gap transmitter or anything
: : else that could be used for a medium range (20 to 200 feet) radio jammer.

: Just put up a couple of strings of christmas lights with an intermittent
: connection in one, like one of my (not yet located) neighbors. Blows your
: shortwave reception all to hell. ZZZzzit ZZZzzit ZZZzzit ZZZzzit ZZZzzit.

: Mark Zenier mzenier@eskimo.com mzenier@netcom.com

My shortwave reception is shotto hell because of RFI from TV sets, 4.5
MHz, EMI from the flyback and horizontal circuitry, etc. Then there is
the RFI from all the computers around me. It's sure hard to receive
decent signals on any receiver below 30 MHz.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
! You MAY NOT use my email address for unsolicited Email or lists! !
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4399. Re: Converting 49 MHz radios to 6M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Kevin Koziol <spooky@brainiac.com>
Message-ID: <59v6gh$4g6@hal.brainiac.com>
Source record: 99278

I think you can get the headset units from Fair Radio. They should have the batteries too. I
think these units put out about 100 mW. They are popular with paintball enthusiasts. If anyone
get crystals made for the RS units please ask for the specs on the crystals and post it here.
It would be easier when ordering crystals for these radios. I like the sound of the RS units,
I don't think I would go out in public with a radio helmet! I imagine the RS units operate at
a similar power level as the headset, right? Seems like a cheap way to outfit my wife and I
with a couple of 6 meter handhelds. 73 KD1NW

4400. Re: -FS- 450ohm Ladder-Line DPDT Switchs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Ron Sibbitt <n8lmt@greatlakes.net>
Message-ID: <01bbf390$1901a900$616794ce@n8lmt>
Source record: 99279
Cross-posted to:
rec.ham-radio.swap,rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Sorry Everybody! but.....
****SOLD OUT****
NO SWITCHES LEFT !!!!!

Ron Sibbitt <n8lmt@greatlakes.net> wrote in article
<01bbf2d3$03dc2180$LocalHost@n8lmt>...
> FOR SALE:
> Double-Pole - Double-Throw Knife Switches
> these are great for use in 450 or 300 ohm
> ladder line antenna systems, ...etc...etc....
>
> Ron Sibbitt N8LMT
> 5885 Galbraith Line Road
> Croswell, MI 48422
>
> Ph 810-679-3535 e-mail n8lmt@greatlakes.net
>

4401. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: jlutes@computer-services.com
Message-ID: <59v8u8$182@sequoia.idir.net>
Source record: 99280
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Try this one...have seen one built for a MUCH larger load...but should still work:

Powder the following components:
Copper
non-conductive plastic
graphite

Mix them (play with the ratios to get the correct value) and pack them into a piece of PVC pipe. Place a copper conductor through the end caps and seal the end caps on the pipe. (i.e. build a resistor from HELL).

The one I saw was actually in a 5-gallon bucket full of oil for cooling.

In article <Pine.LNX.3.95.961224205426.13185A-100000@primeline.net>, Gary Tait <tait@primeline.net> wrote:
>On Sat, 21 Dec 1996, Mark Robinson wrote:
>
>#> : I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
>#
>#Given the low frequency, what about a few toaster elements, or 1kW
>#linear quartz halogen flood lamp bulbs (adjust impedance by adjusting
>#drive :)
>#
>
>No, toaster elements ,and lightbulbs are inductive as well, and no
>good as an RF load.
>
>Gary Tait , VE3VBF
>
>

4402. Hamfest, Los Angeles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <59vjff$rg2@hobbes.cc.uga.edu>
Source record: 99281

Is there a hamfest or swap meet in the Los Angeles area on Jan. 12?

I seem to recall some huge thing held at TRW every month, or something...
what are the dates?

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless otherwise indicated, I am not
Athens, GA 30602-7415 U.S.A. speaking officially for the University.

4403. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: parsifal@ix.netcom.com
Message-ID: <59vkt5$pub@dfw-ixnews3.ix.netcom.com>
Source record: 99282
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.astro.amateur,sci.physics,rec.radio.amateur.homebrew,rec.radio.amateur.antennas

In <32c2a58c.1203132@news.greatbasin.net> agape@ohmygod.com (L. T. Dollars V) writes:
>
>On 25 Dec 1996 11:33:29 GMT, singtech@teleport.com (Charles Cagle)
>wrote:
>
>->In article <32BD0C7B.5764@tcac.com>, kc5itc@tcac.com wrote:
>->
>->Some fawning nonsense over the death of Carl Sagan. Sagan was more
>of a
>->showman than a scientist. He promoted as facts things, that at
>best, were
>->conjecture. He could not believe in God so he looked for aliens.
>He
>->thought life should be ubiquitous in the universe but did not
>understand
>->that the universe itself is alive.
>->
>->--
>->C. Cagle
>->SingTech
>
>Damn straight. Sagan didn't even get NOMINATED for the
>Angstrom Medal. What I want to know is how cheap
>showmen like Sagan are so well known when true
>beacons of light like Velikovsky's are shrouded
>and shunned by the dominantliberalmedia.
>

Certainly thy tongue is firmly planted in thy cheek---I most fervently hope so.

4404. WTB: HP8444 Trac. Gen. need Output module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: ehaskell@airmail.net
Message-ID: <32c75b96.42334663@news.airmail.net>
Source record: 99283

Please state 8444 price and condition.
Eric Haskell
ehaskell@airmail.net

4405. Re: Home brew rotator controller?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: Gerald Caouette <ve6nap@oanet.com>
Message-ID: <32C38EFD.75A9@oanet.com>
Source record: 99284

Jeff Groberman wrote:
>
> I have acquired a 12 volt antenna rotator - unfortunately no
> controller. Does anyone have an idea for a circuit that would control
> the rotator. Reversing polarity is easy, but knowing where the
> rotator is pointing is difficult. Any ideas?

Jeff

A couple of suggestions

The first is a pair of selsyn units from a surplus dealer

The second and perhaps more fun is a multi turn variable resistor
and a meter used in a bridge type circuit- Junk box and theory put
into practice.

And for the more resourceful a rotary / bianary position encoder
with corresponding interface and computer software - great practice
for the digital boys out there

0h yea the low tech way is look out window

Have a great new year
de
ve6nap@oanet.com

4406. Re: homebrew yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <5a0hor$a83@freenet-news.carleton.ca>
Source record: 99285

David Whipple (david.whipple@m.cc.utah.edu) writes:
> I'm pretty new and electronic-illeterate. Is there anything wrong with
> using a wooden frame and wires to create a cheap, makeshift yagi? I
> know you can make quat antennas with the same materials, but I'd be
> interesting in any way of making a _cheap_ 2 meter yagi without needing
> too much expertize. I've made a simple groundplane with a chasis mount
> and a couple of wire coathangers, and I'd like a yagi equally as cheap.
>

There's nothing wrong with that approach. Having said that, if you
look around, I'm sure you will find someone with an old TV antenna
that they are willing to give away. You should be able to recycle
that into a 3 to 5 element 2 metre yagi.

have fun!
73 de va3rr/aa8lu

4407. Re: QST on CD BEWARE!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: "L.Mark Pilant" <pilant@star.enet.dec.com>
Message-ID: <32C3C9CA.2572@star.enet.dec.com>
Source record: 99286

woody white wrote:
>
> You
> can enter EXACT key words for the title (* wildcard is permitted) or the
> author or call, - or recall an (month) issue. If you remember an
> article, but not who wrote it or the exact title, you are SOL!

Woody, from what you write, it sounds like you haven't tried embedded
wildcards. Forgive me if you already know about them, but I continue
to be surprised at the number of folks that don't know about them.

Most windows users assume you can only use the * wildcard at the
beginning
and end of a word or phrase and the ? wildcard within a word or phrase.
Windows has actually borrowed from the more robust systems and will
usually
allow you to use either form anywhere in a phrase. This makes it much
easier
to construct a "reasonable" search string.

For example, one of my major interests is in construction articles. In
this case, I'd look for "*construct*" or "*build*". This would find all
the articles on "How to Construct .....", "How to Build..",
"Constructing a...", "Building a ...", etc.

Another example would be to use the asterisk between multiple partial
phrases. For example, suppose you wanted to find all the articles about
building a 2 meter receiver. You could use some of the following:

"*build*2*met*rec*ver*" or "*construct*2*met*rec*ver*"
"*build*two*met*rec*ver*" or "*construct*two*met*rec*ver*"

This would catch "How to Build..." or "Building a...", meter or metre,
and
even receiver spelled wrong (reciever :-)

> I didn't think QST would be so crude.

Yep. I'll agree it is rather simple. (I'll leave crude for something
truly horrible :-) :-)

> I am going to call QST and complain. If enough of us do, or tell them we
> won't buy it until improved, maybe, just maybe, they will offer what
> should be a free upgraded search engine with some sophistication!

Yes, by all means do call. However, rather than complain, offer
suggestions

for improvement. If enough folks offer the same ideas, the chances of seeing
it implemented are much greater.

I also wouldn't hold out for something better. I'd would suggest getting
MORE folks to buy it any try it out to get greater exposure. That is the
BEST way to get it improved.

Finally, if you take a look on the top level directory of the first disk of
each set you will find a file called QSTnnnn.DAT; where 'nnnn' is the numeric
(year) range for the CD set (i.e., 8589 or 9094). This file contains the raw
text data used to build the database. From what I can see, it contains:
an article number, article title, column title, author's last name, author's
first name, author's call, issue year and issue month. There is also data
which appears to translate the article number to a specific image file.

If anyone wants to ask me questions about this software, feel free to
send me E-mail: pilant@seesaw.enet.dec.com.

I apologize for being so long winded, but there are probably some folks
that would benefit from these CDs; crude as they are (at the moment).

73

- Mark N1VQW

4408. Re: Wanted: TM-V7A Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: benb@bcfreenet.seflin.lib.fl.us
Message-ID: <32c4d50f.3383486@news.icanect.net>
Source record: 99287
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Likely you'll be the one posting the MOD, as your one of the few who have
one! <grin>
Why don't you post a reveiw of your new rig, I know everyone is interested!
Good luck with the new iron.
73's from
Benjamin Blavat, kf4kjf@mailhost.net
webphone, PGPhone

4409. Re: FS COMMAND SETS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: barry0!@!fastlink.com.au
Message-ID: <32c3d6c1.3576010@news.fastlink.com.au>
Source record: 99288
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.boatanchor,rec.radio.amateur.swap,rec.radio.amateur.homebrew,rec.radio.swap

gwilljo@cwo.com (KB6WKW) wrote:

:This is what I have. All responses welcome.
:I have a command set - R-27/ARC-5. It's got the following six tubes:
:Tube Nr. Condition
:12SK7 - good
:12SF7 - good
:12V6 - good
:12SQ7 - good
:12SK8 - Unknown*
:12SK7 - Bad**
:
:The cabinet is still intact, but it's missing the lid(?) that goes on
:top over the tube compartment, and there is no dynamotor. The inside is
:clean - no burned parts, etc. Don't know if it works or not.
:
:The whole thing weighs 7 pounds.I'm asking $45.00 plus shipping and
:handling.

I have two command receivers that are complete except for dynamotor
and are in good working order. If one in unknown condition with a known
faulty tube is worth $45 does that make mine worth $60 each?

One covers 190 to 550 Khz and the other covers 3 to 6 Mhz.

Barry
VK2TLC

4410. QST View - A Review

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: "L.Mark Pilant" <pilant@star.enet.dec.com>
Message-ID: <32C3E11F.6E1B@star.enet.dec.com>
Source record: 99289

QST View - An Informal Review

by L. Mark Pilant, N1VQW

Shortly after they became available, in mid-December 1996, I ordered copies of the QST View CD sets. (Order number 5757 for the 1985 to 1989 set and number 5749 for the 1990 to 1994 set.) They arrived without incident four days later.

In my case, they were shipped in a heavy paper mailing envelope without any additional packing. However, I am concerned the jewel cases may not survive a long journey.

The Contents:

Each CD set consists of a double jewel CD case, three CDs, and a small booklet. The booklet providing some very basic instructions for installing and using the QST View software.

The first CD contains the installation software and files needed by the installation to create or add to the article database. In addition each CD contains a number of (black and white) scanned in images of the individual pages from the various issues.

Installation:

Installing the software was reasonably straight forward. In my case I was installing it on an Intel Pentium running Microsoft Windows NT Version 4.0.

The only minor problem encountered installing the 1990-1994 set was encountered when the installation attempted to install the QST View icons. A dialog box popped up indicating there was a problem adding the icons to the Program Manager. However, when the dialog box was dismissed, everything appears to be in place.

A more significant problem was encountered when I attempted to add the 1985-1989 set to the already installed 1990-1994 set. Every time, the installation would fail indicating it was unable to locate the database file; even though the file was clearly visible to the Windows NT Explorer (and at the DOS command line level).

I sent E-mail to the ARRL Technical Information Service (tis@arrl.org) and received a response about an hour later. Considering all the gateways involved between here and there, this is quite a quick turn-around.

The response, from Michael Tracy, indicated they had never tested QST View with Windows NT but they had seen this problem on Windows 95. Although they were not able to reproduce the problem, it did seem to go away after the system was rebooted. I can confirm this is also the case for Windows NT. After a reboot, I was able to successfully add the 1985-1989 set.

I later tried installed the software on a clean system in the reverse order: the 1985-1989 set first followed by the 1990-1994 set. This did not suffer from the database location failure. However, there was a slight difference in the QST View installation dialog boxes I left active which may affected the outcome.

After the installation, I started the real fun...playing with the software.

Using QST View:

As indicated in the CD booklet, the initial QST View window consists of a menu bar, a form entry area, and a document viewing area. The layout is easy to understand, but this presented the first question. How do I get the documents to view?

My first thought was to use the File pull down menu. Nope. All that lets me do is print and exit. Oh well, time to consult the on-line help. After searching a bit through the on-line help I was able to find out it was the Retrieve button which was the key. You must enter the search criteria in the form entry area and then click on Retrieve.

The retrieved articles are placed into a folder which may be viewed by clicking on the Open Folder button. (Which only appears in the menu bar when there are articles which have been retrieved.)

Retrieving the articles also cause a useful shortcut to appear. If any of the retrieved articles are contained on the currently mounted CD, the first one (on the current CD) will be brought up in the display area. Even though there may be previous articles in the retrieved article list.

All of the retrieving made a deficiency in the QST View software show up: CD swapping. There is nothing in the retrieved article list to indicate the issue in which the retrieved article is contained. As a result, you may spend a lot of time swapping CDs to view the retrieved articles.

Additional time spend using QST View uncovered a second deficiency. The form entry area does not use Microsoft "standard" data entry accelerator keys. Using the TAB key does not advance to the next field, but ENTER does. HOME and END do not position to the beginning and end of the field, but the mouse and arrow keys do. This is fairly minor, but can cause some confusion to experienced Windows users.

Another area which could use additional documentation is use of the search criteria. While the search engine is rather simple, it does have one very powerful characteristic easily overlooked: embedded wildcards.

Most Windows users are familiar with using the asterisk wildcard at the beginning and ending of a word fragment and using the question mark character within a word. However, the asterisk may also be used to match one or more characters within a phrase. It would be most useful if the on-line help offered some examples of how to exploit this power.

Summary:

If you look at QST View as a way to acquire the information is past issues of QST with about the same search power as a paper (end of the year type) index, you will be very happy with the added features of QST View.

However, if you expect QST View to be a tool to allow complex search criteria to be used to locate articles from past issues of QST you will be very disappointed.

If I had it to do all over, would I purchase these CD sets? Without question: Yes. Will I be buying future sets? Yes. Are these for everyone? No.

Suggestions for Improvements:

I would offer the following suggestions for enhancements to the QST View software:

1) Modify the form entry areas to support the Microsoft standard accelerator keys.

2) Allow the use of boolean operators (i.e., AND, OR, NOT, etc.) as part of the search criteria.

3) Include the issue year and month information as part of the retrieved article information.

4) Add a keyword shortcut (similar to "issue" or "cover") to allow the table of contents and advertisers index to be easily and quickly located.

Any questions or comments may be directed to me at:

pilant@seesaw.enet.dec.com

4411. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf409$e3950da0$836d3bc6@internet.roadrunner.com>
Source record: 99290

Sorry to break this into two replies, but I had some other questions:

> You need a different static drain
> arrangement if you'll be transmitting in conditions where corona can occur.
> A high value choke shunted to Earth works dandy for draining static.

Could you elaborate a bit on "high value choke"? I'm guessing you mean to connect it between the center conductor and a good ground...to drain off the charge. How would it work if I use the same coax for transmit and receive? I'm concerned about transmitting into a line with the choke on it. Might work fine for a seperate receive antenna...but wasn't sure about shared xmit/recv. What are your thoughts on this one?

> Polyphaser uses a
> much superior design which has a series capacitor in the inner conductor
> path.... If you don't provide a DC shunted load, however,
> the AD and Lynics suppressors work fine.

Thanks for the info on this issue. I imagine the series capacitor will work fine on xmit, but are there higher insertion losses on recv from using this style of suppressor?

I'm fairly sure my antennas are higher impedance sources (G5RV and log periodic) so they aren't like a low impedance antenna (a loop). But what did you mean by the comment "If you don't provide a DC shunted load..." ? Was that also in reference to a low impedance antenna configuration? If so, I'm still in good shape there as well.

Again, thanks for your info and insights!

73s de david (K5KH)

4412. 8Kw dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-27 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.94.961227102705.3060A-100000@polaris>
Source record: 99291

Try some electric base-board heaters. I have some that are 1Kw at 240vac.
They are linear and about 4 feet long, nice big fins to get rid of the
heat. There are actually 2 500 watt elements in each heater wired in
parallel.
73
spencer

4413. Re: M.E.M.F.T.A.C., info wanted-------MODULATION OF EARTH'S MAG. FIELD-appear...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961228173700.MAA14889@ladder01.news.aol.com>
Source record: 99142

In article <32C2B58F.4556@tcac.com>, "Joe B. Clark" <kc5itc@tcac.com>
writes:

>
>Does anyone have the old QST (from the early '60's) that describes this
>novel form of communication? A few points I remember---required low
>power, about 50W to reliably communicate several thousand miles, free
>from qrm,etc. Involved unique antenna systems by which you could "tune"
>to a specific magnetic line of force (earth's magnetic field), modulate
>it, and use as a medium for communication. I have never seen
>m.e.m.f.t.a.c. (modulation of earth's magnetic field to affect
>communication) mentioned again.
>
>Any info is welcome.
>
>Thanks very much, es bcnu!
>
>de kc5itc, Joe, in Tx

If I recall right, that was in the April 62 or 63 issue Joe. Read it
carefully.

In the following April issue, they had a passive electron accelerator that
screwed into the transmission line. It used a large diameter conductor
that tapered into a narrow exit wire.

The idea is to copy a hose nozzle. The lazy electrons in the big conductor
would bunch up and squirt out the small opening. The velocity would
increase, and so the voltage would go up. The same current would flow, and
at higher voltage. So power would increase without any external power
source.

If you collect all the April QST's from the 60's, you will find many
articles of things that were wonderful ideas but never quite caught on.
They key is it's mostly in the April issues.

73 Tom

4414. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: wcdc@value.net
Message-ID: <5a3tkm$i5b@vnetnews.value.net>
Source record: 99143
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

farley@mail.his.com (Steve McAllister) writes:
> I'm fairly new to working with vacuum tube radios. Recently, I bought
> box of tubes to use and there were about 60-70 tiny little tubes --
> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> regular pins coming off of the bottom, but most have insulated wire,
> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
> Are these "pencil tubes"? What were these little guys used for?
> Portable electronics? Do they have any practical use now?
>
> Thanks and happy new year!
> Steve
>
>
>
I saw these tubes in war surplus sonobouys (an anti-submaraine warfare device
dropped from an aircraft) in the early 1960's. These were driven from a salt
water activated battery.

4415. Electrolytic Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: John Lockhart <jlockj@minn.net>
Message-ID: <01bbf4ff$6384b560$39c99dcc@default>
Source record: 99144

I bought some surplus 470 uF 450 VDC Rubycon electrolytic capacitors recently and have a couple of questions on using them.

I don't see a vent hole/plug - do they vent up ("blow their top) or down?

I'm amazed at their small size (about 1 3/4" H by 1 1/4" Diam). Is this a typical package size for 470 uF at 450 V nowadays?? (want to leave room for replacement in future)

Thanks for your help. I don't want to build them into a project/ repair incorrectly.

73,

John W0DC

4416. NEED MONEY???!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: unverified.user@nd.edu
Message-ID: <unverified.user-2812961607540001@mac04.ccmblab.nd.edu>
Source record: 99145

(I'm an unverified sender because I'm using the Internet at a college lab)
$
$ $ DO NOT THROW THIS LETTER AWAY, JUST TRY $
$
$
$ $ IT, I DID AND I ALREADY HAVE OVER $1000.$
$
$
$ (Is this legal?>>>GO TO END OF
DOC!!!!)
$
I was once a doubting Thomas also, one who never thought any of those
schemes worked or where even legal. But after hearing so much about it
and
all those testimonials I thought HEY, WHY NOT TRY! And I did. After 2
week
I received several thousand dollars. After four weeks my local mailman
suggested if I am going to expect such a volume of mail I should open a
post office box, A LARGE ONE! Now with the Internet this money making
idea
gets even better. Why do you see so many of these get rich quick messages
on the Internet? IT REALLY WORKS. Besides whats $5, Consider it an
investment. Take this advice, if it doesn't recover your time and money,
don't try it again.

Testimonials from others who have tried this idea have reported FANTASIC
results. Markus Valppu says he made $53,664 doing this, Dan Stepstone
made
$17,000 in this perfectly legal and simple plan.

****
This works, I did it and have already received $682.00 in the past week.
****
Hello! I've got some awesome news that I think you need to take two
minutes to read if you have ever thought "How could I make some
serious cash in a hurry???" , or been in serious debt, ready to do
almost anything to get the money needed to pay off those bill
collectors. So grab a snack, a warm cup of coffee, or a glass of your
favorite beverage, get comfortable and listen to this interesting,
exciting find!
Let me start by saying that I FINALLY FOUND IT! That's right!. I
found it! And I HATE GET RICH QUICK SCHEMES!! I hate those schemes
like multi-level marketing, mail-order schemes, envelope stuffing
scams, 900 number scams... the list goes on forever. I have tried
every darn get rich quick scheme out there over the past 12 years. I

somehow got on mailing lists for people looking to make money (more like 'desperate stupid people who will try anything for money!'). Well, when I was a teenager, these claims to 'get me rich quick' sounded irresistible! I would shell out $14.95 here, $29.95 there, $24.95 here, and another $49.95 there. I had maxed out my new Circuit City Card AND my Visa...I was desperate for money!! So, I gave them all a chance but failed at every one of them! Maybe they worked for some people, but not for me. Eventually, I just tossed that JUNK MAIL in the trash when I got the mail. I recognized it right away. I can smell a money scam from a mile away these days, SO I THOUGHT.... I thought I could sniff out a scam easily. WAS I WRONG!! ....I LOVE THE INTERNET!!!

I was scanning thru a NEWSGROUP and saw an article stating to GET CASH FAST!! I thought..."Here on the Internet?? Well, I'll just have to see what schemes could possibly be on the internet." The article described a way to MAIL A ONE DOLLAR BILL TO ONLY FIVE PEOPLE AND MAKE $50, 0000 IN CASH WITHIN 4 WEEKS! Well, the more I thought about it, the more I became very curious. Why? Because of the way it worked AND BECAUSE IT WOULD ONLY COST ME FIVE DOLLARS (AND FIVE STAMPS), THAT'S ALL I EVER PAY....EVER!!

Ok, so the $50,000 in cash was maybe an tough amount to reach, but it was possible. I knew that I could at least get a return of $1,000 or so. So I did it!! As per the instructions in the article, I mailed out ('snail mail'for you e-mail fanatics) a single dollar bill to each of the five people on the list that was contained in the article. I included a small note, with the dollar, that stated "Please Add Me To Your List." I then removed the first position name of the five names listed and moved everyone up one position, and I put my name in position five of the list. This is how the money starts rolling in! I then took this revised article now with my name on the list and REPOSTED IT ON AS MANY NEWSGROUPS AND LOCAL BULLETIN BOARD MESSAGE AREAS THAT I KNEW. I then waited to watch the money come in...prepared to maybe receive about $1000 to $1500 in cash or so.... But what a welcome surprise when those envelopes kept coming in!!! I knew what they were as soon as I saw the return addresses from people all over the world-Most from the U.S., but some from Canada, even some from Australia! I tell you, THAT WAS EXCITING!! So how much did I get in total return? $1000? $5000? Not even!!! I received a total of $23,343!!! I couldn't believe it!!

I now have a brand new black Acura Integra to speak for, due to this!! Now after almost 8 months, I am ready to do it again!!! So maybe it was possible to get $50,000 in cash, I don't know, but IT COMPLETELY DEPENDS ON YOU, THE INDIVIDUAL! You must follow through and repost this article everywhere you can think of! The more postings you achieve will determine how much cash will arrive in your very own mailbox!! It's just too easy to pass up!!!

Let's review the reasons why you should do this: The only cost factors are for the five stamps, the 5 envelopes and the 5 one dollar bills that you send out to the listed names by snail mail (US Postal Service Mail). Then just simply repost the article (WITH YOUR NAME ADDED) to all the newsgroups and local BBS's you can. Then sit back and, (ironically), enjoy walking (you can run if you like! :o) down your driveway to your mailbox and scoop up your rewards!! We all have five dollars to put into such an easy effortless investment with SPECTACULAR REALISTIC RETURNS OF $15,000 to $25,000 in about 3-5 weeks! So HOLD OFF ON THOSE LOTTERY NUMBERS FOR TODAY,EAT AT HOME TONIGHT INSTEAD OF TAKEOUT FROM McDONALDS AND INVEST FIVE DOLLARS IN THIS AMAZING MONEY MAKING SYSTEM NOW!!! YOU CAN'T LOSE!!

So how do you do it exactly, you ask? I have carefully provided the mostdetailed, yet straightforward instructions on how to easily get this underway and get your cash on its way. SO, ARE YOU READY TO MAKE SOME CASH!!!?? HERE WE GO!!!

*** THE LIST OF NAMES IS AT THE END OF THIS ARTICLE. ***

OK, Read this carefully. Get a printout of this information, if you like, so you can easily refer to it as often as needed.

INSTRUCTIONS:

1. Take a sheet of paper and write on it the following: "Please add my name to your list". This creates a service out of this money making system and thus making it completely legal. You are not just randomly sending a dollar to someone, you are paying one dollar for a legitimate service. Make sure you include your name and address. I assure you that, again, this is completely legal! For a neat little twist, also write what slot their name was in: "You were in slot 3", Just to add a little fun! This is all about having fun and making money at the same time!

2. Now fold this sheet of paper around a dollar bill ,(no checks or money orders), and put them into an envelope and send it on its way to the five people listed. The folding of the paper around the bill will insure its arrival to its recipient. THIS STEP IS IMPORTANT!!

3. Now listen carefully, here's where you get YOUR MONEY COMING TO YOUR MAILBOX. Look at the list of five people; remove the first name from position one and move everyone on the list up slot one on the list. Position 2 name will now move to the position 1 slot , position 3 will now become position 2, 4 will be be 3, 5 wil be 4. Now put your name, address, zipcode AND COUNTRY in position 5, the bottom position on the list.

4. Now upload this updated file to as many newsgroups and local bulletin boards' message areas & file section as possible. Give a catchy description of the file so it gets noticed!! Such as: "NEED FAST CASH?, HERE IT IS!" or "NEED CASH TO PAY OFF YOUR DEBTS??", etc. And the more uploads, the more money you will make, and of course, the more money the others on the list will make

too. LET'S ALL TAKE CARE OF EACH OTHER BY BEING HONEST AND BY PUTTING FORTH 120 PERCENT INTO THIS PROFITABLE & AMAZING SYSTEM!!! You'll reap the benefits, believe me!!! Set a goal for the number of total uploads you'll post, such as 15-20 postings or more! Always have a goal in mind!!! If you can UUE encode the file when uploading, that will make it easier for the people to receive it and have it downloaded to their hard drive. That way they get a copy of the article right on their computer without hassles of viewing and then saving the article from the File menu. Don't alter the file type, leave it as an MS-DOS Text file. The best test is to be able to view this file using Microsoft's Notepad for Windows 3.x or WordPad for Windows '95. If the margins look right without making the screen slide left or right when at the ends of the sentences, you're in business!

5. If you need help uploading, simply ask the sysop of the BBS, or "POST" a message on a newsgroup asking how to post a file, tell them who your Internet provider is and PEOPLE WILL ALWAYS BE GLAD TO HELP. I would try to describe how to do it but there are simply too many internet software packages with slightly different yet relatively simple ways to post or upload a file. Just ask for help or look in the help section for 'posting'. I do know that for GNN, you simply select 'POST' then enter a catchy description under the subject box, choose 'ATTACH', selecting 'UUE' and NOT 'TXT', then choose 'Browse' to go look for the file. Find your text file CASH.TXT and click on it and choose 'OK'. Place a one line statement in the main body section of the message post screen. Something like "Download this to read how to get cash arriving in your mailbox with no paybacks!" or whatever. Just make sure it represents its true feasibility, NOT something like..."Get one million dollars flooding in your mailbox in two days!"

You'll never get ANY responses!

6. And this is the step I like. JUST SIT BACK AND ENJOY LIFE BECAUSE CASH IS ON ITS THE WAY!! Expect to see a little money start to trickle in around 2 weeks, but AT ABOUT WEEKS 3 & 4, THE MONEY STORM WILL HIT YOUR MAILBOX!! All you have to do is take it out of the mailbox and try not to scream too loud (outside anyway) when you realize YOU HIT THE BIG TIME AT LAST!!

7. So go PAY OFF YOUR BILLS AND DEBTS and then get that something special you always wanted or buy that special person in your life (or the one you want in your life) a gift they'll never forget. ENJOY LIFE!

8. Now when you get low on this money supply, simply re-activate this file again; Reposting it in the old places where you originally posted and possibly some new places you now know of. Don't ever lose this file, always keep a copy at your reach for when you ever need cash. THIS IS AN INCREDIBLE TOOL THAT YOU CAN ALWAYS RE-USE TIME AND TIME AGAIN WHEN CASH IS NEEDED!

2
****
****
THE NAMES LIST THE NAMES LIST THE NAME LIST
****
* HONESTY IS WHAT MAKES THIS PROGRAM SUCCESSFUL!!!
*
*
1. Clint Chizinski
* 42 Cavalry Hill Road
* Wilton, CT 06897
* USA

2. Florian Meyer
* Vogt-Groth Weg 45c
* 22609 Hamburg
* Germany

3. Rob Thayer
* 2150 W. 10th Ave. #L-106
* Broomfield, CO 80020
* USA

4. Bill Kendall
* 9975 University Pkwy #72
* Pensacola, FL 32514
* USA

5. Jon Geib
* 52768 Brandel Ave.
* South Bend, IN 46635
* USA

****
People have asked, "What if the plan is played out and none sends you
any money?" So what! What are the chances of that happening when there
are tons of new honest users and new honest people who are joining the
Internet everyday and are willing to give it a try?!? Estimates are
20,000 to 50,000 new users EVERYDAY!!! Remember, play FAIR and HONEST,
and THIS WILL WORK, I PROMISE YOU!!! You just have to be honest. Make
sure you print this article out RIGHT NOW! ! ! Also, keep a list of
everyone
who sends you money and always keep an eye on the newsgroups postings to
make sure everyone is playing fair.

FINAL THOUGHT
In order for this system to work and remain legal, you have to follow the
steps and send your $5. Honesty is always the best policy. Good luck,
have fun and make some serious money!!!!!

Proof:
This arraignment does not constitute a "chain letter" under US Title 18
Code section1302. Because you are purchasing a service.

4417. Re: Electrolytic Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Bigdad <Bigdad@Rworld.com>
Message-ID: <5a47b6$d70@kirin.wwa.com>
Source record: 99146

"John Lockhart" <jlockj@minn.net> wrote:
>
>I bought some surplus 470 uF 450 VDC Rubycon electrolytic
>capacitors recently and have a couple of questions on using
>them.
>
>I don't see a vent hole/plug - do they vent up ("blow their top)
>or down?
>
>I'm amazed at their small size (about 1 3/4" H by 1 1/4" Diam).
>Is this a typical package size for 470 uF at 450 V nowadays??
>(want to leave room for replacement in future)
>
>Thanks for your help. I don't want to build them into a project/
>repair incorrectly.
>
>73,
>
>John W0DC

Yep thats a normal size for a cap of that type now-a-days and on
a chassis mount type they will vent thru the + terminals...same
with the PC mount ones that i have seen lately.

4418. Re: Kits for phase-3D?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec28.222644.8158@ke4zv.atl.ga.us>
Source record: 99147
Cross-posted to: rec.radio.amateur.digital.misc,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

In article <32C01C2A.4A4D@mindspring.com> "Timothy S. Powell" <tpowell@mindspring.com> writes:
>Does anyone know of any 6-meter, 2-meter and 70-cm SSB kits that would
>be good to use for the Phase-3D sat when it gets in orbit. I'm a
>college student with limited funds. I would like to work the sat when
>it get up but can not buy the high price equipment that is needed but
>would like to build a small sat station if possible.
>Timothy
>KD4IKY

Well, lets see what you need. For mode U/V (the old mode B), you'll need a 70cm Tx and a 2m Rx. Now an easy way to get these is with transverters from a 10m rig (or an old SSB CB). The latter can be had cheap if you don't already have something for 10m. You don't have to convert it, you can choose the crystals in the transverters to go direct to and from CB frequencies. You'll want to mod it to allow enough RIT range to cover between channels, and to allow XIT as well. This is usually pretty easy to do. Down East Microwave sells suitable transverter kits, or you can build from scratch based on the designs in the RSGB VHF/UHF Dx Book. A preamp will be needed, and the ARRL Handbook and the Proceedings of the Central States VHF Conference (available from ARRL) have several suitable designs.

Another approach is to build a 2m Rx and 70cm Tx. The Rick Campbell R2 and T2, described in a QST series and in newer Handbooks, are suitable for this. Kanga sells kits, but these radios are simple enough to build dead bug style. The R2 and T2 are universal designs which can be made to work from LF up through UHF (up to 500 MHz anyway). They use the phasing method to generate SSB and to obtain single signal reception. You have to supply the LO. A VXO and multiplier should do fine. You can find suitable VXO designs in the Handbook. A good mast mount preamp will be required for receive, and any of the ones referenced above should work fine. You'll need a PA for the Tx. RF Parts sells suitable brick amps, as does Down East Microwave. Depending on antenna gain, you'll need from 10 watts to 100 watts uplink power. Err on the side of too much, you can turn it down if you wind up louder than the beacon.

(Note that you can set the R2 and T2 up for 10m and use transverters, as with the CB set recomendation above, if you prefer. There are some advantages to this approach, though it adds some complexity and cost.)

If you'd like to try your hand at digital via the satellite. A suitable receiver for 9600 baud on P3D and the Microsats can be made from a GE UHF Exec II or Mastr II receive strip. Use the temperature compensation input of the Icom (channel element) for doppler tracking. These Rx strips can be found at hamfests for $25, or $50 for a complete radio. The UHF Tx strip can be used as a CW transmitter for mode U/V as is. With 80 watts output, they do great. For data uplink, a VHF version of the Tx strip can be modified for 9600 baud. Disable the PM modulator and use the temperature compensation input to the Icom for modulation (or rewire to use a Motorola channel element and modulate that, it's a bit more linear).

If you prefer to scratch build the FM setup, a receiver based on the MC13135 receiver subsystem chip, and a Tx based on the MC2833 exciter chip, are pretty easy to do. Add a power brick from RF Parts, and you're on your way. Converting the business band radios is so easy and cheap, though, it is really the better way to go.

P3D will have many more modes. Setting up for them will require either more transverters or more radios. Mode U/V and the Microsat style 9600 baud digital mode will likely the be the most popular in the beginning, however, because everyone equipped for Oscar 10 and Oscar 13 will already be set for mode U/V and all the Microsat ground stations will be set for 9600 baud data.

You'll need a pair of steerable yagis or helixes, for mode U/V. You can build these yourself and save a bunch of money. When the sat is near apogee, it hangs in virtually the same spot in the sky for long periods, so you can aim the antennas by hand, no need for auto-tracking, or even for rotators. The antennas don't have to be very high off the ground, since they are looking up. You can use a tripod or post mount and turn them directly by hand as needed. The antennas can be made from a length of 2x2 and use aluminum clothesline wire for elements. There are a number of antenna programs available on the net which can optimize the design for you.

It doesn't have to cost gobs of money to get on the satellites if you use a little ingenuity. You can be on the digital birds for under $100, or on U/V SSB for a bit over $300, if you scrounge and adapt a bit.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4419. SUBSCRIBE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: hrt1754@tsufl.EDU
Message-ID: <5a49vb$4tk@nr1.vancouver.istar.net>
Source record: 99148

```
ADD HAM-HOMEBREW
```

4420. Subscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: apajuelo@redestb.ES
Message-ID: <5a4b6j$5b2@nr1.vancouver.istar.net>
Source record: 99149

```
add ham-homebrew
```

4421. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: inet@intellisys.net
Message-ID: <5a3t4g$j1u@lori.zippo.com>
Source record: 99150
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <5a2mss$5l6@nntp-2.io.com>, pinksnd@**io.com says...
>

>> >No, toaster elements ,and lightbulbs are inductive as well, and no
>> >good as an RF load.
>> >
>> >Gary Tait , VE3VBF
>
>ï¿½ How about some fairly thick bare nichrome wire supported from some
>ceramic
>structure, hanging down in a zig-zag pattern, in an oil-filled 55
gallon
>drum? If you zig-zag carefully, you can keep the inductance down quite
>low,
>where it might be acceptable at 300Khz, depending on your needs.
>Besides,
>the capacitance of a grounded metal drum just might balance it out. :)
>
>Also, IMHO, at 2Kv, water is not a safe option due to the shock
hazard.
>
>
>
>My 2ï¿½
>--
>Gene
>
In my view, the inductance of a dummy 8kw load at 300 kHz is the
LEAST of your worries. But perhaps he meant 300 MHz?

Regards
brian whatcott <inet@intellisys.net>
Altus OK

4422. Re: Wanted: TM-V7A Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Mark Taylor <n3tel@erols.com>
Message-ID: <32C5DD69.6C5B@erols.com>
Source record: 99151
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I would be very interested to know what the extended recieve is. anyone know?
--
We laugh at honor, and are shocked to find traitors in our midst.
C.S. Lewis

They that can give up an essential liberty to purchase a little temporary safety deserve neither liberty nor safety. Ben Franklin

4423. Re: Need help for SERVO CONTROL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Brian Chesire <BCChesire@worldnet.att.net>
Message-ID: <32C60803.72FD@worldnet.att.net>
Source record: 99152

Steve & Gale Carlisle wrote:
>
> I am hopeing a fellow HAM would be able to give me some advice on the
> design of a low cost, CLOSED LOOP SERVO CONTROLLER that would support
> ttl signals that provide for motor pulse(step) and direction. All the
> info that I have come across so far deals with motion control chips
> like the LM628/629. These chips are very expensive and require a host
> processor. This application is for antenna control. The servo,s that I
> have provide the incremental encoder output pulses. Any help on this
> project would be greatly appreciated.
>
> Thanks, Steve Carlisle VE7AHL
Steve
If you are using stepper motors consider the UCN5804, available from alltronics for $4.50 I think. It will drive a unipolar stepper with over an amp and I think up to 40 volts.
If you're using DC servo motors, check out tje PIC-SERVO/PIC-ENC chip set from JR Kerr. All the data is available on the web. They will control just about any motor driver you can come up with including national's LMD series and any of the commercial servo amps. Email adress is dcservo@aol.com
Hope this helps or at least gets you started in a new direction.

Brian, WA5PPO

4424. Re: 2m FM project for Theater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Ted Yamada <bd732@lafn.org>
Message-ID: <32C61DDB.284E@lafn.org>
Source record: 99153

Dave Rugh wrote:
>
> In article <btbmag-19129615033330001@news.ro.com>, btbmag@ro.com says...
> >
> >
> >Being new to ham radio, and having a problem that could be solved with ham
> >radio, I thought I'd ask some help for a litte project.
> >
> >For a play I am directing, I need to turn on a switch remotely. (BTW, the
> >play is being performed by my Youth Drama Team at my church.) I thought
> >that it might be possible, and simple, to create a reciever that would
> >throw a relay after receiving a code from the tone pad on my handheld.
> >
>
> If you're near a Fry's Electronics (Northern & Southern Calif) you could
> pick up a DTMF encoder/decoder kit and use that. I think they also have
> transmitter/receiver pairs used for remote control. The kits run around
> $30 and come with PCBs.
>
> Dave

Or, go to a good hardware store in your area. Find one of those
battery operated door bells with the remote control(RF) push button.

Get one of the cheap ones, they cost apx $10.00.

Remove the bell/buzzer and replace it with a
transistor + relay + misc , presto!

Ted...
(The one I got here in front of me is made by Nutone)

4425. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <QBnJpAAqxYxyEwbJ@ifwtech.demon.co.uk>
Source record: 99154

Tom, W8JI wrote:
>In article <ilPFgWAMGcwyEw2l@ifwtech.demon.co.uk>, "Ian White, G3SEK"
><G3SEK@ifwtech.demon.co.uk> writes:
>
>>
>>"BNC" stands for Bayonet Neil Concelman (Neil invented the N, Concelman
>>the C which is a large bayonet connector, and the BNC uses ideas from
>>both).
>>
>>Like BNCs, Ns are also available in 75 ohm, though much less commonly.
>>
>>
>
>Ian,
>
>I agree with everything you said except this.
>
>The real inventor was Chuck Collingwood. He did this for the mitary in the
>early 40's or 50's. He used them in a military repair depot, to do quick
>connections to test equipment. He didn't even have the outer shell on the
>connector, it was like an N male without the outer screw on part.
>
>Collingwood had a real big nose, and his co-workers called him big nose
>Chuck. They would ask each other for one of BNC's connectors, and the name
>stuck even after the bayonete piece was added.
>
>Never trust one source for critical data

That's always my problem - the more sources there are, the harder it is
to decide which one not to trust!

>
>PS Have a happy new year

Thanks, and the same to you-all.

73 from Ian G3SEK

4426. Re: PL Codes??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: mulligan@ACM.ORG
Message-ID: <5a2mjf$5tr@HOPPER.acm.ORG>
Source record: 99155
Cross-posted to: rec.radio,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.cb,rec.radio.scanner

The following list will be included in the Jan '97 release of the FAF.
Any comments or corrections would be greatly appreciated. (The FAF lists
specific U.S. frequencies and channels in various bands of interest to
scanner listeners.)

From the FAF - Frequently Asked Frequencies
on ftp://oak.oakland.edu
as /pub/hamradio/docs/misc/scanner.faf

CTCSS (PL) Frequencies

Freq (Hz)	Designator EIA	Ham	Freq (Hz)	Designator EIA	Ham	Freq (Hz)	Designator EIA	Ham
67.0	L1	01	110.9	2Z	15	179.9	6B	29
71.9	L2	02	114.8	2A	16	186.2	7Z	30
74.4	WA	03	118.8	2B	17	192.8	7A	31
77.0	L3	04	123.0	3Z	18	203.5	M1	32
79.7	SP	05	127.3	3A	19	206.5	8Z	
82.5	L4	06	131.8	3B	20	210.7	M2	33
85.4	YA	07	136.5	4Z	21	218.1	M3	34
88.5	L4A	08	141.3	4A	22	225.7	M4	35
91.5	ZZ	09	146.2	4B	23	229.1	9Z	
94.8	L5	10	151.4	5Z	24	233.6	M5	36
97.4	ZB	11	156.7	5A	25	241.8	M6	37
100.0	1Z	12	162.2	5B	26	250.3	M7	38
103.5	1A	13	167.9	6Z	27	254.1	OZ	
107.2	1B	14	173.8	6A	28			

Motorola differs from EIA with: XZ (L1), XA (L2), XB (L3),
YZ (L4), YB (L4A), ZA (L5). ICOMM does not use 97.4 and uses one
less than the amateur numbers above that (i.e. ICOM #25 = 162.2).

4427. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: provero@connix.com
Message-ID: <5a1q8o$md4@beast.connix.com>
Source record: 99209
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

In <5a1k1c$asa@news2.his.com>, farley@mail.his.com (Steve McAllister) writes:
>I'm fairly new to working with vacuum tube radios. Recently, I bought
>box of tubes to use and there were about 60-70 tiny little tubes --
>about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
>regular pins coming off of the bottom, but most have insulated wire,
>about an inclh long. Some of the numbers are: JG-6021, JG-6111,
>AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
>Are these "pencil tubes"? What were these little guys used for?
>Portable electronics? Do they have any practical use now?

These are "sub-miniature" or pencil tubes. The 5840 and 5636
are used in the RCA SRR-11/12/13 & 13A receivers. Can't really
help with the others.

P.J. "Josh" Rovero email: provero@connix.com
Oceanographer work: rovero@sonalysts.com
Meteorologist radio: KK1D
Curmudgeon at large web: http://www.connix.com/~provero/

4428. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: David Crittle <retrovox@wagga.net.au>
Message-ID: <32C481A7.7B0@wagga.net.au>
Source record: 99210
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Steve McAllister wrote:
>
> I'm fairly new to working with vacuum tube radios. Recently, I bought
> box of tubes to use and there were about 60-70 tiny little tubes --
> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> regular pins coming off of the bottom, but most have insulated wire,
> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
> Are these "pencil tubes"? What were these little guys used for?
> Portable electronics? Do they have any practical use now?
>
> Thanks and happy new year!

These tubes are little preamp triodes and pentodes. Sure, they can
still be used, just like their bigger brothers. Not all tube handbooks
have data on them, but it is not impossible to find. Most operate in
convential circuits, but usually with lower maximum ratings compared
to bigger tubes.

The GE ESSENTIAL CHARACTERISTICS book reprinted and sold by Antique
Electronic Supply lists data on these types.

David Crittle

email: retrovox@wagga.net.au

4429. Re: Heath HW101- KEYING PROBLEMS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: jwg6@cornell.edu
Message-ID: <jwg6-2712962105160001@cu-dialup-1911.cit.cornell.edu>
Source record: 99211

Problem solved -- the anti-vox was set too high! Thanks for the suggestions, 73
N1AEP Freeville, NY

4430. Re: Heath HW101- KEYING PROBLEMS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: arm@intr.net
Message-ID: <5a1vua$k1u@news.intr.net>
Source record: 99212

Joel Govostes (jwg6@cornell.edu) wrote:
: Hi All.

: I have an HW101 which is giving me some difficulty. I just recently had
: it overhauled, but find it is acting fishy when it comes to CW keying.

: The rig does fine in "test" mode, and loads up with no problem. BUT when
: I switch it to CW and try to send, one of the main relays won't hold!

: When I close the key, the transmitter relays kick in, receiver mutes, the
: sidetone comes on, and there is output. All fine. BUT if I hold the key
: down, for more than a second or two, the relay kicks back out, the the
: transmit signal is cut off. I still hear the sidetone, though.

: SO if I wish to hold the key down and transmit for a few seconds, to check
: SWR or whatever, the transmitter will not remain ON past a second or two.
: I just hear the relay kick back off again. This is in the Push-To-Talk or
: VOX mode (doesn't seem to matter which). I have no similar problems when
: transmitting SSB.

: If I HOLD the key down, for an extended time, the relay will keep kicking
: in and out and the transmit signal will go on and off at about a 1-second
: interval, ad infinitum.

: Could someone *please* give me some suggestions on this? Why might the
: relay not be "holding?" I also notice that sometimes the first couple of
: taps on the key will not even put the rig in transmit mode immediately, so
: the tx won't send til I'm in the middle of the second or third letter!

I have seen this problem before in an HW-100. I would look very
carefully at the VOX circuitry. Also, make sure the 6146's are not
gassy.

--
Andy Mitz (WA3LTJ)
arm@helix.nih.gov

4431. Good Quotes (ZryXpB)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Qoute-A-Day@juno.com
Message-ID: <5a20l3$11di@useneta1.news.prodigy.com>
Source record: 99213

Every day, we at Quote-A-Day e-mail an interesting quote to people on the Internet. The quotes are inspirational, witty and insightful. We don't charge for this service and we hope you'll want to be a part of it.

If you would like to join our mailing, send e-mail to
Subscribe2@Juno.com
And put your name in the body of the message.

Later, if you like, you can stop receiving this mailing by sending e-mail to
Unsubscribe2@Juno.com

(ZryXpB)

4432. Re: Hamfest, Los Angeles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: hh357@aol.com
Message-ID: <19961228024500.VAA00466@ladder01.news.aol.com>
Source record: 99214

In article <59vjff$rg2@hobbes.cc.uga.edu>, mcovingt@ai.uga.edu (Michael Covington) writes:

>
>Is there a hamfest or swap meet in the Los Angeles area on Jan. 12?
>
>I seem to recall some huge thing held at TRW every month, or something...
>what are the dates?
>
>--
>Michael A. Covington
http://www.ai.uga.edu/faculty/covington/
>Artificial Intelligence Ce

No it's tomorrow Dec. 28.

And the last Sat. of every month . Marine and Aviation in El Segundo.
cheers

4433. Re: Hamfest, Los Angeles?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: eugene@loop.com
Message-ID: <5a23ql$jai@jerry.loop.net>
Source record: 99215

> mcovingt@ai.uga.edu (Michael Covington) writes:
> Is there a hamfest or swap meet in the Los Angeles area on Jan. 12?
>
> I seem to recall some huge thing held at TRW every month, or something...
> what are the dates?
>
> --
> Michael A. Covington http://www.ai.uga.edu/faculty/covington/
> Artificial Intelligence Center <><
> The University of Georgia Unless otherwise indicated, I am not
> Athens, GA 30602-7415 U.S.A. speaking officially for the University.
>
>>>>
Well the DeVry swap meet is on the third Sat of every month.

While TRW is on the last Sat of the month.

de WB6HRO

4434. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: David Lawson <dlawson@ime.net>
Message-ID: <01bbf46b$cdc8fd80$591029cf@maine.ime.net>
Source record: 99216
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Steve McAllister <farley@mail.his.com> wrote in article
<5a1k1c$asa@news2.his.com>...
> I'm fairly new to working with vacuum tube radios. Recently, I bought
> box of tubes to use and there were about 60-70 tiny little tubes --
> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> regular pins coming off of the bottom, but most have insulated wire,
> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
> Are these "pencil tubes"? What were these little guys used for?
> Portable electronics? Do they have any practical use now?
>
this style was also used in pairs to make flip-flips and other gates. i
worked on a piece of crypto gear (kw-37) that used LOTS of them. 1.25v
filament and 60v on the plate.
david lawson
wa1ymc

4435. Re: RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: glenn schultz <glenn@spacestar.net>
Message-ID: <01bbf46f$c70102a0$e7e691ce@spacestar.spacestar.net>
Source record: 99217
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I've bought 3 scanners from Pawnshops and have always gotten good prices
and good products. They take them only if they work properly, because they
don't want to lose their collateral if the units don't work. Also, most
people that pawn their equipment don't intend to lose their items, but just
don't have the money to get it back. I'm on very friendly terms with three
pawnshops in my area, and they will let me know if they have something I
might be interested in. One even has ham gear once in a while. If it were
me, I would grab that scanner before someone else does!
--
Glenn Schultz
10X 68391
N0VYK

interNET ==>> glenn@spacestar.net
packetNET ==>> n0vyk@n0vyk.ampr.org

Check out the Ionospheric Protection League
Amateur and Antique Radio Homepage
==>> http://www.spacestar.net/users/glenn/index.html

yatkonj@ibm.net wrote in article <32C352E3.14E1@ibm.net>...
> I posted a few days ago saying I could get hold of a RS PRO-26 for $200
> from a PAWN shop. It sells for around $450 from RS. I believe this is
> a good price even though I would only get a 30 day warrenty. No one
> responded What do you think about the deal?
>

4436. DTMF decoding program and schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <19961228040500.XAA02218@ladder01.news.aol.com>
Source record: 99218

Hi,

I have written a window's based DTMF decoding program. The program requires a DTMF decoding chip (M8870) be connected to the printer port of the computer.

The schematic diagram is part of the program and is very easy to construct. If interested, please email me for a copy of the demo.

The demo decodes all the tones without limit. It does not save the tone to a file on the hard drive.

Paul
KJ4UO
PDRUNEN@AOL.COM

4437. Re: QST View - A Review

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: jonz@rainbow.rmii.com
Message-ID: <5a277h$gi5@rainbow.rmii.com>
Source record: 99219

Ian White, G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
: Thanks to L.Mark Pilant for a very useful review.

<-Big Snip->

: It showed very clearly how much the page layout contributes to
: ease of understanding - we'll miss it in a few years, when it's gone.

Ya, right.... :-) <rotfl>>>>>>>>>>>>

73 es Happy New Year
Jonesy W3DHJ

--
SK

--
Marvin Jones jonz@rmii.com
Gunnison, Colorado

4438. Telecommunications Act of 1996

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: J Mullins <jmullins@erols.com>
Message-ID: <01bbf47d$243282c0$276e60cf@jmullins.erols.com>
Source record: 99220

The FCC, on August 5, !996 adopted a rule which partially pre-emts the enforcement of community association restrictions with respect to satellite dish antennas, broadcast television antennas, and other communication reception devices.

The above statement is the leading sentence of a memo sent to the Board of Directors of my community's Home Owners Association.
I will try to convey the main points.

"Under the new rule, any association Covenant, rule, or similar restriction which "impairs" the installation, maitenence or use of certain antenas is UNENFORCEABLE."

Antennas protected include dishes up to one meter and any size antenna designed to recieve television broadcast services.

The FCC rule allows communities to regulate antennas so long as the restriction does not "impair" the installation, maitenence or use of the antenna.

HOA's can regulate the placement of antennas so long as the reception would not be compromised

73

John Mullins

4439. Re: 8Kw dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <32c5abe2.4599687@eskinews.eskimo.com>
Source record: 99221

sw1gak@polaris.mindport.NET (Spencer Trombly) wrote:

>Try some electric base-board heaters. I have some that are 1Kw at 240vac.
>They are linear and about 4 feet long, nice big fins to get rid of the
>heat. There are actually 2 500 watt elements in each heater wired in
>parallel.
>73
>spencer

If you use the heaters as-is, you'll have a problem with their inductive reactance - small but easily avoidable. Place a variable capacitor in series with them and tune for minimum SWR. I've used this with light bulbs and other odd loads and it works like a charm.

73, Bill W7TI
wrt@eskimo.com

4440. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseE33zyz.189@netcom.com>
Source record: 99222
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

In article <5a1k1c$asa@news2.his.com> farley@mail.his.com writes:
>I'm fairly new to working with vacuum tube radios. Recently, I bought
>box of tubes to use and there were about 60-70 tiny little tubes --
>about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
>regular pins coming off of the bottom, but most have insulated wire,
>about an inclh long. Some of the numbers are: JG-6021, JG-6111,
>AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
>Are these "pencil tubes"? What were these little guys used for?
>Portable electronics? Do they have any practical use now?
>
>Thanks and happy new year!
>Steve

Those are "sub-miniature" tubes. Mostly used in military radios
in the late 50's early 60's. Look at my web page:

http://www.netcom.com/~wa2ise/radios/penciltubes.html

for info on the ones you mentioned above, and likely others you
have.

If you don't need them, I would be interested in them. my e-mail
is: wa2ise@netcom.com

4441. Re: FAREWELL TO THE "SHIP OF THE MIND", AND TO ITS MASTER, DR. CARL SAGAN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec28.055709.3509@ke4zv.atl.ga.us>
Source record: 99223
Cross-posted to: alt.fan.art-bell,alt.sci.physics.relativity,sci.astro,sci.physics,rec.radio.amateur.homebrew

In article <32C29485.57AD@mail.tds.net> Tim Gillespie <tgillesp@mail.tds.net> writes:
>Charles Cagle wrote:
>> He promoted as facts things, that at best, were conjecture.
>
>This is another pitiful jab. I suggest, Mr. Cagle, that you actually
>READ some of Sagan's material. When you do, you will see that Dr. Sagan
>NEVER stated ANYTIHNG as fact that was not widely known to be fact.
>Anything that was speculative was clearly stated as such.

Although I had a general respect for Dr. Sagan, and mourn his passing,
I must say your defense is a bit too vigorous. Dr. Sagan pulled several
boners in his published works. We can't really hold his now infamous
nuclear winter theory against him, though in retrospect it is obvious
where he went wrong. At the time there wasn't any hard data to show
his aerosol dwell time assumptions were off by orders of magnitude.
He based his assumptions on the behavior of Martian dust storms and
naively applied them to Earth's atmosphere. It took the Kuwaiti oil
fires to demonstrate the fallacy of that. The presence of water vapor
in Earth's atmosphere, but virtually absent in the Martian atmosphere,
makes the difference, causing the aerosols to quickly rain out. But he
pulled a real howler in The Dragons of Eden when he calculated that
the information rate of the human visual system tops out at 5,000 bps.

He based that on the assumption that the human visual system can only
handle a 2500 pixel area of 20 bit color depth once every 10 seconds.
Anyone at all familiar with television or movies would instantly know
that's absurd. In a 10 second commercial, the eye has to process 92
million pixels at an equivalent color depth of 24 bits. And advertisers
pay big money for high quality productions because the eye *can* do that.
If Dr. Sagan were right, advertisers could save big money by using cheapy
VHS equipment to produce their 10 second ads. In fact if he were right,
a 10 second ad would have no impact at all since he claimed it takes
that long just to absorb a 2500 pixel segment of one frame.

The now outlawed practice of subliminal advertising demonstated
that the eye can process a 307,000 pixel image of 24 bit color
depth in 1/30th of a second to the extent of influencing purchasing
decisions. That's a data rate of 220.8 Mbit/sec. And that one fact,
known since at least the 1950s, blows his entire chapter two thesis
on the nature of memory storage in the brain into a cocked hat.

Gary
--

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4442. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec28.060742.3631@ke4zv.atl.ga.us>
Source record: 99224

In article <01bbf409$e3950da0$836d3bc6@internet.roadrunner.com> "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:
>Sorry to break this into two replies, but I had some other questions:
>> You need a different static drain
>> arrangement if you'll be transmitting in conditions where corona can
>occur.
>> A high value choke shunted to Earth works dandy for draining static.
>
> Could you elaborate a bit on "high value choke"? I'm guessing you mean to
>connect it between the center conductor and a good ground...to drain off
>the charge. How would it work if I use the same coax for transmit and
>receive? I'm concerned about transmitting into a line with the choke on it.
>Might work fine for a seperate receive antenna...but wasn't sure about
>shared xmit/recv. What are your thoughts on this one?

A choke of several millihenries, or a high value resistor, either of
which have a high impedance at HF compared to the 50 ohm line they
are shunting, will drain static, a DC phenomenon, while being virtually
invisible to the RF system. The choke, or resistor, should have no
effect on transmission or reception.

>> Polyphaser uses a
>> much superior design which has a series capacitor in the inner conductor
>> path.... If you don't provide a DC shunted load, however,
>> the AD and Lynics suppressors work fine.
>
> Thanks for the info on this issue. I imagine the series capacitor will
>work fine on xmit, but are there higher insertion losses on recv from using
>this style of suppressor?

No. The value of the capacitor is sufficient to present a negligible
impedance to HF RF. If this weren't so, it would affect transmit.
Most HF receivers are voltage driven, not power driven, and aren't
fussy about the match presented to them.

> I'm fairly sure my antennas are higher impedance sources (G5RV and log
>periodic) so they aren't like a low impedance antenna (a loop). But what
>did you mean by the comment "If you don't provide a DC shunted load..." ?
>Was that also in reference to a low impedance antenna configuration? If so,
>I'm still in good shape there as well.

On receive, the *receiver* is the load presented to the line, not the
antenna. I was talking specifically about cavity resonators where the
input loop is DC shorted. However, some receivers use a shunt coil
in their inputs, and that would have a similar, though not so pronounced,
effect.

Gary
--
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4443. Re: Kits for phase-3D?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec28.061418.3750@ke4zv.atl.ga.us>
Source record: 99225
Cross-posted to: rec.radio.amateur.digital.misc,alt.ham-radio.ssb,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

In article <32C01C2A.4A4D@mindspring.com> "Timothy S. Powell" <tpowell@mindspring.com> writes:
>Does anyone know of any 6-meter, 2-meter and 70-cm SSB kits that would
>be good to use for the Phase-3D sat when it gets in orbit. I'm a
>college student with limited funds. I would like to work the sat when
>it get up but can not buy the high price equipment that is needed but
>would like to build a small sat station if possible.
>Timothy
>KD4IKY

Well, lets see what you need. For mode U/V (the old mode B), you'll need a 70cm Tx and a 2m Rx. Now an easy way to get these is with transverters from a 10m rig (or an old SSB CB). The latter can be had cheap if you don't already have something for 10m. You don't have to convert it, you can choose the crystals in the transverters to go direct to and from CB frequencies. You'll want to mod it to allow enough RIT range to cover between channels, and to allow XIT as well. This is usually pretty easy to do. Down East Microwave sells suitable transverter kits, or you can build from scratch based on the designs in the RSGB VHF/UHF Dx Book. A preamp will be needed, and the ARRL Handbook and the Proceedings of the Central States VHF Conference (available from ARRL) have several suitable designs.

Another approach is to build a 2m Rx and 70cm Tx. The Rick Campbell R2 and T2, described in a QST series and in newer Handbooks, are suitable for this. Kanga sells kits, but these radios are simple enough to build dead bug style. The R2 and T2 are universal designs which can be made to work from LF up through UHF (up to 500 MHz anyway). They use the phasing method to generate SSB and to obtain single signal reception. You have to supply the LO. A VXO and multiplier should do fine. You can find suitable VXO designs in the Handbook. A good mast mount preamp will be required for receive, and any of the ones referenced above should work fine. You'll need a PA for the Tx. RF Parts sells suitable brick amps, as does Down East Microwave. Depending on antenna gain, you'll need from 10 watts to 100 watts uplink power. Err on the side of too much, you can turn it down if you wind up louder than the beacon.

(Note that you can set the R2 and T2 up for 10m and use transverters, as with the CB set recomendation above, if you prefer. There are some advantages to this approach, though it adds some complexity and cost.)

If you'd like to try your hand at digital via the satellite. A suitable receiver for 9600 baud on P3D and the Microsats can be made from a GE UHF Exec II or Mastr II receive strip. Use the temperature compensation input of the Icom (channel element) for doppler tracking. These Rx strips can be found at hamfests for $25, or $50 for a complete radio. The UHF Tx strip can be used as a CW transmitter for mode U/V as is. With 80 watts output, they do great. For data uplink, a VHF version of the Tx strip can be modified for 9600 baud. Disable the PM modulator and use the temperature compensation input to the Icom for modulation (or rewire to use a Motorola channel element and modulate that, it's a bit more linear).

If you prefer to scratch build the FM setup, a receiver based on the MC13135 receiver subsystem chip, and a Tx based on the MC2833 exciter chip, are pretty easy to do. Add a power brick from RF Parts, and you're on your way. Converting the business band radios is so easy and cheap, though, it is really the better way to go.

P3D will have many more modes. Setting up for them will require either more transverters or more radios. Mode U/V and the Microsat style 9600 baud digital mode will likely the be the most popular in the beginning, however, because everyone equipped for Oscar 10 and Oscar 13 will already be set for mode U/V and all the Microsat ground stations will be set for 9600 baud data.

You'll need a pair of steerable yagis or helixes, for mode U/V. You can build these yourself and save a bunch of money. When the sat is near apogee, it hangs in virtually the same spot in the sky for long periods, so you can aim the antennas by hand, no need for auto-tracking, or even for rotators. The antennas don't have to be very high off the ground, since they are looking up. You can use a tripod or post mount and turn them directly by hand as needed. The antennas can be made from a length of 2x2 and use aluminum clothesline wire for elements. There are a number of antenna programs available on the net which can optimize the design for you.

It doesn't have to cost gobs of money to get on the satellites if you use a little ingenuity. You can be on the digital birds for under $100, or on U/V SSB for a bit over $300, if you scrounge and adapt a bit.

Gary
--
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Lawrenceville, GA 30244 | |

4444. Re: homebrew yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec28.061916.3839@ke4zv.atl.ga.us>
Source record: 99226

In article <32C32F36.1B70@m.cc.utah.edu> david.whipple@m.cc.utah.edu writes:
>
>I'm pretty new and electronic-illeterate. Is there anything wrong with
>using a wooden frame and wires to create a cheap, makeshift yagi? I
>know you can make quat antennas with the same materials, but I'd be
>interesting in any way of making a _cheap_ 2 meter yagi without needing
>too much expertize. I've made a simple groundplane with a chasis mount
>and a couple of wire coathangers, and I'd like a yagi equally as cheap.

Sure. You can make a yagi from a length of 2x2 and some aluminum
clothesline wire. The wire is stiff enough to form elements. Just
drill the 2x2 and insert the wires where you want elements. You
can use PVC pipe as a boom too, but spar varnished wood 2x2 lasts
better in the sunlight than PVC. It's cheaper and easier to work
with too. Any of the yagi design programs floating around the
net will give you the dimensions and spacings for the elements.
Note that spacings will be different for a non-conductive boom
than for a metal boom. Make sure the program knows how to handle
this.

Gary
--
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4445. Re: Technican information wanted on ICOM IC-BP3 batery pack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Dec28.062429.3921@ke4zv.atl.ga.us>
Source record: 99227

In article <01bbeeaf$8b7049a0$LocalHost@206.48.181.1.206.48.177.1> "Geert Pirens"
<pass@glo.be> writes:
>Can someone tell me more of the ICOM IC-BP3 battery pack?
>
>I only know that I can charge this pack with 13.8 volt, but haw long must I
>charge this pack ?
>
>And what for charger do I need charge this type battery pack? 13.8 v / ?mA
>????????

The BP3 is *not* a rapid charge pack. You must use a *constant current*
source and set the current for 40 mA. A 3 terminal regulator can be
configured to act as a constant current source. The voltage used is
unimportant as long as it is high enough to allow the regulator to
maintain a 40 mA charging rate into the battery. Charge for 14 hours
to fully recharge the depleted pack.

Gary
--
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Lawrenceville, GA 30244 | |

4446. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Pin 2 Hot <pinksnd@**io.com>
Message-ID: <5a2mss$5l6@nntp-2.io.com>
Source record: 99228
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Jeff Lutes wrote:
>
> Try this one...have seen one built for a MUCH larger load...but should still
> work:
>
> Powder the following components:
> Copper
> non-conductive plastic
> graphite
>
> Mix them (play with the ratios to get the correct value) and pack them into a
> piece of PVC pipe. Place a copper conductor through the end caps and seal the
> end caps on the pipe. (i.e. build a resistor from HELL).

ï¿½ Other than an obnoxious negative temperature coeficent (from the
enclosed mixture building up pressure, and acting like a carbon granule
microphone
from an old telephone), how you gonna dissipate ~27000 or so BTU/Hr
through
1 or 2 sq. ft. of PVC plastic ï¿½" thick? We're talking enough heat to
bring 5
gallons of water from room temperature to boiling in about 12 minutes
(if
I did the math right). And oil heats even faster, due to lower specific
heat.
How long do you need to dissipate this power for?

> The one I saw was actually in a 5-gallon bucket full of oil for cooling.

ï¿½ You can expect to see gobs of rehardened PVC floating on the surface
of that 5 gallon bucket. Yes, they'll float, from all the trapped
bubbles
of clorine gas liberated in the fire. :)

However, if you pack it into some sort of long ceramic pipe, it might
work.

> In article <Pine.LNX.3.95.961224205426.13185A-100000@primeline.net>, Gary Tait
> <tait@primeline.net> wrote:
> >On Sat, 21 Dec 1996, Mark Robinson wrote:

> >#> : I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
> >#
> >#Given the low frequency, what about a few toaster elements, or 1kW
> >#linear quartz halogen flood lamp bulbs (adjust impedance by adjusting

> >#drive :)

> >No, toaster elements ,and lightbulbs are inductive as well, and no
> >good as an RF load.
> >
> >Gary Tait , VE3VBF

ï¿½ How about some fairly thick bare nichrome wire supported from some ceramic
structure, hanging down in a zig-zag pattern, in an oil-filled 55 gallon drum? If you zig-zag carefully, you can keep the inductance down quite low,
where it might be acceptable at 300Khz, depending on your needs. Besides,
the capacitance of a grounded metal drum just might balance it out. :)

Also, IMHO, at 2Kv, water is not a safe option due to the shock hazard.

My 2ï¿½
--
Gene

When replying by e-mail, please remove the asterisks from my e-mail address, they are there in an attempt to thwart the automailers.

4447. SUBSCRIBE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: hrt1754@tsufl.EDU
Message-ID: <32C4A1B0.3D8E@tsufl.edu>
Source record: 99229

```
ADD HAM-HOMEBREW
```

4448. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Jim Cross <vactubes@cinternet.net>
Message-ID: <32C4E61A.6092@cinternet.net>
Source record: 99230
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

P.J. Josh Rovero wrote:
>
> In <5a1k1c$asa@news2.his.com>, farley@mail.his.com (Steve McAllister) writes:
> >I'm fairly new to working with vacuum tube radios. Recently, I bought
> >box of tubes to use and there were about 60-70 tiny little tubes --
> >about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> >regular pins coming off of the bottom, but most have insulated wire,
> >about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> >AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
> >
> >Are these "pencil tubes"? What were these little guys used for?
> >Portable electronics? Do they have any practical use now?
>
> These are "sub-miniature" or pencil tubes. The 5840 and 5636
> are used in the RCA SRR-11/12/13 & 13A receivers. Can't really
> help with the others.

Technically, these should be referred to as subminiatures and not
"pencil tubes". The term "pencil tube" is usually applied to a series of
UHF tubes developed by RCA which are not necessarily small, but are tall
and thin. Types include 5675, 5794, 5876, 5893, 6263, and 6562.

Jim Cross - vactubes@cinternet.net

4449. Subscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: apajuelo@redestb.ES
Message-ID: <01BBF4B5.1E2F60E0@ppp192.228.redestb.es>
Source record: 99231

```
add ham-homebrew
```

4450. mods Kenwood TS850S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Rene Jansen <0jansen03@almere.flnet.nl>
Message-ID: <01bbf4bd$764d6300$6abf97c2@default>
Source record: 99232

Who can tell me were to find
some mods for my TS 850S
on the www

'73 Rene pa3geu@usa.net

4451. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2812960510040001@port28.vcnet.com>
Source record: 99233

In article <1996Dec28.060742.3631@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

> In article <01bbf409$e3950da0$836d3bc6@internet.roadrunner.com> "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> writes:
> >Sorry to break this into two replies, but I had some other questions:
> >> You need a different static drain
> >> arrangement if you'll be transmitting in conditions where corona can
> >occur.
> >> A high value choke shunted to Earth works dandy for draining static.
> >>
> > Could you elaborate a bit on "high value choke"? I'm guessing you mean to
> >connect it between the center conductor and a good ground...to drain off
> >the charge. How would it work if I use the same coax for transmit and
> >receive? I'm concerned about transmitting into a line with the choke on it.
> >Might work fine for a seperate receive antenna...but wasn't sure about
> >shared xmit/recv. What are your thoughts on this one?
>
> A choke of several millihenries, or a high value resistor, either of
> which have a high impedance at HF compared to the 50 ohm line they
> are shunting, will drain static, a DC phenomenon, while being virtually
> invisible to the RF system. The choke, or resistor, should have no
> effect on transmission or reception.
>
I use a resistor to bleed the charge on my 70 foot vertical. Before I added the bleeder resistor, during windy weather, the charge on the vertical would arc over a 3500v air variable tuning capacitor about every half minute. I prefer resistors to chokes because chokes have internal self resonances and resistors don't.

--
--Rich-- ag6k, 805-386-3734

4452. Auctions on Ham and Electronic Parts & Commercial SUrplus

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Andy Zorca <wj9jrg@utc.campus.mci.net>
Message-ID: <32C5523D.5A4B@utc.campus.mci.net>
Source record: 99234

There are lots of electronic parts and Ham gear for sale at the
auction. Hundreds of listings going cheap. (very).
Make sure you click on "More in this category at the bottom of the page"

http://www.ebay.com/aw/list-60.html

4453. Re: RC vs LC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <5a3afn$1p5$2@nadine.teleport.com>
Source record: 99235

In article <59r8ec$qii@boursy.news.erols.com>,
mhorowit@erols.com (Michael Horowitz) wrote:
>Folks -
>
> I read where LC combonations make up resonate circuits and filters,
>and I see formula for their calculations. I also see RC circuits
>performing as filters, just as the LC circuits do.
>
> Does anyone know the formula used to calculate the cutoff frequency
>of a given combination of R and C?
>
> Thanks in advance - Mike
>
Cutoff frequency (-3 dB) for a single RC section is 1/(2*pi*R*C), where the
frequency is in hertz, C in farads, R in ohms.

Roy Lewallen, W7EL

4454. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: cj@hth.com
Message-ID: <32c53aa5.3830069@news.buller.se>
Source record: 99236
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something (big or small) with the BASIC Stamp
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

You can also find the latest version on the following URL...

WWW site:

http://www.hth.com/losa.htm

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

[--- cut ---]
```

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================

[--- cut ---]

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax PIC och BASIC STAMP produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

4455. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-2812960757390001@port52.vcnet.com>
Source record: 99237

In article <19961226150400.KAA21387@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> In article <measures-2512960142380001@port3.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> > Such damage can not be
> >satisfactorily explained by a simple HF switching transient. I believe
> >its like Murphy said: "Everything is more complicated than it looks"...
> >IMO, current transients can cause intermittent VHF parasitic
> >oscillations.
>
> In the past you claimed there was only ONE cause of PA problems for
> everything from boiling gold to melting glass, and acing tubes to sparking
> capacitors, PARASITICS. Even though we now suddenly hear a Murphy quote
> saying everything is more complicated than it looks, the answer is
> still.....PARASITICS.
>
> The new claim is: The HF risetime of 1/2 uS or faster is too slow to
> induce parasitics, but relay switching or bias rise time is not.
>
Does anyone have a clue as to who allegedly made these new claims?

--
--Rich-- ag6k, 805-386-3734

4456. Re: homebrew yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Ron Myers <Myersr@infoave.net>
Message-ID: <32C54D7A.2829@infoave.net>
Source record: 99238

Russ Renaud wrote:
>
> David Whipple (david.whipple@m.cc.utah.edu) writes:
> > I'm pretty new and electronic-illeterate. Is there anything wrong with
> > using a wooden frame and wires to create a cheap, makeshift yagi? I
> > know you can make quat antennas with the same materials, but I'd be
> > interesting in any way of making a _cheap_ 2 meter yagi without needing
> > too much expertize. I've made a simple groundplane with a chasis mount
> > and a couple of wire coathangers, and I'd like a yagi equally as cheap.
> >
>
> There's nothing wrong with that approach. Having said that, if you
> look around, I'm sure you will find someone with an old TV antenna
> that they are willing to give away. You should be able to recycle
> that into a 3 to 5 element 2 metre yagi.
>
> have fun!
> 73 de va3rr/aa8lu
Be advised, when creating a yagi antenna with wire on a wooden frame:
even tho it is a valid approach, the bandwidth of the antenna is
directly affected by the diameter of the wire used.
It is better to use tubing, and I have made several using tips from the
antenna book (ARRL) and old Television antennae Low channels yield
longer source stock, and aluminum conduit for the boom (don't go over
5-6 elements or it becomes unwieldy) and long self-tapping screws to
hold the elements to the boom.
for the gamma match: I used a piece of stripped coax inserted into the
end of the gamma element for the series capacitor, and slid the tube
back and forth to tune it.
I had good results until Hurricaine Hugo remodeled my farm ... now
nothing.
73's Ron ... KB4EG

4457. PC Repeater Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: Ron Curry <recurry@insighttec.com>
Message-ID: <01bbf4de$92fea6a0$5ba19ecd@expressp5.insighttec.com>
Source record: 99239

Anyone written any software to make a PC into a repeater controller?

--
Ron Curry
KE6WED
recurry@insighttec.com
recurry@inside.intel.com

4458. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961228173700.MAA14881@ladder01.news.aol.com>
Source record: 99240

Hi Dave and Gary,

In article <1996Dec28.060742.3631@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>A choke of several millihenries, or a high value resistor, either of
>which have a high impedance at HF compared to the 50 ohm line they
>are shunting, will drain static, a DC phenomenon, while being virtually
>invisible to the RF system. The choke, or resistor, should have no
>effect on transmission or reception.

A several millihenry choke may not have a high impedance at HF. It likely will have series resonances that render it useless as a choke on some HF frequencies. A 100 microhenry choke would be more than enough impedance, about 1000 ohms on 160, and much less prone to unwanted resonances. Use a choke of 50 to 100 microhenries.

>> Thanks for the info on this issue. I imagine the series capacitor will
>>work fine on xmit, but are there higher insertion losses on recv from using
>>this style of suppressor?
>
>No. The value of the capacitor is sufficient to present a negligible
>impedance to HF RF. If this weren't so, it would affect transmit.
>Most HF receivers are voltage driven, not power driven, and aren't
>fussy about the match presented to them.

Most HF receivers are power driven. They have a finite receive input impedance, and it is almost always between 20 and 100 ohms in most rigs. That requires power, not voltage alone. To require "voltage", the input impedance woiuld be near infinite.

If the capacitor passes HF RF, then I suspect it is almost useless for lightning. It would only be effective at VLF frequencies and lower as an isolating device. Lightning and nearby stroke induced EMF has a rise time that is very fast, so the cap looks like it is not even there.

>On receive, the *receiver* is the load presented to the line, not the
>antenna. I was talking specifically about cavity resonators where the
>input loop is DC shorted. However, some receivers use a shunt coil
>in their inputs, and that would have a similar, though not so pronounced,
>effect.

Protecting an HF receiver, via a surge suppressor that will carry kilowatts of RF, is wishful thinking. As little as 50 volts of surge for a few microseconds can ruin a receiver's front end. It's best to disconnect antenna and main connections when the equipment is not in use. A simple T

network antenna tuner or high pass or band pass filter would do much more than any of these gas tube gimmicks for protecting a receiver. A pair of clamp diodes and a fuse link, plus a hardened front end would be better than transmit type surge suppressors.

73 Tom

4459. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961228173700.MAA14886@ladder01.news.aol.com>
Source record: 99241

In article <ilPFgWAMGcwyEw2l@ifwtech.demon.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:

>
>"BNC" stands for Bayonet Neil Concelman (Neil invented the N, Concelman
>the C which is a large bayonet connector, and the BNC uses ideas from
>both).
>
>Like BNCs, Ns are also available in 75 ohm, though much less commonly.
>
>

Ian,

I agree with everything you said except this.

The real inventor was Chuck Collingwood. He did this for the mitary in the early 40's or 50's. He used them in a military repair depot, to do quick connections to test equipment. He didn't even have the outer shell on the connector, it was like an N male without the outer screw on part.

Collingwood had a real big nose, and his co-workers called him big nose Chuck. They would ask each other for one of BNC's connectors, and the name stuck even after the bayonete piece was added.

Never trust one source for critical data
Tom

PS Have a happy new year

4460. mods Kenwood TS850S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Rene Jansen <0jansen03@almere.flnet.nl>
Message-ID: <5a4d1i$5b2@nr1.vancouver.istar.net>
Source record: 99156

Who can tell me were to find
some mods for my TS 850S
on the www

'73 Rene pa3geu@usa.net

4461. Re: RC vs LC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <5a4f7o$5b2@nr1.vancouver.istar.net>
Source record: 99157

In article <59r8ec$qii@boursy.news.erols.com>,
mhorowit@erols.com (Michael Horowitz) wrote:
>Folks -
>
> I read where LC combonations make up resonate circuits and filters,
>and I see formula for their calculations. I also see RC circuits
>performing as filters, just as the LC circuits do.
>
> Does anyone know the formula used to calculate the cutoff frequency
>of a given combination of R and C?
>
> Thanks in advance - Mike
>
Cutoff frequency (-3 dB) for a single RC section is 1/(2*pi*R*C), where the
frequency is in hertz, C in farads, R in ohms.

Roy Lewallen, W7EL

4462. TM-251E

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Pedro.Braz@gameover.alce.pt
Message-ID: <5a4g6r$5b2@nr1.vancouver.istar.net>
Source record: 99158

```
* Forwarded from REC.RADIO.AMATEUR.MISC by Pedro Braz (16:16000/41).
* Originally by: Pedro Braz (16:16000/41), 25 Dec 96 16:22.
* Originally to: All.

Hello All.

Hello and Merry Christmas to you all.

I've bought a KenWood TM-251E and want to expand the receive band, I can't
find any mods on the internet, does anybody lnow how to do it?

e-mail: pedro.braz@gameover.alce.pt

thks
Pedro
```

4463. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <5a4ie3$5b2@nr1.vancouver.istar.net>
Source record: 99159

In article <19961226150400.KAA21387@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> In article <measures-2512960142380001@port3.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> > Such damage can not be
> >satisfactorily explained by a simple HF switching transient. I believe
> >its like Murphy said: "Everything is more complicated than it looks"...
> >IMO, current transients can cause intermittent VHF parasitic
> >oscillations.
>
> In the past you claimed there was only ONE cause of PA problems for
> everything from boiling gold to melting glass, and acing tubes to sparking
> capacitors, PARASITICS. Even though we now suddenly hear a Murphy quote
> saying everything is more complicated than it looks, the answer is
> still.....PARASITICS.
>
> The new claim is: The HF risetime of 1/2 uS or faster is too slow to
> induce parasitics, but relay switching or bias rise time is not.
>
Does anyone have a clue as to who allegedly made these new claims?

--
--Rich-- ag6k, 805-386-3734

4464. Re: homebrew yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Ron Myers <Myersr@infoave.net>
Message-ID: <5a4kc7$5b2@nr1.vancouver.istar.net>
Source record: 99160

Russ Renaud wrote:
>
> David Whipple (david.whipple@m.cc.utah.edu) writes:
> > I'm pretty new and electronic-illeterate. Is there anything wrong with
> > using a wooden frame and wires to create a cheap, makeshift yagi? I
> > know you can make quat antennas with the same materials, but I'd be
> > interesting in any way of making a _cheap_ 2 meter yagi without needing
> > too much expertize. I've made a simple groundplane with a chasis mount
> > and a couple of wire coathangers, and I'd like a yagi equally as cheap.
> >
>
> There's nothing wrong with that approach. Having said that, if you
> look around, I'm sure you will find someone with an old TV antenna
> that they are willing to give away. You should be able to recycle
> that into a 3 to 5 element 2 metre yagi.
>
> have fun!
> 73 de va3rr/aa8lu
Be advised, when creating a yagi antenna with wire on a wooden frame:
even tho it is a valid approach, the bandwidth of the antenna is
directly affected by the diameter of the wire used.
It is better to use tubing, and I have made several using tips from the
antenna book (ARRL) and old Television antennae Low channels yield
longer source stock, and aluminum conduit for the boom (don't go over
5-6 elements or it becomes unwieldy) and long self-tapping screws to
hold the elements to the boom.
for the gamma match: I used a piece of stripped coax inserted into the
end of the gamma element for the series capacitor, and slid the tube
back and forth to tune it.
I had good results until Hurricaine Hugo remodeled my farm ... now
nothing.
73's Ron ... KB4EG

4465. Re: M.E.M.F.T.A.C., info wanted-------MODULATION OF EARTH'S MAG. FIELD-appear...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <5a4lor$5b2@nr1.vancouver.istar.net>
Source record: 99161

In article <32C2B58F.4556@tcac.com>, "Joe B. Clark" <kc5itc@tcac.com>
writes:

>
>Does anyone have the old QST (from the early '60's) that describes this
>novel form of communication? A few points I remember---required low
>power, about 50W to reliably communicate several thousand miles, free
>from qrm,etc. Involved unique antenna systems by which you could "tune"
>to a specific magnetic line of force (earth's magnetic field), modulate
>it, and use as a medium for communication. I have never seen
>m.e.m.f.t.a.c. (modulation of earth's magnetic field to affect
>communication) mentioned again.
>
>Any info is welcome.
>
>Thanks very much, es bcnu!
>
>de kc5itc, Joe, in Tx

If I recall right, that was in the April 62 or 63 issue Joe. Read it
carefully.

In the following April issue, they had a passive electron accelerator that
screwed into the transmission line. It used a large diameter conductor
that tapered into a narrow exit wire.

The idea is to copy a hose nozzle. The lazy electrons in the big conductor
would bunch up and squirt out the small opening. The velocity would
increase, and so the voltage would go up. The same current would flow, and
at higher voltage. So power would increase without any external power
source.

If you collect all the April QST's from the 60's, you will find many
articles of things that were wonderful ideas but never quite caught on.
They key is it's mostly in the April issues.

73 Tom

4466. Re: Coax Connectors Impedance (yes, there *are* 75 ohm BNCs)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <5a4lol$5b2@nr1.vancouver.istar.net>
Source record: 99162

In article <ilPFgWAMGcwyEw2l@ifwtech.demon.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:

>
>"BNC" stands for Bayonet Neil Concelman (Neil invented the N, Concelman
>the C which is a large bayonet connector, and the BNC uses ideas from
>both).
>
>Like BNCs, Ns are also available in 75 ohm, though much less commonly.
>
>

Ian,

I agree with everything you said except this.

The real inventor was Chuck Collingwood. He did this for the mitary in the early 40's or 50's. He used them in a military repair depot, to do quick connections to test equipment. He didn't even have the outer shell on the connector, it was like an N male without the outer screw on part.

Collingwood had a real big nose, and his co-workers called him big nose Chuck. They would ask each other for one of BNC's connectors, and the name stuck even after the bayonete piece was added.

Never trust one source for critical data
Tom

PS Have a happy new year

4467. DXER.COM is back online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: rdale@pacbell.net
Message-ID: <32c5dd8b.8308794@news.pacbell.net>
Source record: 99163

"WE'RE BACK", "DXER.COM" "Your Ham Radio Resource Site"
is back on line and ready to provide you with the most
comprehensive ham radio related site on the Internet...

Stop by and check it out..29 indexes. Everything from
DX Clubs, EME, Packet Radio, Scanners, Shortwave, QRP,
Maritime, Callbooks, Contest Calendars, Software, Clusters.
Radio Modifications, Sarex, Mir, MARS and many others.
Many more links have been added and we are now approaching
500 links, with more to come...

In addition to the interactive BBS, we will be adding in
the near future a Ham E-Mail Callbook...

Stop on by "http://www.dxer.com" and let us know what you
think, and what you would like to see added to the ever
growing list of links..

4468. WTB: VMP4 Power MOSFET or equivalent !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: scott <acepilot@mwt.net>
Message-ID: <32C62C3A.4271@mwt.net>
Source record: 99164

Where can a guy find a VMP4 Power MOSFET? It was made by Siliconix.
Thus far, sources for Siliconix (now TEMIC) parts has come up empty.
Anybody know the specs for it? How about an equivalent replacement,
maybe an IRF511 or something?? HELP! 2M transverter project stalled
until I can overcome this! 73, Scott, N0EDV.

4469. Re: Telecommunications Act of 1996

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: n8blk@aol.com
Message-ID: <19961229043200.XAA29555@ladder01.news.aol.com>
Source record: 99165

In article <01bbf47d$243282c0$276e60cf@jmullins.erols.com>, "J Mullins"
<jmullins@erols.com> writes:

> The FCC, on August 5, !996 adopted a rule which partially pre-emts the
>enforcement of community association restrictions with respect to
satellite
>dish antennas, broadcast television antennas, and other communication
>reception devices.
>
>

The key phrase that would cover amateur antennas isn't there. We usually have antennas which not ony receive but transmit. It would have been nice if the FCC had pre-empted amateur antennas from covenants and restrictions, but so far, it has not done so. Relying on that pre-emption will give an amateur a sinking feeling if the homeowner's association or municipality or whatever is being sued has a competent atty. The communications acts of 1996 have been an almost unmitigated disaster for amateurs so far. Congress mandated sale of amateur frequencies, and we got nothing in return for example. -art clemons-

4470. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <5a51pq$3jj@kirin.wwa.com>
Source record: 99166
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Adjusting the conductivity of the water (sulfuric acid) and the
immersion level of the plates was used in Idaho to dissipate
100 - 500 MW. The cooling towers were two stories high.

Your needs might not be so extreme.

Simon
---
lprevo@rulhe1 (Leendert Prevo) wrote:

>Jim Potter (jpotter@jpaw.com) wrote:
>: I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
>.............

>It may be possible to use 2 plates, immersed in water, as the contacts
>of a resistor. As the water gets hot and evaporates, the barrel has to
>be refilled after some time.
>leendert prevo
>

In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

4471. Re: 2m FM project for Theater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: dwrugh@deltanet.com
Message-ID: <5a53hp$q4g@news03.deltanet.com>
Source record: 99167

In article <btbmag-1912961503330001@news.ro.com>, btbmag@ro.com says...
>
>
>Being new to ham radio, and having a problem that could be solved with ham
>radio, I thought I'd ask some help for a litte project.
>
>For a play I am directing, I need to turn on a switch remotely. (BTW, the
>play is being performed by my Youth Drama Team at my church.) I thought
>that it might be possible, and simple, to create a reciever that would
>throw a relay after receiving a code from the tone pad on my handheld.
>

If you're near a Fry's Electronics (Northern & Southern Calif) you could
pick up a DTMF encoder/decoder kit and use that. I think they also have
transmitter/receiver pairs used for remote control. The kits run around
$30 and come with PCBs.

Dave

4472. Re: RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: jweissman@worldnet.att.net
Message-ID: <32c81389.91100313@netnews2.worldnet.att.net>
Source record: 99168
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

On Thu, 26 Dec 1996 22:38:59 -0600, yatkonj@ibm.net wrote:
>I posted a few days ago saying I could get hold of a RS PRO-26 for $200
>from a PAWN shop. It sells for around $450 from RS. I believe this is
>a good price even though I would only get a 30 day warrenty. No one
>responded What do you think about the deal?

Buy it! You might even try to talk them down a few bucks. Believe it
or not, I was able to find the same scanner for $100 also at a pawn
shop. I think they must have mistaken it for an older model since it
was a lower number than they were used to seeing. They don't make this
type of mistake often so if you're lucky enough to catch one, grab it!

Enjoy!

John

4473. Re: www.hamradio-online.com: How Your Government Can Monitor Your Communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: trash@magna.com.au
Message-ID: <5a5cfs$jgh@news.magna.com.au>
Source record: 99169
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

In article <59pq6i$200@anomaly.ideamation.com>, kd1hz@anomaly.ideamation.com (Michael P. Deignan) wrote:

>>With permission, we've reprinted a fascinating story from CovertAction
>>Quarterly, on worldwide government agencies ability to monitor your email,
> FAX,
>>computer and voice communications.
>
>Old news. Government agencies have had the capability for years.

And they're still trying to work out what to do with it other than testing
it on 0055 numbers !!!

Ash

4474. Pro & Cons on Cordless Telephone Headsets????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Lorenzo & Katrina Baldwin <KBaldwn10@linkline.com>
Message-ID: <01bbf576$b2ead0e0$75be43cf@KBaldwn10.stbbs.com>
Source record: 99170
Cross-posted to: rec.radio,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Hello everyone....I hate to intrude but I'm doing some research on the cordless telephone headset. Would you all please take a moment and reply with some pros and cons on cordless telephone headset?

Thanks,
L & K

4475. Used HT ID

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: epaolin@mail5.CLio.IT
Message-ID: <1360249368-10882850@mail5.clio.it>
Source record: 99171

Can one of the group recommend a used HT for which fits the following requirements?

--Dual band (2m and 70cm)
--High power (~2-5Watts)
--Manual frequency switching (i.e., thumbwheels- display not necessary)
--Rugged

Thanks

73
Eric,
KB2YAM

4476. TH79A Problem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: epaolin@mail5.CLio.IT
Message-ID: <1360249376-10882330@mail5.clio.it>
Source record: 99172

I have noticed the display of my TH79A to fade out for several minutes, fade in and then function normally. This may occur several times in a forty minute period of RECEIVE. Other than the display's fade out, the unit seems to function (RECEIVE) without problem. I have not been successful in determining if the cause is physical- i.e., movement of circuit boards, case, battery, etc., or electrical. (Note: I am in a waiting status for my Italian permit- the reason for no experience with TRANSMIT related problems.)

I would appreciate anyone's help/experience.

Thanks,

Eric
KB2YAM

4477. HAM TOOLKIT CD ROM..AWSOME>>

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: aidan@ThePentagon.com
Message-ID: <32e19340.3301904@news.indigo.ie>
Source record: 99173

Check out our Awsome CD ROM.."HAM TOOL KIT"..Its jam packed with over
600MEGS of Amateur Radio Related Software..its all here on one
disk..buy no other !!!.

Surf to us at http://sphynx.com/murphy

Owned by Hams..for Hams!!!
M U R P H Y E L E C T R O N I C S
GSM Mobile Phones & Accessories. Satellite TV and Decoding Systems
CD Rom Multimedia Computer Accessories
http://sphynx.com/murphy Email: murphy@sphynx.com

Why not send us an SMS to our GSM phone..Simply surf to
http://home.sn.no/~ahaltbak/engsms.htm and type in the number
+35387527182, write your message and fill in your Email address.all for FREE !!!

4478. The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32C688E5.448F@ccsnet.com>
Source record: 99174
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Please visit my World Wide Web Site, you have never seen a page like it.
You will see:

1. A naked chic
2. The writings of me and others on ham radio.
3. The warm side of K1OIK.
4. A test for your SVGA monitor
5. A picture of me and my family.
6. A Nazi connection in ham radio???

Burt Fisher Teacher of video, broadcasting and electronics
Amateur call South Dennis, Ma. (Cape Cod)
K1OIK If you sit on the fence, it is a pain in the butt

k1oik@ccsnet.com fisher@meol.mass.edu
www.geocities.com/WallStreet/5169

4479. Re: Used HT ID

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: dick@merlin.libelle.com
Message-ID: <dick-ya023680002912961007270001@news.greatbasin.net>
Source record: 99175

In article <1360249368-10882850@mail5.clio.it>, epaolin@mail5.CLio.IT (eric) wrote:

>Can one of the group recommend a used HT for which fits the following >requirements?
>
>--Dual band (2m and 70cm)
>--High power (~2-5Watts)
>--Manual frequency switching (i.e., thumbwheels- display not necessary)
>--Rugged

Dual-band with thumbwheels might be tough, but one of the most rugged and bullet-proof high-power dual-band HTs ever built is the ICOM IC-32AT. It also is one of the last of the HTs with excellent receiver audio volume.

They come with PL encode and with the appropriate option boards, they can also be used for PL and DTMF (paging) decode. I use one as my personal HT and another as a portable base station. I have no intention of ever getting rid of them.

They are currently selling used for around $300.
--
Dick Flanagan W6OLD CFII Minden, Nevada

4480. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <851883663@infoway.com>
Source record: 99176

In the late 60's, we built some low-noise preamps at 60 MHz using
a small tube, called a Nuvistor, I believe. They had
metal envelopes, about 3/8" by about 1 inch. They had little pins
in a base recessed in the metal envelope.

These were great little tubes.

Don, N6MCE

> box of tubes to use and there were about 60-70 tiny little tubes --
> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> regular pins coming off of the bottom, but most have insulated wire,
> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...

> Steve

... Don.Phelps@Infoway.com 1:125/104 POBox 9739 San Rafael,CA 94912
___ Blue Wave/386 v2.30 [NR]

4481. Re: FAX SSTV RTTY WEFAX with SoundBlaster: OK!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: "Brian E. Cauchi" <briane@dream.vol.net.mt>
Message-ID: <01bbf5b9$82e63360$0100a8c0@mstcp>
Source record: 99177
Cross-posted to: alt.ham-radio.digital-voice,es.rec.radio.amateur,fido7.hamradio,rec.radio.amateur,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space,rec.radio.shortwave,su.org.ham

Hello.
I've just updated my FTV program, which does FAX & SSTV using a SoundCard, to decode Baudot using the same (FM) demodulation engine.

Here is a run down of the more interesting features:

(1) It keeps the demodulated signal in memory, so that the signal can be analysed again at a different keying rate or polarity! Garbage can be resampled on the fly, which means that minutes of received signals decoded at the wrong baud rate or keying polarity are recovered, on the fly, while still receiving.

(2) Keying rate and polarity are analysed automatically - standard baud rates are automatically set following analysis.

(3) Tuning oscilloscope available at all times, without loss of copy.

(4) Program works in real time.

(5) I wrote it, and I love it - I myself can't believe it works so well!

Download your copy of FTV from my web site, at:
http://www.geocities.com/SiliconValley/2504

System requirements, and the standard features of FTV are described in the following page:
http://www.geocities.com/SiliconValley/2504/ftv.htm

By the way, AM signals from low orbiting weather satellites are also decoded - no extra interfaces needed. Demodulation mode is user selectable in software.

Hope you all have a load of fun receiving 'words and pictures' - I hope to get some feedback !

Happy New Year 1997
All the best from Brian, 9H1JS, on the Island of Malta.

4482. Mods TH79-a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: David Whipple <david.whipple@m.cc.utah.edu>
Message-ID: <32C6F926.2B37@m.cc.utah.edu>
Source record: 99178

Does anybody know if there is any truth to the rumored keyboard mod for exteded receive for the Kenwood TH79-A?? I've read the piece on cutting out the diode, but if there is a simpler way I'd like to know.

Thanks
KC7MJR

4483. Kneed a Couple Knobs...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: markem@primenet.com
Message-ID: <5a6siq$2kp@nnrp1.news.primenet.com>
Source record: 99179
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Greetings all...

I need a couple large knobs, anywhere between 2 and 2.5 in. diameter. Must be for 1/4" shaft and have a setscrew. Not picky about style. Would like two matching knobs, tho. If anyone has a couple laying around they'd be willing to part with, pls let me know. Or if anyone has a source for them, pls pass it along. I've looked in all my catalogs and other on-line sources without any luck. Lots of little ones but no big ones.

Actually, I'm trying to find the large knobs for a Johnson Matchbox tuner. I'd REALLY like to find a couple for it but will settle for a pair of large generic knobs.

Thanks, 73, & HNY... Mark AA7TA

4484. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: The Bakers <mbaker@monmouth.com>
Message-ID: <32C73A42.6E24@monmouth.com>
Source record: 99180
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Casey wrote:
>
> On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
> wrote:
>
> >Please visit my World Wide Web Site, you have never seen a page like it.
>
..snipped..

> Stop wasting bandspace with your sophmoric garbage. Grow up.

Hey Casey:

How are things at "Starfleet Command" ??
Sheeeeesh, talk about sophomoric !

Burt rules!

M. Baker WA3ZXO
mbaker@monmouth.com

4485. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Ron D'Eau Claire <rondec@pacbell.net>
Message-ID: <32C745DE.5CE7@pacbell.net>
Source record: 99181
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Steve McAllister wrote:
>
> I'm fairly new to working with vacuum tube radios. Recently, I bought
> box of tubes to use and there were about 60-70 tiny little tubes --
> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> regular pins coming off of the bottom, but most have insulated wire,
> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>
> Are these "pencil tubes"? What were these little guys used for?
> Portable electronics? Do they have any practical use now?
>
> Thanks and happy new year!
> Steve

I had a shirt pocket a.m. broadcast band radio in the 1950's that used three of them in a regenerative (Armstrong) receiver circuit. One regen detector plus two audio amps. They were common in the shirt pocket sized hearing aids of that era too. 1.5 Volt filaments and 15 volts or so on the plates. I seem to recall that the max plate voltage was about 60 volts.

Ran into them again in the 1960's servicing Collins short-wave receivers and transcievers used in large USAF aircraft such as B-50 Bombers. They were used in the VFOs. I suspect that the very low power consumption and heat was the reason they were chosen, as those VFO's were legendary for stabilizing quickly after power on and for keeping their calibration over time. The tubes were right inside the sealed VFO cylindrical container along with the tuned circuit and other VFO components.

Ron, AC6Y

4486. inductive coupling a meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Gerry & Robin Lempicki <lempicki@psych.umass.edu>
Message-ID: <32C75082.E6D@psych.umass.edu>
Source record: 99182

I salvaged a few old meters from some old equipment. I would like to change the faces and hook these up to indicate power out (not looking for anything accurate, just a neat large meter needle jumping on voice/signal modulation...these are abt 6" x 9"...would look cool) Does anyone have an idea for hooking these up? Can I wrap some wire around a coax to get an indication of power out? What type of circuit can i throw together to make this work? -Gerry

4487. Re: Pro & Cons on Cordless Telephone Headsets????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-29 00:00:00 UTC
From: Raj Singh <singhraj@cadvision.com>
Message-ID: <32C70D67.1733@cadvision.com>
Source record: 99183
Cross-posted to: rec.radio,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Lorenzo & Katrina Baldwin wrote:
>
> Hello everyone....I hate to intrude but I'm doing some research on the
> cordless telephone headset. Would you all please take a moment and reply
> with some pros and cons on cordless telephone headset?
>
> Thanks,
> L & K

The biggest pro is you don't have to learn the code to operate it. The
cons is it range is very limited, seem to run FM only
Happy New Year
Raj

4488. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: bbowers@townsqr.com
Message-ID: <5a7jak$85m@tofu.alt.net>
Source record: 99092
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Burt Fisher <k1oik@ccsnet.com> wrote:

>Please visit my World Wide Web Site, you have never seen a page like it.
>You will see:

Burt,

I went there. I saw it. I liked it.

Good job. And yes, I had figured out what the naked chic would be,
far in advance of clicking on the icon.

Have a great day.

4489. WTB AirDux 195-1or2 Pi network

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: bigjim@voicenet.com
Message-ID: <5a7itu$nkj@news1.voicenet.com>
Source record: 99093

I am in search of an AirDux 195-1 or -2 Pi network for hombrewing amplifiers. I have one that is missing some turns that could be repaired but i would prefer to have a whole one. They were also under other names such as Illumitronics 195-1 or -2 and B&W 195-1 or -2
If you have one of these please email me with price.
Thanks Jim

4490. Boonton Inductors sold!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Jerry and Gail <jerryandgail@earthlink.net>
Message-ID: <01bbf610$7f629f60$62f32399@newmicronpc>
Source record: 99094

The Boonton inductors, both sets, have been sold. Thanks, all.

Jerry AI6L

4491. Need Specs on RCA 6293 Tubes...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Ron Sibbitt <n8lmt@greatlakes.net>
Message-ID: <01bbf614$bf51ab80$5d6794ce@n8lmt>
Source record: 99095
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Hi i have a pair of RCA 6293 tubes (new in
the box), they look exactly like 6146B tubes !!
but i can't find any info on them, is there an
'online tube manual' anywhere on the net ???
any info appreciated....
73,

--
Ron Sibbitt n8lmt@greatlakes.net
Croswell, MI 48422

4492. Headset mic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: wd5hmm@aol.com
Message-ID: <19961230070900.CAA03368@ladder01.news.aol.com>
Source record: 99096

I need copy of article in Jan 93 QST on building headset mic.
Can anyone help please?
Jim , N5QL ex WD5HMM
PO Box 333
Cleburne, TX 76033
WD5HMM@aol.com

4493. Amateur Radio Files & Links (FREE)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: "Jamie R. Dean" <ke4htm@bluenet.net>
Message-ID: <01bbf60f$8d51a0e0$4f62f4cd@ke4htm.bluenet.com>
Source record: 99097
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.b

Come Visit The Western North Carolina APRS & Ham Radio Home Page. There are lots of files to download
and links to all of the hotest ham and weather web sites on the net. And best of all it's FREE!!

The Western NC Amateur Packet/Postion Reporting System & Ham Radio Home Page
http://www.bluenet.net/ke4htm

4494. comunicato stampa

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: mose@tv.shineline.IT
Message-ID: <32C797B9.104C@tv.shineline.it>
Source record: 99098

<encoded_portion_removed>
aW9uZWQgcXVhbGl0aWVzIHJlbmRlciBpdCBoaWdobHk=

4495. 8 kw dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: r-paschal@worldnet.ATt.NET
Message-ID: <19961230044056.AAA29973@LOCALNAME>
Source record: 99099

Just got our electric power back this pm here in western Washington so am just reviewing the Dec 27 submissions.

The suggestion for using a baseboard electric heater caught me attention as I have one stored in the garage. But -- I would have supposed that the elements in these are wire-wound --? It so, would this not introduce a very large inductive reactance?? Tell me it ain't so.

Bob AA0MC

4496. Re: Kneed a Couple Knobs...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Michael <mkulyk@worldnet.att.net>
Message-ID: <5a89c5$km8@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 99100
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.swap

Hello
I think I might have just the knobs you are looking for they would be
great for a tuner.I hope I can find them,let me know if you still need 2
knobs..
Mike WB2GLW

4497. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.232.0015B770@azstarnet.com>
Source record: 99101
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

>Steve McAllister wrote:
>>
>> I'm fairly new to working with vacuum tube radios. Recently, I bought
>> box of tubes to use and there were about 60-70 tiny little tubes --
>> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
>> regular pins coming off of the bottom, but most have insulated wire,
>> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
>> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
>>
>> Are these "pencil tubes"? What were these little guys used for?
>> Portable electronics? Do they have any practical use now?
>>
>> Thanks and happy new year!
>> Steve

The first air-to-air missile, the Falcon, was full of them. They were held onto circuit boards with springy metal clips (similar to large fuse clips) and hard-wired in.

N7WS

4498. Re:What Are These Tiny Tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <5a8ehh$3d0@freenet-news.carleton.ca>
Source record: 99102

The ARC-21 Automatic Direction Finder receiver (made by Aircraft Radio Corp) used between 10 and 20 of these subminiature tubes. This set was designed in the late '50s, and I know some of them still to be in use. It is beautifully designed, and I use one as my regular BCB receiver (it covers about 300 kHz to 1.8 MHz in 4 bands).

The push-pull drivers for the loop antenna are also subminiature power pentodes (I think the number is 5906), and they operate at about 6 watts dissipation (6V @ 500 ma for the filaments, 120V@30 ma plate idle). Needless to say, they go gassy quite regularly!

These tubes are a fallout from the WWII effort on proximity fuzes.

4499. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32C7E43B.7FC6@ccsnet.com>
Source record: 99103
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Casey wrote:

> Stop wasting bandspace with your sophmoric garbage. Grow up.

Contests and NTS traffic of course are fsr more worthy?

```
#================#=====================================================#
| Burt Fisher | Teacher of video, broadcasting and electronics |
| Amateur call | South Dennis, Ma. (Cape Cod) |
| K1OIK | http://www.geocities.com/WallStreet/5169 |
#================#=====================================================#
|This message was posted from home k1oik@ccsnet.com |
#=================================================================#
```

If you try to milk too much, you won't get a drop
Samantha Fisher

4500. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32C7E5E1.6EC@ccsnet.com>
Source record: 99104
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Blake Bowers wrote:
>
>
> I went there. I saw it. I liked it.
>
> Good job. And yes, I had figured out what the naked chic would be,
> far in advance of clicking on the icon.

Thank you for having a sense of humor.

#================#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	http://www.geocities.com/WallStreet/5169
#================#===#
|This message was posted from home k1oik@ccsnet.com |
#===#
If you try to milk too much, you won't get a drop
Samantha Fisher

4501. Re: QST View - A Review

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: "L.Mark Pilant" <pilant@star.enet.dec.com>
Message-ID: <32C7D664.15D@star.enet.dec.com>
Source record: 99105

Ian White, G3SEK wrote:

> It should now be clear to the sender of an earlier message that the
> whole text is indexed and fully searchable, and is not simply scanned-in
> pages. Only the diagrams are scanned-in, and are accessible by clicking
> on the references in the text. If you choose to print a selected
> article, all the diagrams and photographs are automatically included,
> each on its own page.

Ian, while this is probably true for the yearly QST/QEX/NCJ CDs, the QST View multi-year sets are ALL scanned. Someone (and I thank them) spent considerable time creating the index of article, column, author, etc.

> What disappointed me about the 1995 CD-ROM was that it makes no use of
> the Classified Index which appears in the December issue. It's there, of
> course, but all the index entries are "dead" - you can look but you
> can't click to jump directly to an identified article. Worse still, the
> Index only gives month and page numbers, and there's no way to jump
> directly to a page number. (Mark: is this the same in the new QST sets?)

There isn't any way to directly go to a particular page, but there is an indirect way. For the "Article" you specify "*issue". This will cause QST View to locate a special entry which pulls all pages for an issue except the covers. Once the issue is loaded, you can use the "Page" pull-down menu to go to a specific page. (Page 3 is usually the table of contents, and off you go from there :-)

If you select a multi-page article, the page numbering is relative to the start of the article, not the issue. For example, page 1, 2, and 3 of the article may have appeared on pages 74, 75, and 76 of the issue. QST View only allows you to reference 1, 2, or 3.

> Not if you already have the relevant QSTs and the space to store them.
> For everyone else they're well worth considering.

The CDs certainly do save space. They also allow you to purchase the back issues in 5 year blocks; rather than having to buy the entire set on micro-fiche or try and locate original copies.

However, it is worth point out again, the QST View CD sets to not allow you to search articles. All you can do is search the bibliographic information (title, author, etc.)

73

- Mark N1VQW

4502. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32C7E48D.3BCA@ccsnet.com>
Source record: 99106
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Chad Sims wrote:

> I liked his webpage. I found a lot of humor in it. And I found your comments rude and un-called for.

Thank you for your comments.
It is meant to be entertaining, you do not have to agree with my views.

#===============#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	http://www.geocities.com/WallStreet/5169
#===============#===#
|This message was posted from home k1oik@ccsnet.com |
#===#
If you try to milk too much, you won't get a drop
Samantha Fisher

4503. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32C7E504.3EC9@ccsnet.com>
Source record: 99107
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Casey wrote:

> Are you Burts Parrot? I bet you sit on his shoulder and go "awwk, your
> right Burt"! Awwk, your right Burt!"

If you are into parrots have you listened to contests?

CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST,
CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST,
CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST, CQ CONTEST.
59, please repeat all hi hi, 59, please repeat all hi hi,
59, please repeat all hi hi, 59, please repeat all hi hi,
59, please repeat all hi hi, 59, please repeat all hi hi,

#================#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	http://www.geocities.com/WallStreet/5169
#================#===#
|This message was posted from home k1oik@ccsnet.com |
#===#
If you try to milk too much, you won't get a drop
Samantha Fisher

4504. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <32C7E5A1.291A@ccsnet.com>
Source record: 99108
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Blake Bowers wrote:
>
> I visited the page, and found it to be a very well made page,
> interesting, and informative.

Interesting is my goal, thanks for your comments.

> Not sure why you have such a problem, unless of course you had gotten
> worked up into a frenzy of anticipation about seeing a naked chic!

Not only is the chic naked but the human is the picture has no cloth
you can see on her body, right?

#================#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	http://www.geocities.com/WallStreet/5169
#================#===#
|This message was posted from home k1oik@ccsnet.com |
#===#
If you try to milk too much, you won't get a drop
Samantha Fisher

4505. Re: What are tiny tubes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: David Lawson <dlawson@ime.net>
Message-ID: <01bbf680$d3c88040$7e1029cf@maine.ime.net>
Source record: 99109
Cross-posted to: rec.antiques.radio+phono,rec.audio.tubes,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

```
Wes Stewart <n7ws@azstarnet.com> wrote in article
<n7ws.232.0015B770@azstarnet.com>...
>
> >Steve McAllister wrote:
> >>
> >> I'm fairly new to working with vacuum tube radios. Recently, I bought
> >> box of tubes to use and there were about 60-70 tiny little tubes --
> >> about 5/16 - 3/8" in diameter and about 1 - 1 1/4" long. Some had
> >> regular pins coming off of the bottom, but most have insulated wire,
> >> about an inclh long. Some of the numbers are: JG-6021, JG-6111,
> >> AF-5840, JG-5896, 5641, JHS-5977, AF-5636, ...
> >>
> >> Are these "pencil tubes"? What were these little guys used for?
> >> Portable electronics? Do they have any practical use now?
> >>
> >> Thanks and happy new year!
> >> Steve
can you imagine a pentium made with these?
```

4506. JST 135 - JRC - HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: jacques.ruty@wanadoo.fr
Message-ID: <01bbf685$c64ae160$3788fcc1@machine.wanadoo.fr>
Source record: 99110

JST 135 -JRC-
Is there somebody who knows the way of changing this tranceiver in general
coverage transmitter ?

--
Jacques RUTY
17 rue de Futigny
71330 ST GERMAIN DU BOIS
FRANCE

Email: jacques.ruty@wanadoo.fr
Packet: F1GTM @ F1TIV.FBFC.FRA.EU

4507. Collins, Heathkit, Drake Manuals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Clif <avvid@onramp.net>
Message-ID: <32C81A61.3ECA@onramp.net>
Source record: 99111
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I am in the process of cleaning out my shop and have several (100+) owner/operator/service manuals for various pieces of Collins, Heathkit, and Drake gear. If you have any specific needs email me and I will check. Also in the pile is a Blue 3ring binder w/Collins Emblem and contains dealer pricing and brochures for the early 60's to about 71 on Collins equipment (make offer)

email to avvid@onramp.net

4508. PLEASE READ! A thought about keeping CW....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: "Ray Hodgkiss, N9YNG" <hodgkiss@kiva.net>
Message-ID: <32C84C4B.5161@kiva.net>
Source record: 99112

I know this may seem not "proper" to start a debate in this newsgroup about keeping CW as a requirement. However, I have a thought about this topic that pertains to homebrewing.

In a nutshell:

What if people were given a choice about either taking a morse test, or homebrewing a rig, a piece of equipment, or something else other than an antenna? So maybe somebody would have to homebrew a transverter for a 5 wpm code test, a HF rig for a 13 wpm code test, and an amp for a 20 wpm code test. VEs can oversee and offer minor assistance, maybe over a few weekends. (I know that the ITU requires 5 wpm for HF.)

The benefits:

It would bolster the entire homebrewing aspect of amateur radio. More kits and literature about homebrewing would appear on the market. It would also act as a more effective filter, not becasue it would prevent people from getting their licenses, rather that the assistance from VEs on the projects (to also prevent cheating) would allow the canidate and the ham radio community to get to know each other a lot better, and hence "shame" people into good operating practices.

The drawbacks:

It would involve a lot more work for everybody, VE and the person trying to get a license. However, I believe that the benefits outweigh the drawbacks.

Please, all comments are appreciated!

73 de N9YNG

Ray Hodgkiss

4509. Re: Icom IC-245 alignment manual needed !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Ken Wyatt <kenw@col.hp.com>
Message-ID: <32C85FCF.3BA4@col.hp.com>
Source record: 99113

Michael Gladu wrote:
>
> I am looking for a formal alignment prodecure for an ICOM IC-245 2M
> mobile transceiver. The unit I am working on has a PLL / display
> problem. Please email me at: mgladu@warwick.net with any helpful
> information. Thanx de N1fbz - mgladu@warwick.net

This is starting to become a FAQ! There is nothing wrong with your alignment. This is a known problem with the IC-245 and IC-211 2m radios, the sympton being, erratic display (uncontrollable or missing segments, etc.) and lack of tuning ability from the knob.

The problem may be fixed, but is rather time consuming and delicate! ICOM happened to use (to their infinite regret!) brass eyelets to make connections between the top- and bottom sides of the PLL circuit board. Now any metalurgist or chemist should know that brass eyelets and copper circuit traces (plus humidity) will form a small voltage (a battery, of sorts) that will eventually lead to corrosion and loss of contact between the two metals. This is what is occuring with your radio.

The fix involves opening up the PLL module (top and bottom), being very careful not to damage the myriad of wires connecting this module to the rest of the radio. The 40-pin(?) PLL IC must also be carefully removed using solder wick and the usual ESD precautions (ICOM does not have any more of these available). The eyelets are obvious and must all be removed using solder wick. As you remove each one, replace it with a small COPPER wire jumper and resolder. Take care that the wire ends don't short something out! As I recall, there are maybe 20, or so, of these eyelets; including two located under the PLL IC. Once all the eyelets have been replaced, reinstall the PLL IC and hopefully, your radio will be back in working order.

When my 245 had the same problem, ICOM also had me replace all the polystyrene capacitors in the PLL module. I don't believe doing this helped with the primary problem, however.

Good Luck!

73, Ken (WA6TTY)

4510. Re: mods Kenwood TS850S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Ken Wells <kenwells@kiva.net>
Message-ID: <Pine.LNX.3.95.961230194916.32000A-100000@ansel.intersource.com>
Source record: 99114

I don't know about WWW sites, but for about $12 (US) you can get a CD
called QRZ Ham Radio that has a huge number of mods in hypertext format
(windows help format) There are several good mods for the 850 including
removing the attenuator in the AM broadcast band to improve sensitivity.
The disk also has a great callbook lookup and lots of other software.
you can find it at your next hamfest.

Good luck.

Ken Wells - NM9P
kenwells@kiva.net

On 29 Dec 1996, Rene Jansen wrote:

> Who can tell me were to find
> some mods for my TS 850S
> on the www
>
> '73 Rene pa3geu@usa.net
>
>

4511. Please read!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: george.tamayo@infosoftpub.com
Message-ID: <81094641@infosoftpub.com>
Source record: 99115

Fellow Amateurs: Please read the first two paragraphs!

CLAWSON@TELEGRAFIX.COM (PAT CLAWSON) said to ALL in comp.bbs.misc:

Boardwatch may have abandoned the BBS sysop, but TeleGrafix is still standing strong with them. However, we think that BBS systems must become Internet-connected if they are to survive in a Webbed world.

First, we need to quit calling these online systems by the moniker "BBS." The term has come to reflect something on the order of ham radio -- low-rent communications run by amateurs. That may accurately reflect some BBS systems, but we've found that many sysops run very professional online businesses.

Second, we need to start emphasizing the Power of Telnet and talk about Telnet Sites, not BBS systems. A telnettable BBS or legacy system can do many things the Web can't. Most of the computer industry and public has been Web-washed (brainwashed) by all the press hype. They think the Web is all there is to the Internet/online experience. Just a couple of days ago, I was talking to the Internet reporter for one of America's most prestigious newspapers. He had never even heard of Telnet, didn't have a clue what it was -- and his news reports influence literally millions of Americans. BBS sysops and BBS system manufacturers need to refocus their efforts, and begin producing tools and content that take advantage of the Power of Telnet.

Third, Telnet Site operators (such as BBS sysops) must professionalize the look and feel of their systems. Most sysops make little investment in quality graphics for their systems. In a glitzy Web world, it is little wonder that the public is turned off by ANSI BBS systems no matter how if the content on them is of high quality. We constantly hear BBS sysops complain about having to pay what are very modest sums of money for RIPscrip graphics -- but the people running Web sites don't think twice about investing thousands of dollars for a fabulous look.

Despite all the flack we take from BBS sysops, we continue to support their efforts -- and we always will. But BBS sysops have to change with the times, and they have to be willing to invest to upgrade their systems to compete with (or complement) the Web.

On Christmas, TeleGrafix released the first multimedia Telnet browsers. RIPtel Visual Telnet is available now from our Web site at www.telegrafix.com. This is a huge step forward for the Internet, and it represents a salvation for BBS sysops by placing Telnet graphically on a higher level than the Web.

The serious professional operators will get on board the Visual Telnet train, and they will live to see a brighter day.

Pat Clawson
TeleGrafix Communications Inc.
Winchester, VA

Web: www.telegrafix.com

George M. Tamayo - WD6EJO
South Mountain Online
---
* PowerAccess 1.50 No, I'm NOT an Extended Character.

4512. Coherer...What is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: pfriedr@azstarnet.com
Message-ID: <pfriedr.49.00FD30F7@azstarnet.com>
Source record: 99116

I wonder if one of the old timers out there could tell me something about "Coherers"---what were they exactly and how did they work?

I get the impression that they functioned as detectors, but I'm puzzled about references to "tappers" and other key-wound mechanisms designed to agitate them.

Thanks in advance.

4513. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: subs@ro.com
Message-ID: <32c70a54.66952553@news.ro.com>
Source record: 99184
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
wrote:

>Please visit my World Wide Web Site, you have never seen a page like it.
>You will see:
>
>1. A naked chic
>2. The writings of me and others on ham radio.
>3. The warm side of K1OIK.
>4. A test for your SVGA monitor
>5. A picture of me and my family.
>6. A Nazi connection in ham radio???
>
>
>Burt Fisher Teacher of video, broadcasting and electronics
>Amateur call South Dennis, Ma. (Cape Cod)
> K1OIK If you sit on the fence, it is a pain in the butt
>
> k1oik@ccsnet.com fisher@meol.mass.edu
> www.geocities.com/WallStreet/5169
Stop wasting bandspace with your sophmoric garbage. Grow up.

4514. FS: Boonton 103A Inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Jerry and Gail <jerryandgail@earthlink.net>
Message-ID: <01bbf5ec$02ee9de0$05eb2399@newmicronpc>
Source record: 99185

For sale: Two sets of Boonton 103A Standard Inductors.

Set 1: (Cans somewhat cruddy from long storage, but should clean up OK)
Ten inductors: O.25, 0.5, 1, 5, 35, 100, 500 microhenry
2.5, 10, 25 millihenry

Set 2: (Cans cleaner than Set 1)
Sixteen Inductors: 0.25, 0.5, 1, 2.5, 5, 10, 25, 50, 100, 250, 500
microhenry
1, 2.5, 5, 10, 25 millihenry

Set 1 has a labelled wooden mounting board that I don't really care to ship unless the buyer can't live without it! (The labels are frequency range for each coil.)

Prices: Set 1, $35 plus shipping
Set 2, $50 plus shipping Both sets for $75 plus
shipping.

Will deliver within 30 mi more or less from Palo Alto, CA

Jerry AI6L (415) 854 2509

4515. Re: Clamping Diode

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: philk5pc@connect.net
Message-ID: <5a73n5$j0l@dallas1.connect.net>
Source record: 99186

In article <32c27f2b.2011634@news.frazmtn.com>, w6kkt@frazmtn.com (W6KKT Jesse) says:
>
>On 25 Dec 1996 00:26:35 GMT, "Peter Gottlieb" <peter_gottlieb@msn.com>
>wrote:
>
>snip....>>
>>It's a positive spike - check it with a 'scope. And the diode will slow
>>down the
>>release of the relay because it keeps current flowing longer in the coil.
>snip....
>>
>>
>Hi Peter, I use diodes across relay coils when I wan't them to open
>faster not slower! Where have I gone wrong?
>73, Jesse, W6KKT

Hi, Jesse, Peter is correct. if you are trying to use a vacuum relay for QSK keying, you can easily measure that the release time is increased by the diode accross the coil. This problem is eliminated by putting a zener diode of the same voltage rating as the relay in series with the diode accross the coil...the band on the zener goes to the minus terminal on the relay. This limits the spike, saves the switching transistor, and speeds up the relay release time.

(((73))) Phil, K5PC

4516. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: Chad Sims <chadsims@wsnet.com>
Message-ID: <01bbf5fd$57b60be0$2026b9ce@chadsims.wsnet.com>
Source record: 99187
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

Casey <subs@ro.com> wrote in article <32c70a54.66952553@news.ro.com>...
> On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
> wrote:
>
>
> > k1oik@ccsnet.com fisher@meol.mass.edu
> > www.geocities.com/WallStreet/5169
> Stop wasting bandspace with your sophmoric garbage. Grow up.
>
I liked his webpage. I found a lot of humor in it. And I found your
comments rude and un-called for.

With regards,
Chad

4517. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: subs@ro.com
Message-ID: <32c73632.78184187@news.ro.com>
Source record: 99188
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

On 30 Dec 1996 02:58:41 GMT, "Chad Sims" <chadsims@wsnet.com> wrote:

>
>
>Casey <subs@ro.com> wrote in article <32c70a54.66952553@news.ro.com>...
>> On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
>> wrote:
>>
>>
>> > k1oik@ccsnet.com fisher@meol.mass.edu
>> > www.geocities.com/WallStreet/5169
>> Stop wasting bandspace with your sophmoric garbage. Grow up.
>>
> I liked his webpage. I found a lot of humor in it. And I found your
>comments rude and un-called for.
>
>With regards,
>Chad
>
Are you Burts Parrot? I bet you sit on his shoulder and go "awwk, your
right Burt"! Awwk, your right Burt!"

4518. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: subs@ro.com
Message-ID: <32c7387c.78770159@news.ro.com>
Source record: 99189
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
wrote:

>Please visit my World Wide Web Site, you have never seen a page like it.
>You will see:
>
>1. A naked chic
>2. The writings of me and others on ham radio.
>3. The warm side of K1OIK.
>4. A test for your SVGA monitor
>5. A picture of me and my family.
>6. A Nazi connection in ham radio???
>
>
>Burt Fisher Teacher of video, broadcasting and electronics
>Amateur call South Dennis, Ma. (Cape Cod)
> K1OIK If you sit on the fence, it is a pain in the butt
>
> k1oik@ccsnet.com fisher@meol.mass.edu
> www.geocities.com/WallStreet/5169
Hey Marc,
Why don't you send me your real e-mail address you coward?

4519. Re: Wanted: Tips for constructing water cooled load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: "Lawrence C. Smith" <Lawrence.C.Smith@worldnet.att.net>
Message-ID: <32C74E0B.1600@worldnet.att.net>
Source record: 99190
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Jeff Lutes wrote:
>
> Try this one...have seen one built for a MUCH larger load...but should still
> work:
>
> Powder the following components:
> Copper
> non-conductive plastic
> graphite
>
> Mix them (play with the ratios to get the correct value) and pack them into a
> piece of PVC pipe. Place a copper conductor through the end caps and seal the
> end caps on the pipe. (i.e. build a resistor from HELL).
>
> The one I saw was actually in a 5-gallon bucket full of oil for cooling.
>
> In article <Pine.LNX.3.95.961224205426.13185A-100000@primeline.net>, Gary Tait
> <tait@primeline.net> wrote:
> >On Sat, 21 Dec 1996, Mark Robinson wrote:
> >
> >#> : I am wanting to build a non-inductive 8 kW load for 300 kHz, CW. The
> >#
> >#Given the low frequency, what about a few toaster elements, or 1kW
> >#linear quartz halogen flood lamp bulbs (adjust impedance by adjusting
> >#drive :)
> >#
> >
> >No, toaster elements ,and lightbulbs are inductive as well, and no
> >good as an RF load.
> >
> >Gary Tait , VE3VBF
> >
> >
Grainger (Industrial Catalog Sales Company - should be in your local
phone book) sells replacement heater elements for water heaters -
including ones that dont have to be immersed in water. I have used
these for power supply loads up to 15,000 watts (8 of them in series
parallel) they are not terribly expensive.

4520. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-30 00:00:00 UTC
From: bbowers@townsqr.com
Message-ID: <5a7j8f$85m@tofu.alt.net>
Source record: 99191
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

subs@ro.com (Casey) wrote:

>On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
>wrote:

>>Please visit my World Wide Web Site, you have never seen a page like it.
>>You will see:
>>

>Stop wasting bandspace with your sophmoric garbage. Grow up.

I visited the page, and found it to be a very well made page,
interesting, and informative.

Not sure why you have such a problem, unless of course you had gotten
worked up into a frenzy of anticipation about seeing a naked chic!

4521. Re: Rigorous analysis of Twin-T Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <5ac938$2vu$3@nadine.teleport.com>
Source record: 99042
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.swap,rec.radio.amateur.homebrew

In article <5a75jg$24f@gap.cco.caltech.edu>,
lbliao@alumnae.caltech.edu (lbliao) wrote:
>I am looking for any book that does the rigorous analysis of the twin T
>filter. Preferably, the book or paper should discuss all the modes of
>operation of the filter including those when the zeros are in the right
>half plane. Information on other filters that are either notch or peaking
>at a certain frequency with better performance or lower parts count, or
>allowing simple adjustment of the frequency is also welcome.

I have a paper by Sanjit K. Mitra ("Synthesizing active filters", IEEE Spectrum, vol. 6, pp. 47-63, Jan. 1969) which briefly mentions the twin-Tee. It refers to it as originating with a person named Moschytz, and references a paper which sounds like it has a lot more analysis. The paper (which I don't have) is Moschytz, G.S., "Miniaturized filter building blocks using frequency emphasizing networks", Proc. Nat'l Electron. Conf., pp. 364-369, 1967. If you can't find this you might look for other papers or books by this author. Good luck!

Roy Lewallen, w7EL

4522. RE: Please read!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: clint.bradford@atdbbs.com
Message-ID: <9612311729123002@atdbbs.com>
Source record: 99043

>>But BBS sysops have to change with
>>the times, and they have to be willing to invest to upgrade their
>>systems to compete with (or complement) the Web.

As soon as I can acquire file transfer speeds on the WWW as fast as
those from a BBS...and as soon as I can get LIVE assistance from a real
Sysop...and as soon as "Customer Service" becomes import to
WEBMasters...

THEN - and ONLY THEN - might I consider the WWW to be a "threat" to a
well-designed, well-honed, ANSI-based Bulletin Board System.

-Clint Bradford
ATTENTION to Details BBS

4523. Re: RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: K Perry <"K&V _Perry"@bc.sympatico.ca>
Message-ID: <32C9DC88.5B40@bc.sympatico.ca>
Source record: 99044
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,

The following link has some info on cell mods for your PRO 26.

Good Luck!

K. Perry

ballen@204.140.227.4 wrote:
>
> I just received a Pro-26 for a xmas present. Does anyone know any mods
> for the cellular lockout????
> Bill N6XD

4524. Re: RS PRO 26

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: K Perry <"K&V _Perry"@bc.sympatico.ca>
Message-ID: <32C9DCD9.3552@bc.sympatico.ca>
Source record: 99045
Cross-posted to: alt.radio.scanner,rec.radio.scanner,rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,

The following link has a cell mod for you PRO 26.

Good Luck!

K. Perry

http://www.zianet.com/kc5kto/mods/pro26cell.html

ballen@204.140.227.4 wrote:
>
> I just received a Pro-26 for a xmas present. Does anyone know any mods
> for the cellular lockout????
> Bill N6XD

4525. 2meter ssb receiver, need help to build one.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: "Timothy S. Powell" <tpowell@mindspring.com>
Message-ID: <32C9A963.515E@mindspring.com>
Source record: 99046

Is there any information on the web about building a 2 meter ssb receiver? I have the Sam "Radio Handbook" 23rd edition and "The ARRL Handbook..." 1993 edition. Both give schematic drawings for all the stages but not how to determine the values needed. I might have looked over that part of the book but I have been looking hard and reading. I am looking for a way to build a 2 meter ssb receiver for hearing the sat P3D. After I get the receiver working I plan to get to work on a 70cm ssb transmitter to work P3D when it's up and working, but only one project at a time. Thanks for any help you can give me.

Timothy S.Powell

KD4IKY

4526. Re: inductive coupling a meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: Gerry & Robin Lempicki <lempicki@psych.umass.edu>
Message-ID: <32CA032B.6A4@psych.umass.edu>
Source record: 99047

Roy Lewallen wrote:

> Hook the cathode (banded) end of a diode to the + meter terminal. Connect a
> wire from the - meter terminal to your rig's chassis or something else
> that's grounded. Connect a ceramic capacitor (one of the flat jobs, round
> or square) of any value from about .001 uF to 0.1 uF between the meter
> terminals. Then connect a wire to the other end of the diode and dangle it
> around the shack. Start with a short wire so you don't damage the meter
> with too much deflection. Adjust the deflection by changing the length and
> position of this wire.
>
> Roy Lewallen, W7EL

Roy, thanks for the info! I will give it a try! -Gerry KA1STZ

4527. Long Delayed Echo mysteries...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: pbs@iaccess.za
Message-ID: <5ac3td$n4s_017@196-7-116-226.iafrica.com>
Source record: 99048

Long Delayed Echo mysteries...

Hi,
I'm doing some research for a documentary about anomalies. One of the subjects I'm interested in is that of LDE's. I have done some reading on the subject and noted a few experiments - however, I'm looking for new information & experiences which may help to throw more light on the matter.

Of especial interest is the geographic "preferences" of LDEs. I noted for example that some evidence pointed to LDEs being more prevalent in the Polar regions. Do LDE's have any other preferences? Also, I'm interested in the various characteristics of the LDEs. I noted some saying that it tends to occur when "opening up" a frequency.

If you have had any experiences, or know of further literature or people I can consult - I would very much appreciate it.

I have posted this in several newsgroups since I wasn't quite sure which is the best place to go, so if this is out of place - I apologise.

If you can help in any way, kindly reply by e-mail. Thanks.

Cheers, Jan...
* Ignorant people think it's the noise which fighting cats make that is aggravating, but it ain't so; it's the sickening grammar they use. (Mark Twain)
* No one's life, liberty or property is safe while the legislature is in session. (Mark Twain)
* What do politicians and porn stars have in common? They're both experts at changing positions in front of the camera.

4528. Free internet swap shop!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: "Bruce Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <32C989ED.113F@concentric.net>
Source record: 99049

http://www.concentric.net/~n9zle

Check it out, list your own items on a world wide web page.
As seen in 73s Magazine. Includes graphics. List an item and add
a picture with it. New changes every day come check it out!

mailto:n9zle@concentric.net

4529. SSTV,FAX,RTTY,CW and more!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: "Bruce Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <32C98CB1.2F1F@concentric.net>
Source record: 99050

SSTV,WEFAX,RTTY,CW along with a few more modes.
Spectrum analizer, digital scope on your computer all with the
origanal HamComm adapter.

Now you can get a multimode (NEW) for under $35 software included.
Receive version for less than $20 (requires PC speaker to xmit)
Check out this page on the NET!

http://www.concentric.net/~n9zle/hc.html

There is more software available for this item than you can shake a
stick at. Just check out this page.

4530. Take five minutes to read this and it WILL change your life.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: Mariano Peinado <agilibus@jet.es>
Message-ID: <01bbf76b$cacb40e0$b5b4e0c2@mariano>
Source record: 99051
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio

Take five minutes to read this and it WILL change your life.

If you want to make big bucks ($50000+) without any effords, read this article and follow the instructions!

By investing just $5, you can and WILL get thousands of dollars by the mail.

It's REALLY SIMPLE to do!!!!

STEP 1.

Invest your $5 by writing your name and address on five seperate pieces of paper along with the words: "PLEASE ADD ME TO YOUR MAILING LIST."
(In this way, you're not just sending a dollar to someone; you're payingfor a legitimate service.) Fold a $1 bill inside each paper, and mail them by standard U. S. Mail to the following five addresses:

1-Sam Coice
25550 Buckthorn Ridge Rd
Pioneer Ca 95666

2-Peg Vickmore
14905 Highway 88
Jackson, Ca 95642

3-Brian Hyson
4278 Sayoko Cr
San Jose, Ca, 95136-2335 USA

4-Andres Camacho
Rua Apodi 78
Sao Paulo, SP, 05052-010 Brazil

5-Mariano Peinado
Apdo Correos 291
03730 Javea - Alicante -
Spain

STEP 2.

Now remove the top name from the list, and move the other names up. This way, #5 becomes #4 and so on.
Put your name in as the fifth one on the list.

STEP 3.

Post the article to "at least" 250 newsgroups. Rembering that
the more that you post on, the more people see it, and
the more you will get. There are at least 30,000 newsgroups
at any given moment in time so don't be stingy.

STEP 4.

You are now in business for yourself, and should start seeing
returns within 7 to 14 days! Remember, the Internet is new
and huge. There is no way you can lose.

Now here is how and why this system works:

Out of every block of 250 posts I made, I got back about 5
responses. Yes, thats right,only 5. You make $5.00 in cash,
not checks or money orders, but real cash with your name at
#5.

Each additional person who sent you $1.00 now also makes 250
additional postings with your name at #4, 1000 postings. On
average then, 50 people will send you $1.00 with your name at
#4,....$50.00 in your pocket!

Now these 50 new people will make 250 postings each with your
name at #3 or 10,000 postings. Average return, 500 people= $500.
They make 250 postings each with your name at #2= 100,000
postings=5000 returns at $1.00 each=$5,000.00 in cash!

Finally, 5,000 people make 250 postings each with your name at
#1 and you get a return of $60,000 before your name drops off
the list.And that's only if everyone down the line makes only 250
postings each! Your total income for this one cycle is $55,000.

From time to time when you see your name is no longer on the list,
you take the latest posting you can find and start all over again.

The end result depends on you. You must follow through
and repost this article everywhere you can think of.
The more postings you make, the more cash ends up in
your mailbox. It's too easy and too cheap to pass
up!!!

So thats it. Pretty simple sounding stuff, huh? But believe me, it
works. There are millions of people surfing the net every day, all
day, all over the world. And 100,000 new people get on the net
every day. You know that, you've seen the stories in the paper.
So, my friend, read and follow the simple instructions and play
fair. Thats the key, and thats all there is to it. Print this out
right now so you can refer back to this article easily. Try to
keep
an eye on all the postings you made to make sure everyone is
playing fairly. You know where your name should be.

If you're really not sure or still think this can't be
for real, then don't do it. But please print this article and pass
it along to someone you know who really needs the bucks, and see
what happens.

REMEMBER....HONESTY IS THE BEST POLICY.YOU DON'T
NEED TO CHEAT THE BASIC IDEA TO MAKE THE BUCKS!
GOOD LUCK TO ALL, AND PLEASE PLAY FAIR AND YOU WILL
WIN AND MAKE SOME REAL INSTANT FREE CASH!

*** By the way, if you try to deceive people by posting the messages
with your name in the list and not sending the bucks to the people
already included, you will not get much. I know someone who did this
and only got about $150 (and that's after two months). Then he sent
the 5 bills, people added him to their lists, and in 4-5 weeks he had
over $10,000!

TRY IT AND YOU'LL BE HAPPY!!! :o) !!!!!!!!!!

4531. Re: mods Kenwood TS850S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: sam2316@america.com
Message-ID: <32c64cef.2548831@news.america.com>
Source record: 99117

"Rene Jansen" <0jansen03@almere.flnet.nl> wrote:

>Who can tell me were to find
>some mods for my TS 850S
>on the www
>
>'73 Rene pa3geu@usa.net

Try This Page.
ftp://ftp.cs.buffalo.edu/pub/ham-radio/mods/

4532. Re: mods Kenwood TS850S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: sam2316@america.com
Message-ID: <32c64d99.2718425@news.america.com>
Source record: 99118

"Rene Jansen" <0jansen03@almere.flnet.nl> wrote:

>Who can tell me were to find
>some mods for my TS 850S
>on the www
ftp://ftp.cs.buffalo.edu/pub/ham-radio/mods/
>
>'73 Rene pa3geu@usa.net

4533. Fixing old Reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: lumkes@cae.wisc.edu
Message-ID: <5a9q9p$374c@news.doit.wisc.edu>
Source record: 99119

Hello,
I have an old Scott R-327 stereo reciever I am playing around with.
It works well in all modes except FM radio, where I can tune (stereo and
signal strength indicator high) but only hear the station with the volume
turned all the way up (along with a slight buzz). AM and CD input work
and sound great. If I spin the tuning dial it is louder as it goes by
a station but when I tune it is only very faint. I am treating this as
a test experiment for learning more about FM and would appreciate
where to begin. i.e., what components to check, what the probable
cause is, etc?

Thanks alot, this newsgroup is a great place to learn.

John Lumkes, AA9QP
lumkes@cae.wisc.edu

4534. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: onbelay@ma.ultranet.com
Message-ID: <32c8650b.73064992@news.ma.ultranet.com>
Source record: 99120
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

On Mon, 30 Dec 1996 03:36:11 GMT, subs@ro.com (Casey) wrote:

>On Sun, 29 Dec 1996 10:06:13 -0500, Burt Fisher <k1oik@ccsnet.com>
>wrote:
>
>>Please visit my World Wide Web Site, you have never seen a page like it.
>>You will see:
>>
>>1. A naked chic
>>2. The writings of me and others on ham radio.
>>3. The warm side of K1OIK.
>>4. A test for your SVGA monitor
>>5. A picture of me and my family.
>>6. A Nazi connection in ham radio???
>>
>>
>>Burt Fisher Teacher of video, broadcasting and electronics
>>Amateur call South Dennis, Ma. (Cape Cod)
>> K1OIK If you sit on the fence, it is a pain in the butt
>>
>> k1oik@ccsnet.com fisher@meol.mass.edu
>> www.geocities.com/WallStreet/5169
>Hey Marc,
> Why don't you send me your real e-mail address you coward?

'smatter bunky, upset because you lack creativity to make your own web
page?

****
* onbelay@ma.ultranet.com *
* *
* Mark Schneider, WI1W http://www.ultranet.com/~onbelay *
* Manchester, NH *
****
.

4535. Re: The Worst Ham page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: onbelay@ma.ultranet.com
Message-ID: <32c86656.73395751@news.ma.ultranet.com>
Source record: 99121
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave,aus.radio.amateur.misc,aus.radio.amateur.digital

On Mon, 30 Dec 1996 10:55:13 -0500, Burt Fisher <k1oik@ccsnet.com>
wrote:

>Blake Bowers wrote:
>>
>>
>> I went there. I saw it. I liked it.
>>
>> Good job. And yes, I had figured out what the naked chic would be,
>> far in advance of clicking on the icon.
>
>Thank you for having a sense of humor.
>
snip

Yeah, I had an idea about the chick, too. That's a little scary. Great
page, keep modifying it!!

Mark SCHNEIDER -- Trying to figure out what to do with all these
German traits.....hmmmmm, maybe if we just march this group of
neo-nazis and Skinheads into this little sealable room over here,
close the door, climb this ladder over here, and dump these pellets
down this pipe.........

****
* onbelay@ma.ultranet.com *
* *
* Mark Schneider, WI1W http://www.ultranet.com/~onbelay *
* Manchester, NH *
****
.

4536. Re: Rigorous analysis of Twin-T Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <5a9uvh$2ns@hpscit.sc.hp.com>
Source record: 99122
Cross-posted to: sci.electronics.design,sci.electronics.misc,rec.radio.swap,rec.radio.amateur.homebrew

In article <5a75jg$24f@gap.cco.caltech.edu>,
lbliao <lbliao@alumnae.caltech.edu> wrote:
>I am looking for any book that does the rigorous analysis of the twin T
>filter. Preferably, the book or paper should discuss all the modes of
>operation of the filter including those when the zeros are in the right
>half plane. Information on other filters that are either notch or peaking
>at a certain frequency with better performance or lower parts count, or
>allowing simple adjustment of the frequency is also welcome.
>
>
>Thanks a lot!
>lbliao
>
>

There was a paper in the Proceedings of the IRE in the 1950's that analyzed
all the permutations of the Bridged-T network. The title was something
to the effect of "An analysis of the bridged-T network". I suggest you
start with that. I have a copy somewhere. If I can, I'll post the exact
citation. The bridged-T network can do most if not all of what the twin T will do.

Another thing to keep in mind is that both of these networks are reduced
(i.e. unbalanced) forms of balanced lattices. The easiest thing to do
is design whatever you want as a balanced lattice network first, then use
lattice network theorems to unbalance and reduce it. You can find info
on balanced lattice networks in any advanced network theory book over 30
years old. These techniques, though largely unknown now, are extremely
powerful. You should be aware that you cannot realize a real right half
plane zero in an unbalanced network like a twin T or bridged T. Only a
balanced lattice (or half lattice) can do that. Other than that, you can
do just about anything you want quite easily, once you master the technique.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4537. Re: mods Kenwood TS850S

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: sam2316@america.com
Message-ID: <32c64ccb.2512295@news.america.com>
Source record: 99123

"Rene Jansen" <0jansen03@almere.flnet.nl> wrote:

>Who can tell me were to find
>some mods for my TS 850S
>on the www
>
>'73 Rene pa3geu@usa.net

4538. Re: PLEASE READ! A thought about keeping CW....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: bcspain@aol.com
Message-ID: <19961231032700.WAA28357@ladder01.news.aol.com>
Source record: 99124

In a message dated 12-30-96 Ray Hodgkiss, N9YNG, wrote:

>What if people were given a choice about either taking a morse test, or
>homebrewing a rig, a piece of equipment, or something else other than an
>antenna?

I agree that the test should reflect the current state of the hobby. Most of the guys will talk about tradition and using cw as a filter to keep the riffraff out but a more techical test that makes people actually learn something of electronics and operating procedures instead of memorizing the answers would be a much better filter. Then, you would have people who are genuinely interested in radio, and operating a radio instead of having access to a "glorified" CB.

73's
Bryan WB5YIW

4539. Help to identify Gasfets

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <32C8A698.1CDB@dyson.brisnet.org.au>
Source record: 99125

Hello, I have a 1.7 GHz Lna to repair for a friend which has two
faulty Gasfets (Hemt?). They are in a ceramic package and are marked
353 on the case top.
Can anyone identify these for me?
Tnx in advance Peter VK4AWP.

4540. Re: Need Specs on RCA 6293 Tubes...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: Steve Rohrer <srohrer@sprynet.com>
Message-ID: <32C8E193.1022@sprynet.com>
Source record: 99126
Cross-posted to: rec.radio.amateur.boatanchors,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Ron Sibbitt wrote:
>
> Hi i have a pair of RCA 6293 tubes (new in
> the box), they look exactly like 6146B tubes !!
> but i can't find any info on them, is there an
> 'online tube manual' anywhere on the net ???
> any info appreciated....
> 73,

Ron,
The 6293 is essentially a 6146 intended for "pulse-modulator" (i.e.
radar) service.
As per RCA in 4-63, Typical operation is:
DC Plate Supply Voltage 3000 Volts (!)
DC Grid-No.2 Supply Voltage 300 Volts
DC Grid-No.1 Supply Voltage -175 Volts
Peak Positive Grid-No.1 Voltage 65 Volts
Plate Current:
Peak 1.5 Amp (!)
Average 0.015 Amp
DC Grid-No.2 Current 0.004 Amp
DC Grid-No.1 Current 0.0025 Amp
Load Resistance, 100 watts 1500 Ohms

Naturally, these ratings apply to a very short duty cycle. Pin
connections, and filament voltage appear to be identical to a 6146.

73 - Steve KA4RSZ

4541. F.S. - Tubes and related items...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: rog42@aol.com
Message-ID: <19961231074900.CAA04711@ladder01.news.aol.com>
Source record: 99127

FOR SALE: Tubes, test equipment, radios including Hallicrafters, Hammarlund, and Philco. Other older tube type radios and radio related publications. Schematics for many radios just $1. Tube Manuals, Tube Substitution books, Service Manuals, QST magazines, much more from the 30's, 40's, 50's, 60's. Now over 1500 different tube types in stock - E-mail Rog42@aol.com and ask for my latest offerings on RADIO list - #1224-T.

4542. Re: PLEASE READ! A thought about keeping CW....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <5aah1b$8pk@kirin.wwa.com>
Source record: 99128

If there are not enough hams of whatever capability there will
be no more ham bands.

We don't want filters. We want attractors.

Simon
---
bcspain@aol.com (BCSpain) wrote:

>
>In a message dated 12-30-96 Ray Hodgkiss, N9YNG, wrote:

>>What if people were given a choice about either taking a morse test, or
>>homebrewing a rig, a piece of equipment, or something else other than an
>>antenna?

>I agree that the test should reflect the current state of the hobby. Most
>of the guys will talk about tradition and using cw as a filter to keep the
>riffraff out but a more techical test that makes people actually learn
>something of electronics and operating procedures instead of memorizing
>the answers would be a much better filter. Then, you would have people who
>are genuinely interested in radio, and operating a radio instead of having
>access to a "glorified" CB.

>73's
>Bryan WB5YIW

In the end people get the government they deserve.

Read "The Weapon Shops of Isher" by A.E. vanVogt

Simon

4543. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-3112960244070001@port27.vcnet.com>
Source record: 99129

In article <19961222173000.MAA21300@ladder01.news.aol.com>,
w8jitom@aol.com wrote:

> In article <measures-1912962338140001@port14.vcnet.com>,
> measures@mail.vcnet.com (R. L. Measures) writes:
>
> >It was not a hypothetical question. The first time I worked on one of
> >these amplifiers, I noticed that 3-500Z filament was so bright I could
> >read a newspaper with the light from it. This was no fluke, Tom. At the
> >time, the line voltage measured 240v with my John Fluke DMM.
>
>
> Rich is correct here IF (big if) his information is accurate. I've seen
> this problem in some PA's, but I have never measured (no pun intended) a
> Command PA or a Henry.
>
> I can't speak for Richard's claims in those cases, but if it is true the
> manufacturers should be VERY concerned about correcting that problem.
>
> >You are only guessing until YOU make the measurements, Tom. I made the
> >measurements. I wrote about them in "The Nearly Perfect Amplifier" in
> the
> >January 1994 issue of QST magazine.
>
> I do wonder where Richard got the formula [E1/E2]^23.5. Is the answer in
> hours, percent, seconds, or ratio? Where does it come from?
>
In paragraph two on page 141 in *Care and Feeding of Power Grid Tubes*,
regarding thoriated tungsten filaments, Eimac says that "Theoretically, a
3% increase in filament voltage will result in a 20 degree Kelvin increase
in temperature, a 20% increase in peak emission, and a 50% decrease in
life due to carbon loss. This or course, works the other way too. For a
small decrease in temperature and peak emission, life of the carbide layer
and hence tube life can be increased by a substantial percentage."

In other words, for every 3% increase in filament voltage above what is
needed, a 50% decrease in emissive life results. The formula [E1/E2]^23.4
is the algebraic representation thereof. The result is the ratio of
useful emissive life. (However, filament voltage should not be decreased
to the point where pep begins to decrease.)

Applying [E1/E2]^23.4 to an actual case: The factory-stock TL-922
amplifier applies 5.3v to the 3-500Z filaments. However, a healthy 3-500Z
will operate quite satisfactorily in communications service with 4.75v on
the filament. Using the formula: [4.75v/5.3v]^23.4 = ¦0.8962]^23.4 =

0.077. In other words, by operating the filaments at 5.3v at instead of 4.75v, emissive life is reduced to about 8% of what could be achived at the lower filament voltage. Of course, in actual practice, this is not quite realizeable because the filament voltage normally needs to be increased as the tube nears the end of its useful emissive life. Thus, a rheostat to control filament voltage is is rather useful. However, to the best of my knowledge, none of the commercial manufacturers provide a means of adjusting filament voltage. Art Collins typically provided a means of adjusting an amplifier's filament voltage.

I pretty much covered this on pages 30 and 31 of "The Nearly Perfect Amplifier" in the January, 1994 issue of QST magazine. Does it seem likely that someone who askes the question "Where does it come from?" has read the"The Nearly Perfect Amplifier"?

In the September 1994 issue of QST magazine, Mr. Rauch criticized the article in question, apparently without the benefit of having read at least two pages of the five page article. In the October 1994 issue of QST magazine, MFJ/Ameritron took out over 30 full pages of QST advertising.
---
e-mail copy to Mr. Rauch

--
--Rich-- ag6k, 805-386-3734

4544. Re: Coherer...What is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: john.bordelon@gtri.gatech.edu
Message-ID: <john.bordelon-3112960808360001@bordelon.gtri.gatech.edu>
Source record: 99130

In article <pfriedr.49.00FD30F7@azstarnet.com>, pfriedr@azstarnet.com
(pfriedr) wrote:

> I wonder if one of the old timers out there could tell me something about
> "Coherers"---what were they exactly and how did they work?
>
> I get the impression that they functioned as detectors, but I'm puzzled about
> references to "tappers" and other key-wound mechanisms designed to agitate
> them.
>
> Thanks in advance.

The coherer was indeed a detector. It was a small glass tube filled
with fine iron powder, with electrodes at each end of the tube. The
incoming signal caused the iron powder to stick together (cohere). I'm
not exactly sure why. Connected to the same terminals was another circuit
that operated a telegraph sounder. Once the powder "cohered" it wanted to
stay that way, even though the incoming signal was not there, so the clock
wound mechanism was a "tapper" that tapped the side of the glass tube and
broke the iron powder granules up when the signal stopped. The coherer
was NOT very sensitive. More sensitive was a rectifier diode made by just
barely touching the surface of a nitric acid bath with a platinum wire and
then drawing the wire out until only a thin meniscus of acid extended from
the surface of the acid to the wire. The platinum wire slowly got eaten
away and required continuous adjustment for optimum sensitivity. The
presence of an open container of nitric acid on top of the operating table
was a hazard too. :-) Connections to the wire and to an electrode in the
acid bath were the two terminals of the diode. The galena (lead sulfide)
detector beat both of these.
By the way, I'm only 55, so I wasn't around in those halycon days of
yore. :-) :-)

4545. Re: RC vs LC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: k7itm@aol.com
Message-ID: <19961231150300.KAA10919@ladder01.news.aol.com>
Source record: 99131

In article <59r8ec$qii@boursy.news.erols.com>, mhorowit@erols.com (Michael Horowitz) writes:

> I read where LC combonations make up resonate circuits and filters,
>and I see formula for their calculations. I also see RC circuits
>performing as filters, just as the LC circuits do.
>
> Does anyone know the formula used to calculate the cutoff frequency
>of a given combination of R and C?

Roy L. posted the formula, but there's more that should be added to the story. If you want a very sharp cutoff, you really need to build a filter with resonances (poles) with specific characteristics you will not be able to get from just passive RC filters. But if you put R's and C's in the proper circuit as feedback around amplifiers, you can get the overall circuit to perform essentially the same task as LC circuits. The RC circuits are good for low frequency filters, but don't expect with even good op amps to get much of an active filter above a megahertz or so. The formula you'd use for RC networks in feedback amplifiers depends on the specific configuration, and I'd advise you to look up a book on active filter design. There are dozens of different ones,
from simple cookbooks to very theoretical.

73,
Tom
K7ITM@aol.com

Cheers,
Tom
Please email to: tomb@lsid.hp.com.
The account from which this was posted is seldom checked for email.

4546. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf736$bf115760$926d3bc6@internet.roadrunner.com>
Source record: 99132

> A choke of several millihenries, or a high value resistor, either of
> which have a high impedance at HF compared to the 50 ohm line they
> are shunting, will drain static, a DC phenomenon, while being virtually
> invisible to the RF system. The choke, or resistor, should have no
> effect on transmission or reception.
>

Thanks for the reply, Gary!

73s de David (K5KH)

4547. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf737$00efd440$926d3bc6@internet.roadrunner.com>
Source record: 99133

> I use a resistor to bleed the charge on my 70 foot vertical. Before I
> added the bleeder resistor, during windy weather, the charge on the
> vertical would arc over a 3500v air variable tuning capacitor about
every
> half minute. I prefer resistors to chokes because chokes have internal
> self resonances and resistors don't.

Hi Rich!

By "high value", do you mean 100k+? Or more than $0.25 a piece? <g>

Thanks for the suggestion!

73s de David (K5KH)

4548. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com>
Message-ID: <01bbf737$e3cf5ba0$926d3bc6@internet.roadrunner.com>
Source record: 99134

> I have corona problems here Dave, at a few hundred feet above sea level.
> In Death Valley, they even occur below sea level. We are talking receive,
> not transmit.

Thanks for the long, informative message, Tom. I appreciate the help!

73s de David (K5KH)

PS My news server has been dead for a few days...sorry for the delay in replying.

4549. help: GE Porta.mobil

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: paul case <paulcase@usit.net>
Message-ID: <32C979DC.516@usit.net>
Source record: 99135

I recently acquired two GE porta-mobil radios. These were originally used on 44 mhz by the Tennessee Forestry Service. I would like to convert them to 6 meters but I dont have the schematics on them. The model# was worn on both of them but i could make out a FCC # which was hr44las33 if that helps any. They disconnect in the middle. The lower half is a power supply and the upper half is the tranciever. Possibly the upper half may have plugged into a module for mobile use but im not sure. Anyone having schematics or if anyone has done a 6 meter conversion with these rigs any info will be appreciated

Thanks
Paul

4550. Re: Fixing old Reciever?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: stevem@vax.area.com
Message-ID: <5abjqh$k4s@news.spies.com>
Source record: 99136

In article <5a9q9p$374c@news.doit.wisc.edu>,
John Lumkes <lumkes@cae.wisc.edu> wrote:
>Hello,
>I have an old Scott R-327 stereo reciever I am playing around with.
>It works well in all modes except FM radio, where I can tune (stereo and
>signal strength indicator high) but only hear the station with the volume
>turned all the way up (along with a slight buzz). AM and CD input work
>and sound great. If I spin the tuning dial it is louder as it goes by
>a station but when I tune it is only very faint. I am treating this as
>a test experiment for learning more about FM and would appreciate
>where to begin. i.e., what components to check, what the probable
>cause is, etc?
>
>Thanks alot, this newsgroup is a great place to learn.
>
>John Lumkes, AA9QP
>lumkes@cae.wisc.edu
>

Sounds like a problem with the low level audio buffers at the output
of the stereo multiplex decoder although its unlikely that both
channels would fail at the same time. It could also be the stereo
decoder itself, which could knock out both channels if there were
a failure. Not sure if your receiver is new enough to have ICs in it
but if it does, you can generally find the pinouts for the stereo
decoder IC in the RCA-SK or NTE semiconductor replacement catalogs.
(NTE has a website). Use a scope to look at the input to the decoder
IC. You should see mono audio with a 19KHz pilot carrier riding on it.
At the left and right outputs from the decoder you should have decoded
stereo audio at a reasonable level (say 100mV p-p or more).
If everything is OK to that point, its probably the buffer amps
between the decoder and the power amplifier.

There are some newsgroups for audio out there. I would talk it up in
those and do a web search to try and find a schematic
which will help with your trouble shooting. I think SAMS still sells
their PhotoFact schematics but they have always been expensive.

Good luck

Steve M. WF6R

4551. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: measures@mail.vcnet.com
Message-ID: <measures-3112961011480001@port33.vcnet.com>
Source record: 99137

In article <01bbf737$00efd440$926d3bc6@internet.roadrunner.com>, "David B. Holtkamp (K5KH)" <holtkamp@roadrunner.com> wrote:

> > I use a resistor to bleed the charge on my 70 foot vertical. Before I
> > added the bleeder resistor, during windy weather, the charge on the
> > vertical would arc over a 3500v air variable tuning capacitor about
> every
> > half minute. I prefer resistors to chokes because chokes have internal
> > self resonances and resistors don't.
>
> Hi Rich!
>
> By "high value", do you mean 100k+? Or more than $0.25 a piece? <g>
>
David-------
The vertical is two half waves in phase for 20m. This is also known as a Franklin Antenna. The antenna is mounted on the roof of a wooden toolshed. It is fed at roof level against a quarter wave counterpoise. The feed Z is around 700 ohms. The bleeder resistor is 10meg-ohms. This resistor can tolerate several kilovolts.

--
--Rich-- ag6k, 805-386-3734

4552. Re: Coherer...What is it?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: Steve <thebizlk@erols.com>
Message-ID: <32C9965A.3959@erols.com>
Source record: 99138

John Bordelon wrote:
>
> In article <pfriedr.49.00FD30F7@azstarnet.com>, pfriedr@azstarnet.com
> (pfriedr) wrote:
>
> > I wonder if one of the old timers out there could tell me something about
> > "Coherers"---what were they exactly and how did they work?
> >
> > I get the impression that they functioned as detectors, but I'm puzzled about
> > references to "tappers" and other key-wound mechanisms designed to agitate
> > them.
> >
> > Thanks in advance.
>
> The coherer was indeed a detector. It was a small glass tube filled
> with fine iron powder, with electrodes at each end of the tube. The
> incoming signal caused the iron powder to stick together (cohere). I'm
> not exactly sure why. Connected to the same terminals was another circuit
> that operated a telegraph sounder. Once the powder "cohered" it wanted to
> stay that way, even though the incoming signal was not there, so the clock
> wound mechanism was a "tapper" that tapped the side of the glass tube and
> broke the iron powder granules up when the signal stopped. The coherer
> was NOT very sensitive. More sensitive was a rectifier diode made by just
> barely touching the surface of a nitric acid bath with a platinum wire and
> then drawing the wire out until only a thin meniscus of acid extended from
> the surface of the acid to the wire. The platinum wire slowly got eaten
> away and required continuous adjustment for optimum sensitivity. The
> presence of an open container of nitric acid on top of the operating table
> was a hazard too. :-) Connections to the wire and to an electrode in the
> acid bath were the two terminals of the diode. The galena (lead sulfide)
> detector beat both of these.
> By the way, I'm only 55, so I wasn't around in those halycon days of
> yore. :-) :-)

There were many different types of coherers, most of which used iron
filings. The Marconi used Nickel and Silver filings, the Solari used
mercury and some others used carbon. These things were used from the
1880's to the early 1900's.

If you want more specific info contact the Antique Wireless Association
(AWA). http://www.ggw.org/freenet/a/awa/

S

4553. Re: Good source for amplifier tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <19961231195400.OAA18640@ladder01.news.aol.com>
Source record: 99139

In article <measures-3112960244070001@port27.vcnet.com>,
measures@mail.vcnet.com (R. L. Measures) writes:

>increased as the tube nears the end of its useful emissive life. Thus, a
>rheostat to control filament voltage is is rather useful. However, to
>the best of my knowledge, none of the commercial manufacturers provide a
>means of adjusting filament voltage. Art Collins typically provided a
>means of adjusting an amplifier's filament voltage.

Another fact almost escaped your great storehouse of knowledge, hi! EVERY
Ameritron PA after the early to mid 80's includes taps for adjusting
filament voltage, and instructions for the proper settings for each line
voltage range.

Can anyone confirm Rich's claims the TL-922 has short tube emission life?
I wonder what the tube experience of 922 owners really is. How many 922
owners have replaced tubes from:

low emission (everything works but output is real low)
gas or anode support failure (a sudden loud bang or pop, or an arc in the
tube)
an internal grid short (idle current even when on standby and no output)

Has anyone else measured the voltage to confirm Rich's story? How about
other PA's?

BTW....I did read your article Rich, I'm afraid I just learned to question
any information presented as an absolute "fact". I mostly agree with your
filament approximation, IF the voltages you presented here are the true
voltages in the Kenwood PA.

I'm sure you understand why I ask these questions. I want to be sure the
facts you state here are verifiable by other independent sources.

73 Tom

4554. Re: Ham-Homebrew Digest V96 #560

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <19961231203000.PAA19626@ladder01.news.aol.com>
Source record: 99140

Or, by anyone else!

W4ZCB

4555. New Web Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-12-31 00:00:00 UTC
From: Brian Webb <102670.1206@CompuServe.COM>
Message-ID: <5ac1nonmj1@mhafc.production.compuserve.com>
Source record: 99141
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.space

If you're interested in amateur radio or space, visit my new web page at:

http://ourworld.compuserve.com/homepages/rawhide_home_page

Happy New Year,

Brian Webb, KD6NRP